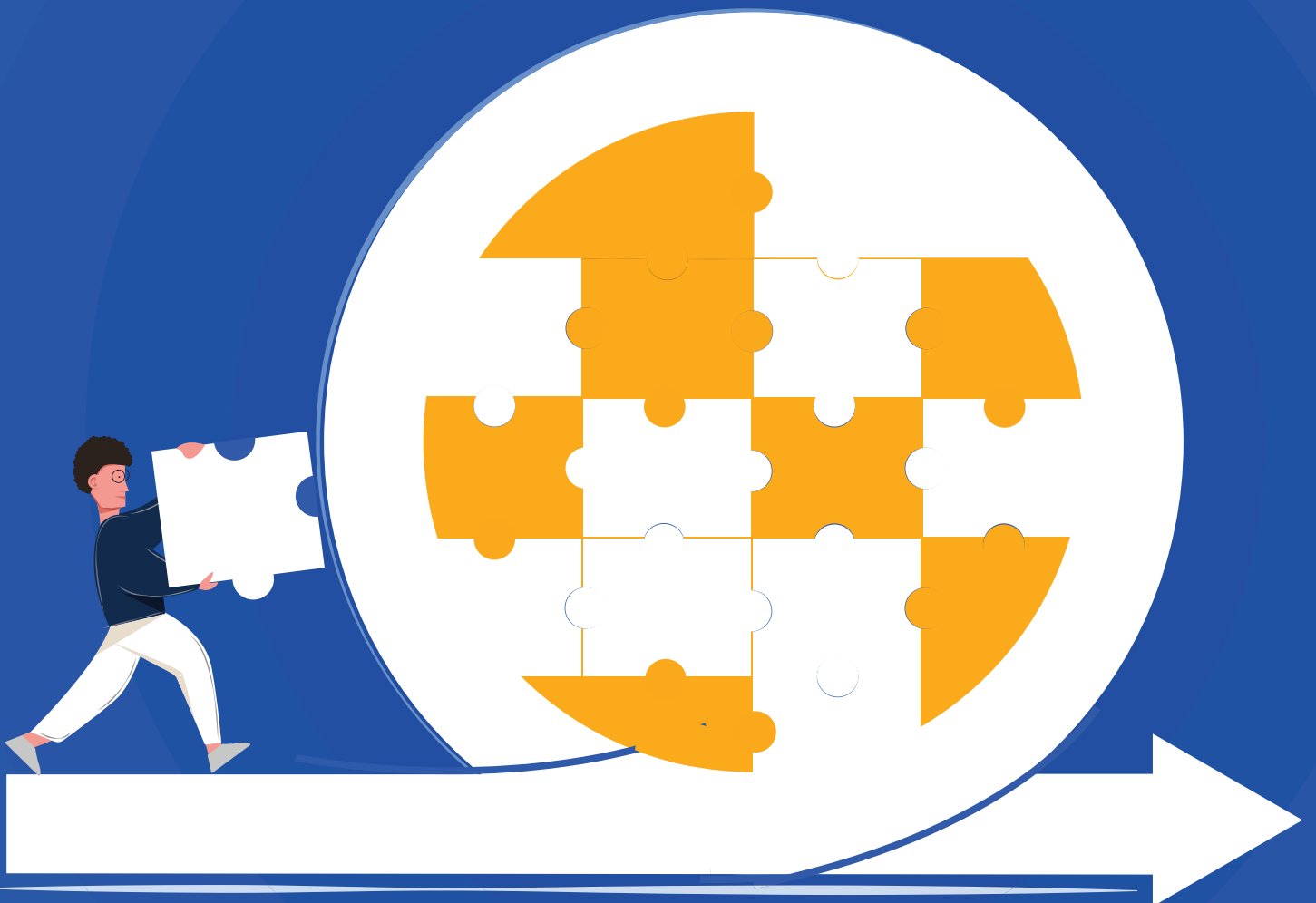


# THE SEVEN MISSING METRICS

In your **agile** project management dashboard

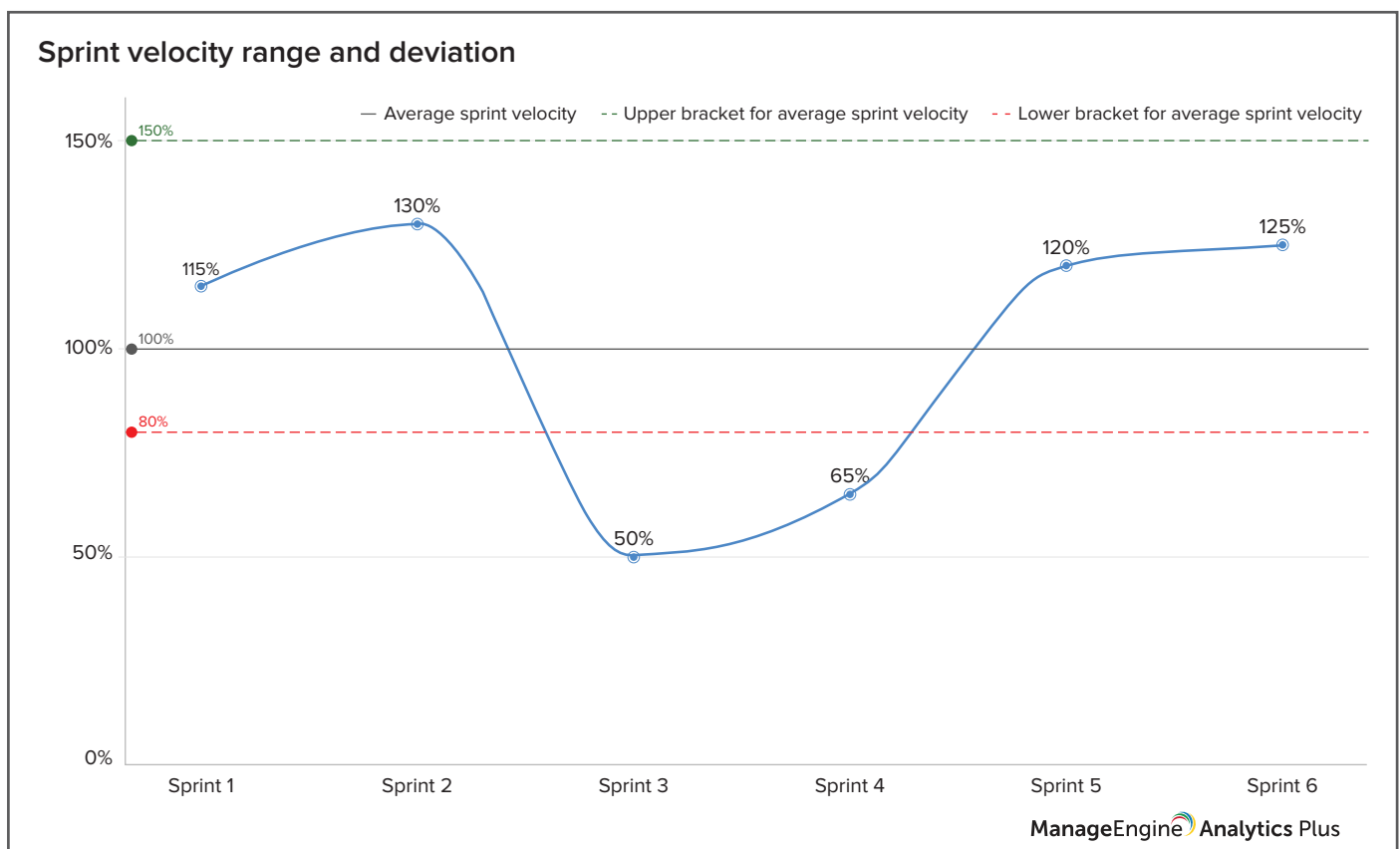


Metrics are important to drive organizational improvements. They are imperative to plan, monitor, execute projects effectively, and to track performance, workflow across stages, ensure software quality, and introduce transparency to the software development process. But do your metrics give you a clear picture of your projects and answer questions such as, “How truly effective are your project plans?”, “Are they reliable?”, “Can your team deliver the work you’ve planned for the project within the deadline?”

Questions like these often don’t have a straightforward answer. However, with the aid of a robust analytics solution such as Analytics Plus to slice-and-dice project management data, managers can get a clear picture of their projects, plans, and the actual status of their work. This e-book covers seven of the most important project management metrics to help answer these questions and make a huge difference in effective project planning and execution for your organization.

## Sprint velocity range and deviation

Sprint velocity is a popular metric used by agile teams to measure how much of work gets done in a sprint, a set period of time. This is an useful metric to calculate long-term throughput of your team.



