

USING MEASUREMENT TO IMPROVE SCRUM TEAM PERFORMANCE

BY KURT BITTNER AND PATRICIA KONG | AUGUST 2022

Managers in organizations like to look at how their teams are performing. Traditional organizations often look at things like performance against plans to evaluate teams, but they need to ask themselves whether they are certain that the plans they develop will produce the results they desire. Most plans are merely guesses that assume that if a group of people do a series of things, the good results will follow. The problem is that plans can, and often are, wrong.

So how can a team know whether they are performing effectively? A Scrum Team's performance should ultimately be measured by the value that they deliver to customers. "Value", in this context, means improving the outcomes that the customer experiences.

Measuring value

In the [Evidence Based Management framework](#), we refer to the value that customers experience today as Current Value (CV). A complementary concept is Unrealized Value (UV), which is the value that the customer would like to, but does not yet, experience.

But how can teams measure these? Vague measures like Net Promoter Score (NPS) are not very precise, nor can they be frequently measured. Interviews and satisfaction surveys provide another measure, but these can be expensive and cannot be run very frequently, and because they require the respondent to reflect on their past experiences, they may be subject to recall biases. And surveys can only measure a dozen or two things before survey fatigue sets in. And while surveys and NPS capture sentiments, they may not reflect what people really do.

A simple and immediate way to gather feedback is to build it into the product itself, by measuring what customers actually do. As many products contain software and are connected in some way to the internet, this has become a viable option for many teams.

Scrum Teams who regularly deliver to customers every Sprint can build measurement into their Sprints by setting their Sprint Goals in terms of the customer outcomes they will deliver, and then building measurement into their product that will provide them with feedback on how well they achieved their Sprint Goal. Scrum Teams with less frequent customer deliveries can still measure Sprint Goal achievement, although their feedback on success will be delayed. Measurement can be as simple as "did anyone use the new capability we delivered" to a deeper analysis of whether the customer's goals in using the new capability were achieved.

The frequency with which teams measure value has an effect on the usefulness of those measures: teams that can deliver and measure new value in relatively short intervals (periods of a few weeks in duration) have relatively timely insights into customer value, while teams who can deliver and measure only a few times a year (or less frequently) are working on relatively old information and

should consider improving their speed of delivery before they spend a lot of time worrying about improving customer value, because the information they obtain about customers will likely be out of date before the team can effectively respond to it.

Measuring value-delivery performance

Some organizations focus on measuring activity (what did the team do? did they perform to plan?) or output (did they produce what we asked them to produce? Did they achieve the desired velocity?) Neither of these kinds of measures tells either the organization or the team anything about whether what the team is doing is valuable. [Lean flow metrics](#) suffer the same problem: they reveal how well the team is working but not whether the work they do is valuable.

Over time, a Scrum Team that is performing well should see improvements in CV and corresponding reductions in UV over time.

A team can look at its performance over time by looking at trends in CV:

- If it is generally trending upward, the team's performance is improving; the steeper the general trend line, the more rapid its improvement.
- If it fluctuates a bit but is generally flat, the team is neither improving nor declining. In this case the team should ask itself if it is truly performing at its best, or whether it might need to set more ambitious goals.
- If the line is trending downward, the team should be asking why customers, who were previously happier with the product, are now less satisfied. Have their needs changed? Perhaps something happened to the quality of the product to make them less happy, as is usually the case when a new release is less stable than prior releases.

Teams can also look at the complementary trends in UV:

- If it is generally trending downward, the team's performance is improving; the steeper the general trend line, the more rapid its improvement.
- If it fluctuates a bit but is generally flat, the team is neither improving nor declining.
- If the line is trending upward, the team should be asking itself how they can gain better insights into customer needs, which may be changing faster than they can respond. Perhaps there are new competitors that offer products that better satisfy customer needs? Or perhaps something has happened that has changed customers' expectations.

Looking at CV, UV or ideally both, is essential for understanding whether the team is doing useful work or simply wasting its time. Once they have a better understanding of whether they are delivering valuable increments, they can look at other factors to decide where they need to improve.