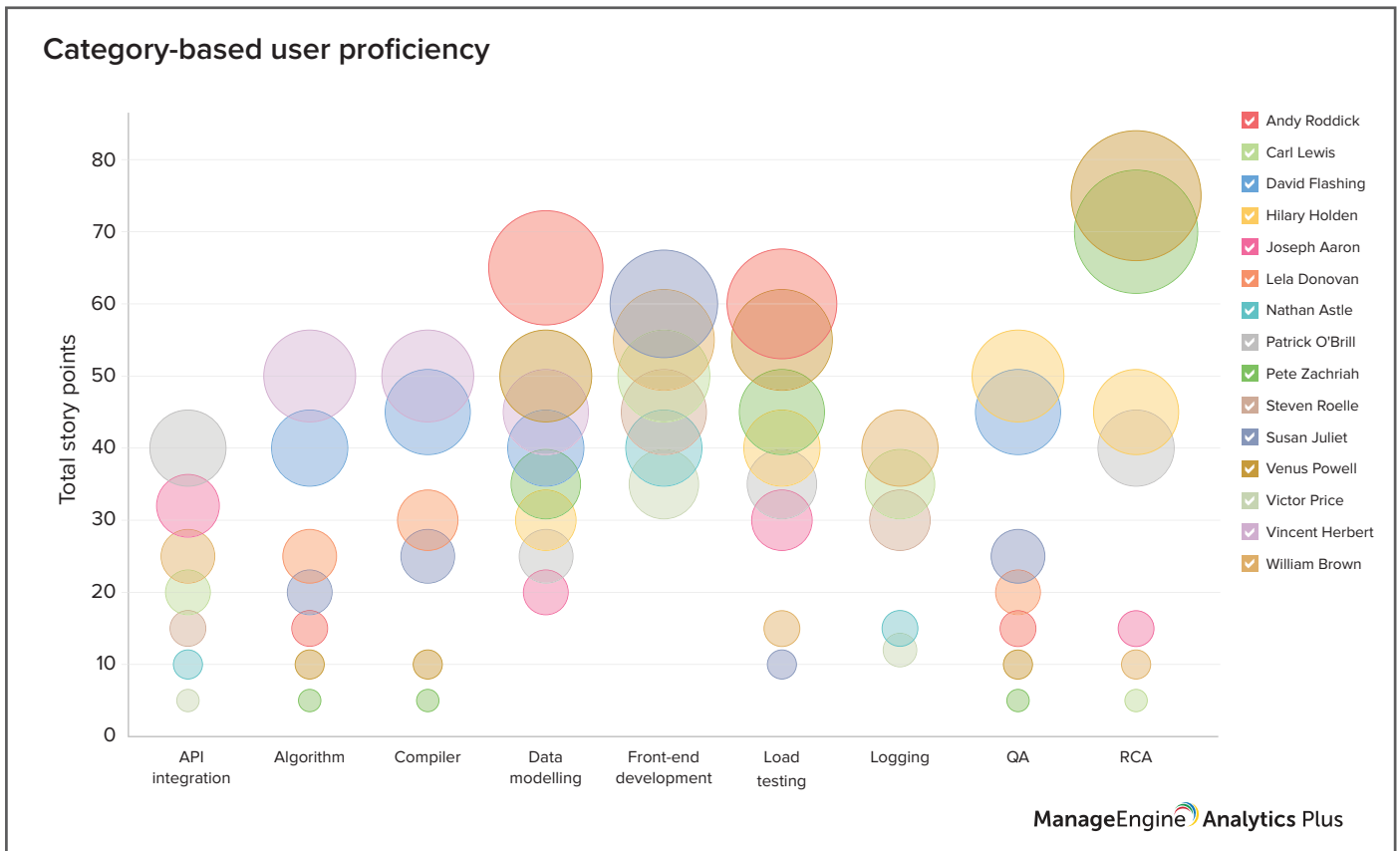
For example, a sprint velocity of 25 indicates that your team is able to complete 25 story points in each sprint. Besides maintaining or increasing this performance, it is important to watch for deviations over a period of time.

**The sprint velocity range and deviation report** shows the deviation in your team's performance from the average sprint velocity across different sprints. For example, if the average sprint velocity of the team over the last five sprints is 25, that will be our average, 100 percent. The upper and lower brackets signify the acceptable levels of deviation. An upper bracket of 150 percent signifies a 1.5x increase in the number of story points completed. Likewise, a lower bracket of 80 percent indicates a 0.2x decrease in the number of story points completed.

Over time, teams can witness an increase in deviation from the average velocity as the team members optimize their team coordination and work processes. However, a remarkable spike in performance from the average presents an interesting opportunity for managers to investigate the reasons prompting the high performance so they can try to replicate the result in other sprints; likewise, a decrease in performance is a cause for concern and requires further analysis to figure out the root cause for the decline. Possible causes might be an uneven breakdown of work processes, unforeseen developmental challenges, business reasons, or non-adherence to best practices.

## Category-based user proficiency report

When managers put together agile teams, one of the crucial things they look into is user skills. A well-balanced team should have the perfect blend of specialists, people with unique skills to do the heavy lifting, and generalists, people with a wide array of skills who can work on many interdisciplinary tasks. This ensure that your team has the right balance of people to handle simple as well as complex tasks.

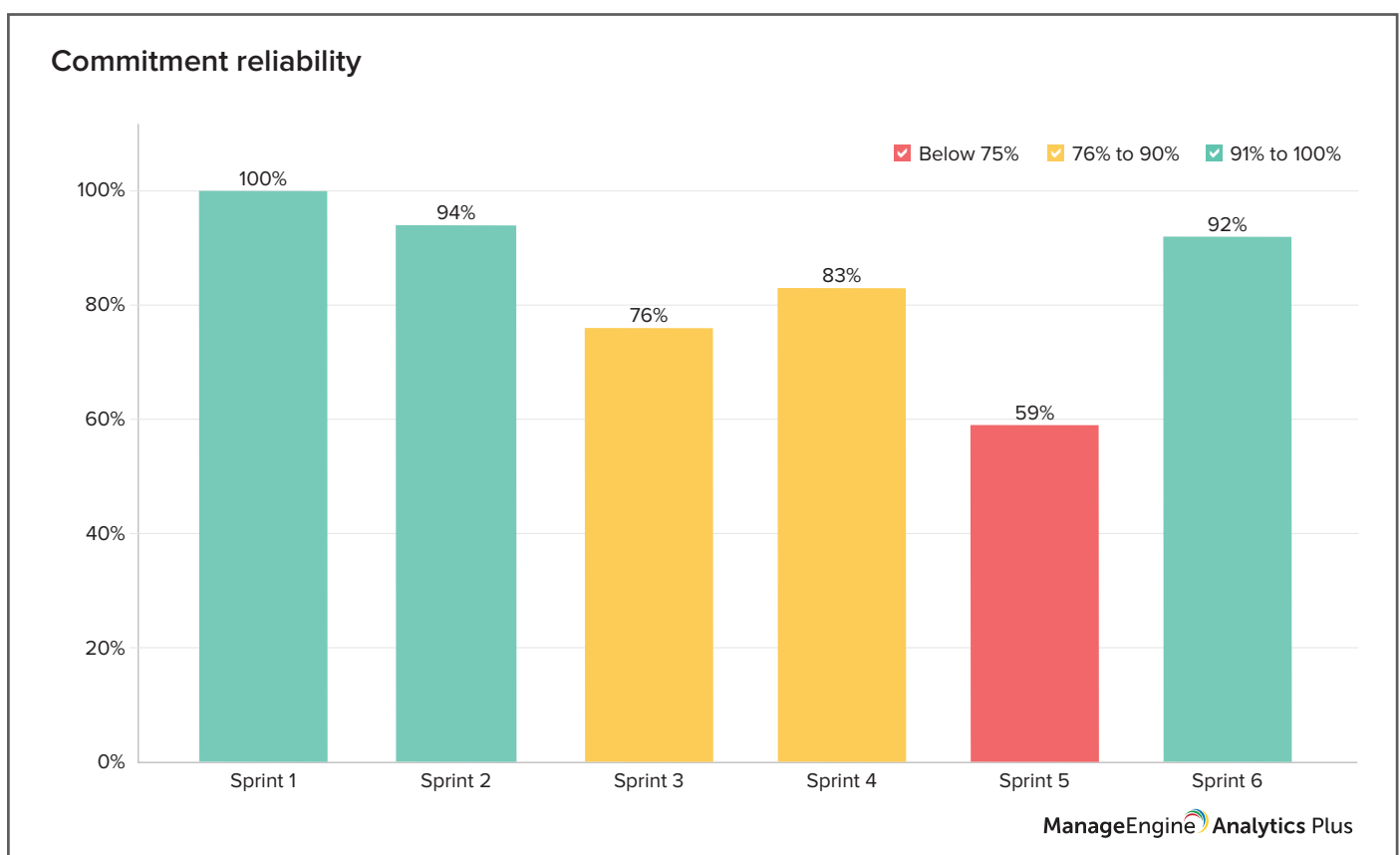


**The category-based user proficiency report** is helpful for obtaining a high-level overview of how people in your team allocate time to the various tasks, and helps you identify skill gaps lurking in your team. The report gives you the average number of story points that each team member usually handles in various categories of work. Each person is associated to a particular bubble color and the size of the bubble signifies their expertise level in the respective category.