Measuring the ability to deliver value

Let's assume, for the moment, that the Scrum Team is not producing valuable increments, as measured by CV or UV. What should they do? Should they immediately focus on developing a lot of new product capabilities that they can release to customers? In short, the answer is maybe, and for many organizations, not yet. Why is this? The answer depends on their delivery speed and their delivery effectiveness.

If a team cannot deliver potential improvements in CV in rapid succession, it cannot obtain feedback from customers, and it cannot respond quickly to that feedback. Relative to the value it is delivering, it is flying blind. To improve its value-delivery performance, the team needs to first improve its ability to deliver value. There are two aspects to this: speed of delivery, and the effectiveness of the team in delivering each release.

Measuring speed of delivery

Delivery speed (also called Time to Market, or T2M in EBM) is measured by some variant of cycle time. Most organizations adopting an agile approach are almost single-mindedly concerned with speed of delivery. Delivery speed is certainly important, and organizations are correct to be concerned with improving it, but not because it is valuable in itself, but because faster T2M gives a team the ability to more rapidly deliver new capabilities, measure their value, and adapt based on that feedback.

The most encompassing measure of T2M is something like Time to Learn, because it measures the time it takes to go from an idea about improving value to the point where the team can validate whether that idea actually improved the value that the customer experiences.

Less comprehensive measures like delivery speed, or the amount of time elapsed from when a team starts working on something to the point where it is available for customers to use ignores the discussions and analysis of customer needs at the front end of the delivery pipeline, and also ignores the time it takes to gather feedback. Measures that ignore ideation at the start and feedback gathering at the end can give a false sense of “speed” by ignoring important parts of the feedback loop.

In order for a team to improve CV, it has to be able to test new ideas quickly so that it knows that it is working on things that are valuable to customers. The team with a slow T2M will spend too much time working on things that are not valuable, and they will be unable to rapidly improve their CV.

It is worth noting that merely delivering quickly is not enough; teams that do not measure the value of what they deliver are unable to benefit from rapid feedback loops because they obtain no feedback. Teams who only focus on fast delivery but not on the value of that delivery are fooling themselves that they are achieving agility. Agility involves responding rapidly to feedback, and without feedback a team can never improve. They might as well be delivering in long cycles because most of what they deliver is likely to be waste.

Measuring team effectiveness

Speed is not everything, however; to get a more complete picture of a team’s delivery capability, one needs to also look at how much of an impact on CV did that release have. Measuring the change in CV resulting from a release is ultimately the most important, but the time it takes to measure this, and the large number of factors that affect it can obscure improvements that can be easy to spot.

Let’s illustrate this with an example. Consider two teams: one has a cycle time of one month, and the other has a cycle time of two months. It is tempting to say that the first team is performing better, but consider one additional bit of information: the first team’s product releases consist almost exclusively of defect fixes and minor enhancements that don’t change CV much, while the second team’s releases consist almost completely of new product capabilities that significantly improve CV. Which team is performing better now?

The example illustrates the importance of effectiveness at improving value delivered, also described as the Ability to Innovate, or A2I in EBM. The ability for a team to focus on improving customer experiences, and to avoid interruptions, multi-tasking, and non-value added meetings, among other

things, will perform better than a team that only focuses on speed. Speed is important, but only if each release makes a difference in improving customer experiences.

In order to rapidly improve CV, a team must have fast T2M, but also high A2I. They must deliver in rapid cycles, but each release must also contain valuable capabilities that customers appreciate, or at least thoughtful experiments about how the team can improve the CV of their product. The aforementioned Lean Flow metrics provide some insights into where the team can improve their flow of work and reduce waste created by ineffective work practices, but measuring effectiveness can often be much more basic: how much time do team members spend in meetings? How many of these meetings are related to their product versus other organizational demands? How many times per day are they interrupted to handle or discuss things?

Improving team performance

Teams can find it challenging to decide what they should focus on. They will always be under pressure to deliver more product capabilities, but if they can't measure whether what they deliver in rapid cycles they run a very high chance of producing features that do not help them toward their goals of improving customer outcomes.