You can see in the illustration above that for certain tasks, such as API integration, there are people available across various expertise levels that can handle complex, mid-level, and simple tasks. This is indicated by the presence of bubbles in close proximity, without any visible gaps. Whereas, for tasks such as front-end development, you don't have sufficient people to handle mid-level or simple tasks; this forces you to assign simple tasks to highly skilled people, which is not an effective use of their time or skills. A better alternative is to ensure an even distribution of skill sets across all categories of tasks.

## Commitment reliability

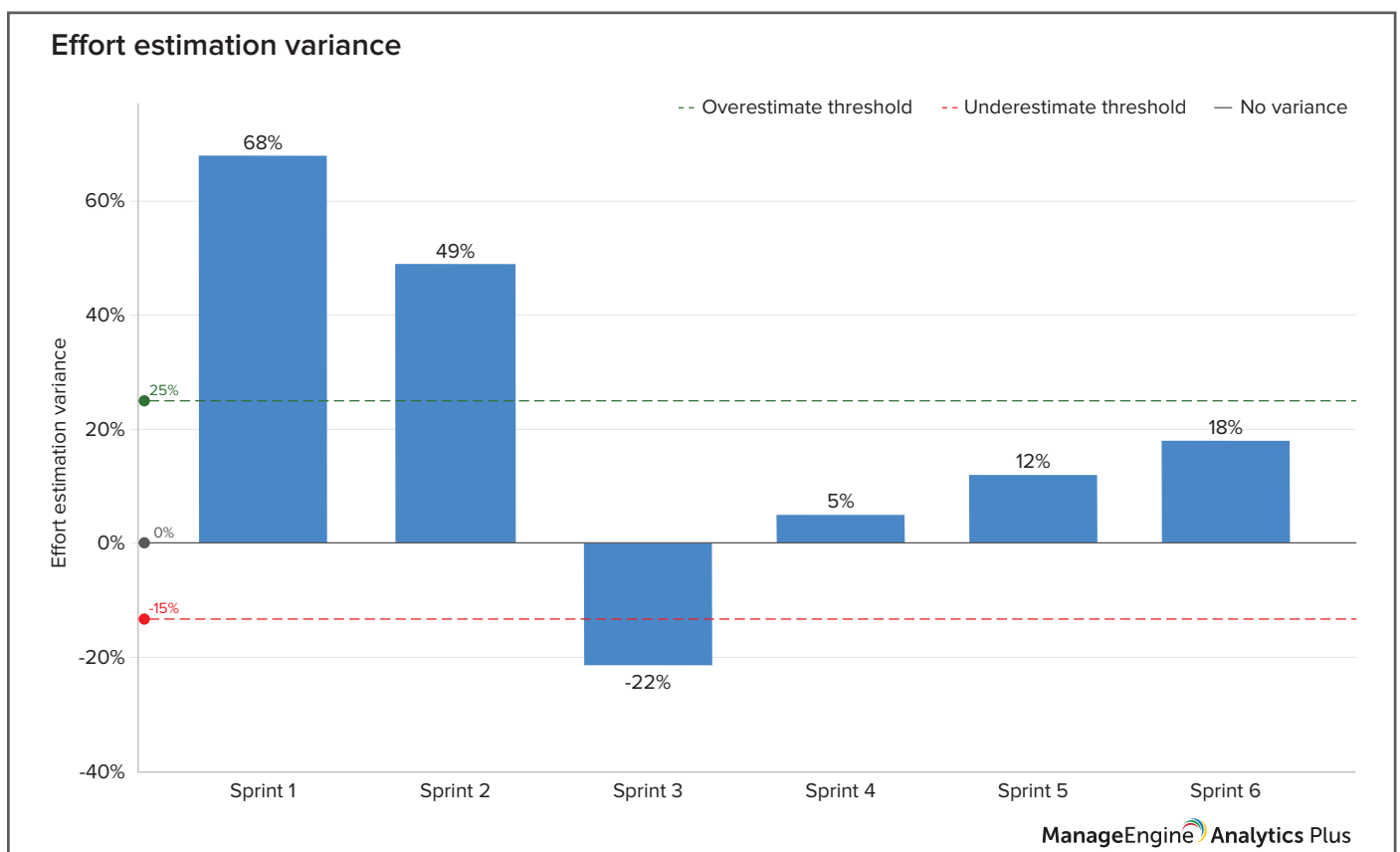
How reliable are your estimates? While planning for projects, project managers tend to be over, or under ambitious, and either over commit and under deliver, or the opposite. We're all too familiar with projects where we've over committed work so we have to stay after hours or worse, sacrifice weekends or vacation days, in a race to complete work within the deadline. Commitment reliability shows you how reliable your team is based on their ability to meet their past commitments. A team's commitment reliability is useful to predict how much can be completed by the team in a future sprint, and can help set realistic, achievable targets for your team.



**The commitment reliability report** displays the ratio of the total story points completed against the total story points committed. A commitment reliability of 90-100 percent indicates the team lives up to its promised deliverables, while a commitment reliability of 75-90 percent indicates a need for better planning. However, commitment reliability of below 75 percent indicates serious underlying issues within the team such as poor planning, mismatch of the team's skill sets, or a lack of necessary tools and technology to complete the tasks.

## Effort estimation variance

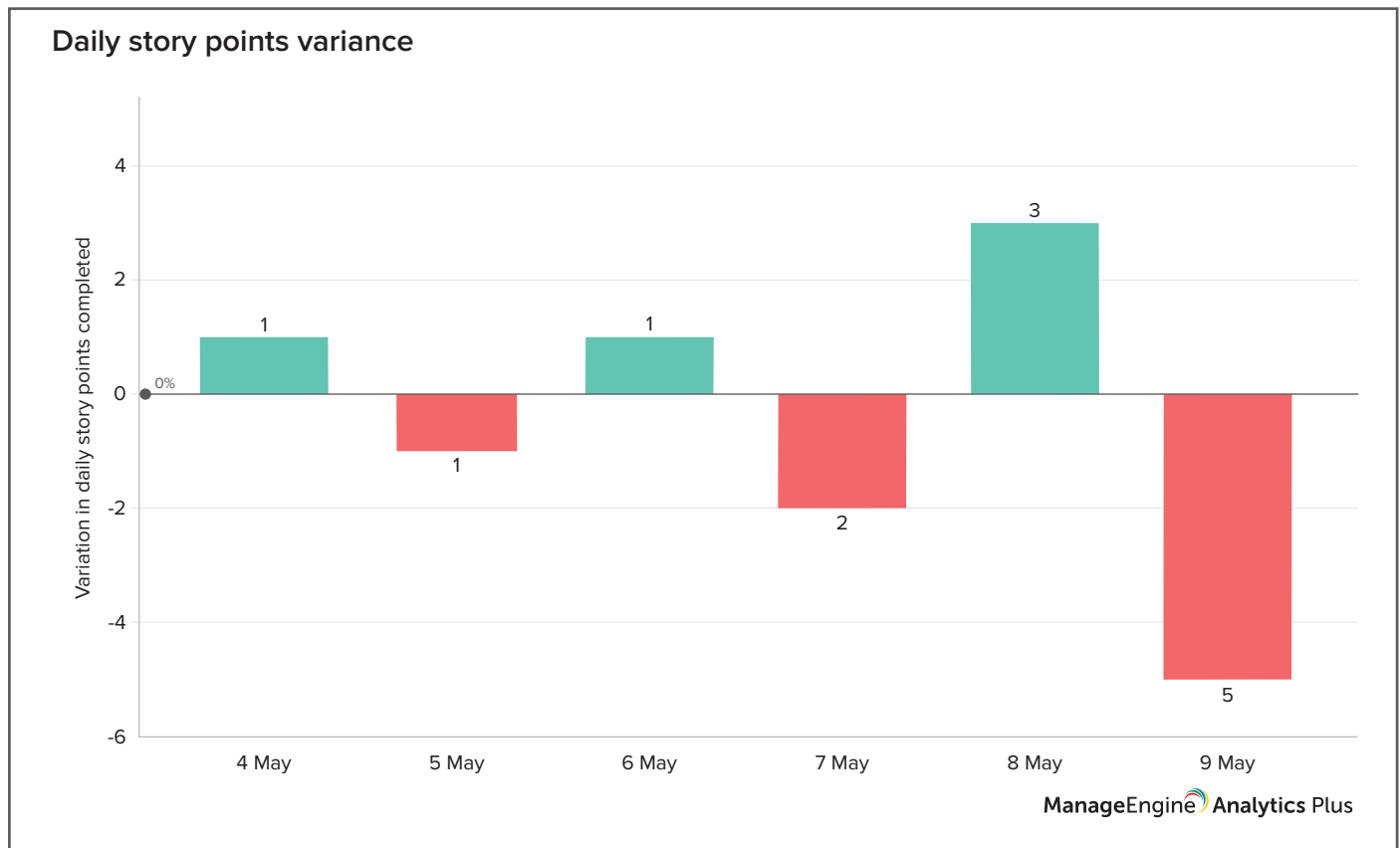
We've all been part of projects where we were given x hours to complete a task, only to realize, that it takes twice as long to complete it. Accurate effort estimation is an important skill for project managers that can save costs, time, effort, and ensure delivery schedules are met. Overestimating efforts prevents you from adding additional tasks to a sprint, while under estimating forces your team to complete too many tasks in too little time, resulting in missed deadlines. Effort estimation variance, usually measured in hours, determines the accuracy of effort estimates. It is a measure of the actual hours spent against the estimated hours for the various tasks in a sprint.



**The effort estimation variance report** is a visual representation of how accurate your estimates were in the past, and gives you the necessary knowledge to predict the effort required for similar projects in the future. You can also define ranges for acceptable deviations from planned effort, as shown in the sample chart above. Note that the effort estimates for the first few sprints in a given project might have higher degrees of deviations. If you're just starting out on a project you can expect some variation from your estimates, but this variation should stabilize over time, and you should be able to complete your sprints within the hours estimated.

## Daily story points variance

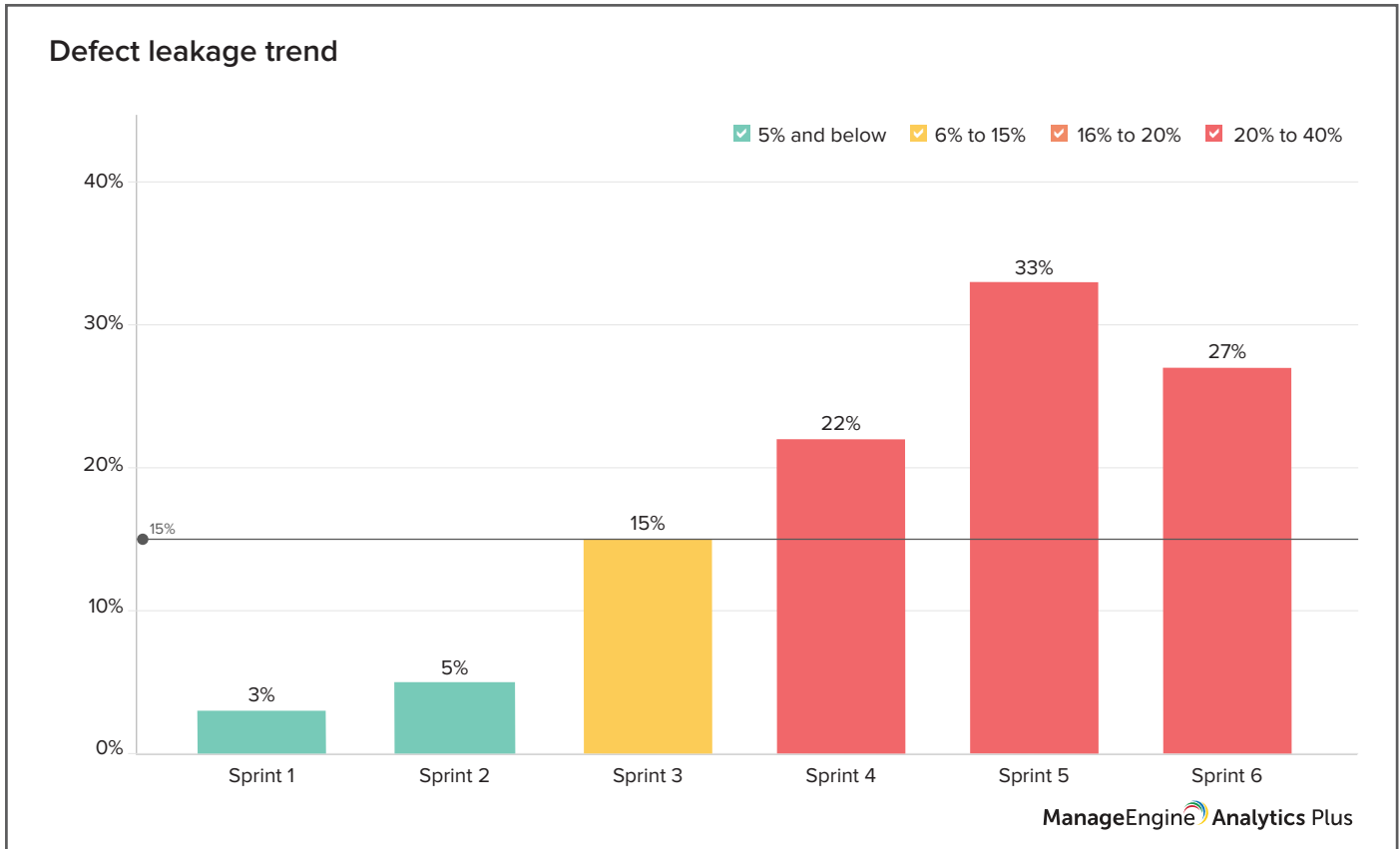
While the earlier report for effort estimation variance enables you to measure variance in effort estimated over a longer period of time, the daily story point variance report enables you to track variation in story points achieved on a daily basis. The benefit of using this report is that you can add more story points to your daily tasks if you notice your team has consistently achieved, on a daily basis, more story points than originally planned.



**The daily story point variance report** shows you that in the first few days, the team has achieved more story points than what was originally planned; however, in the later days, they were unable to achieve the story points indicating that the team has planned for more story points than they could handle.

## Defect leakage trend

Defect leakage is the percentage of the total number of bugs or issues identified after the completion of a sprint. Defect leakage is a good measure of the overall quality of your team's work and the success of your sprints. The lower the defect leakage in each sprint, the more successful the sprint.



In **the defect leakage trend report** above, the first two sprints (marked in green) have less than five percent of total bugs detected after the completion of the sprint; sprint 3 (marked in yellow) has 15 percent of total bugs detected after the completion of the sprint, while the last few sprints (marked in red) have over 20 percent of total bugs or issues detected after the completion of the sprint. For good measure, you can also set permissible limits beyond which the sprint becomes unacceptable as shown in the sample report.

## Risk matrix

As a project manager, you know that despite your best efforts, unexpected events related to people, processes, technology, or resources can impact your projects and derail your schedule. Tracking risks should be an essential part of your project planning, and is a practical approach to managing project risks. Once you obtain a glimpse of potential risks, you can make changes to your project plans to ensure on-time project delivery.



|                                |           | Consequence of non-completion |     |        |      |           |
|--------------------------------|-----------|-------------------------------|-----|--------|------|-----------|
|                                |           | Very Low                      | Low | Medium | High | Very High |
| Probability of completing work | Very High | 1                             | 1   | 1      | 1    | 1         |
|                                | High      | 3                             | 3   | 3      | 3    | 3         |
|                                | Medium    | 2                             | 2   | 2      | 2    | 2         |
|                                | Low       | 2                             | 2   | 2      | 2    | 2         |
|                                | Very Low  | 1                             | 1   | 1      | 1    | 1         |

The **risk matrix** above enables you to perform an in-depth risk analysis of how projects might be affected due to non-compliance with schedules. The columns compare the consequence of non-compliance with project deadlines against the probability of completing work within the planned sprint, graded from very low to very high.

The resulting risk matrix segments the overall risk to the project by color codes where green indicates low risk, yellow indicates medium risk, and red indicated high risk. For example, for a sprint whose probability of completion is very low and the consequence of non-completion is also low, the inherent risk is low and falls in the low risk category (green); whereas, for a sprint whose probability of completion is low and the consequence of non-completion is very high, the inherent risk is very high and falls in high risk category (red zone).

This risk analysis enables project managers to graphically visualize risks, buying them time to manage risks in their projects before they become showstoppers.

## Conclusion

Agile metrics are crucial for better planning, execution, and delivery of software projects. This e-book covers some of the most important metrics that help project managers as well as project members plan effectively, execute flawlessly, and deliver projects on time as promised.

## About Analytics Plus

ManageEngine Analytics Plus is an IT analytics solution that enables organizations to visualize IT data from several applications and monitoring tools. Analytics Plus integrates out-of-the-box with several popular IT applications such as Jira, Service Now, Zendesk, ServiceDesk Plus, and Desktop Central. Analytics Plus features an AI-powered analytics assistant that responds to voice and text prompts to provide meaningful visualizations that reduce report building time and enable organizations to make faster, data-driven decisions.

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