Figure 1 provides a decision tree to help them focus their improvement efforts.

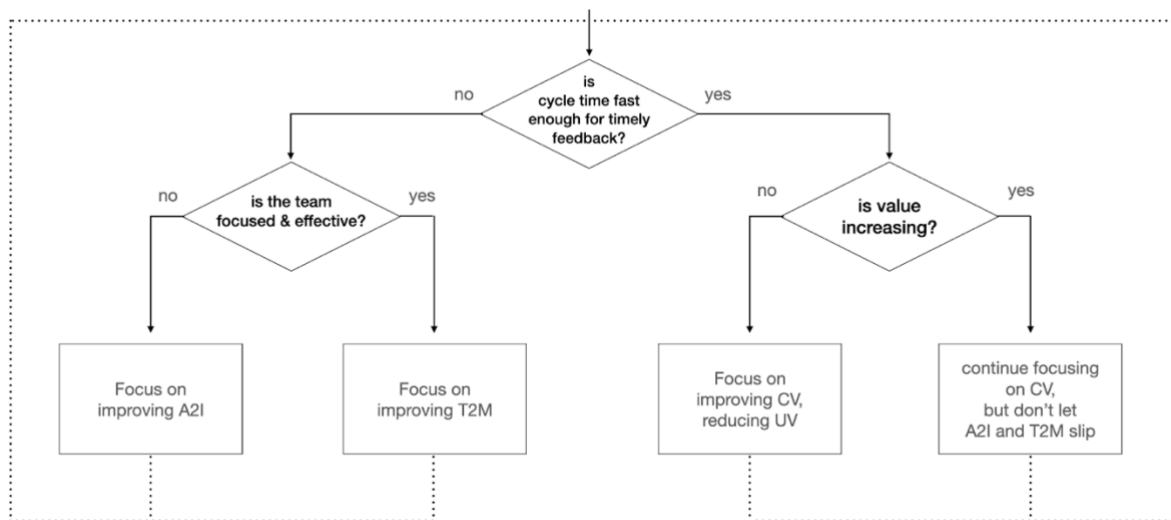


Figure 1: A heuristic approach to improving team performance

In this model, while value (improving CV and reducing UV) is most important for reaching strategic goals, if a team cannot test new ideas quickly they may be focusing on the wrong product capabilities. To improve their ability to deliver value, they may first have to focus on improving their A2I and T2M.

In the model shown above, we suggest focusing first on improving A2I because doing so improves the team's ability to focus on both improving T2M and ultimately CV/UV. Things that can help them improve their A2I include:

- Reducing interruptions, distractions, and diversions that prevent them from focusing on value-added product work, such as handling production incidents or working on other products or projects, or attending non-product related meetings
- Eliminating waste that results from undone work
- Eliminating rework caused by accepting poor quality work or deferring decisions (such as [technical debt](#))

These improvements may also improve T2M by reducing interruptions and letting the team focus. If T2M is still not sufficiently fast, the team may want to try some things that can help them improve their delivery speed, including:

- Working in smaller increments of value
- Reducing the amount of effort required to do work through better practices
- Automating routine, time-consuming, and error-prone activities to reduce effort and manual errors

As the team's A2I and T2M improve, they will be more effective at running experiments focused on improving the value they are delivering because they will be better able to gather and act upon customer feedback more quickly. These experiments typically focus on trying potential solutions to better meet customer needs, or gathering information that helps them to improve their understanding of the customer, their desired outcomes, and their current satisfaction.

Conclusion

Many organizations pursue agile approaches because they are interested in improving their speed of delivery; they intuitively sense that they must be able to be more responsive to changes in customer preferences and threats posed by competitors. While delivery speed is important, focusing only on speed misses the bigger opportunity, which is to engage with customers more deeply. The real benefit of improving delivery speed is increasing the frequency at which customer sentiments can be measured.

In addition to speed, many organizations focus on increasing the productivity of their teams, often expressed in measures like velocity. While well-intentioned, this attention is also largely misplaced. Instead of looking at how much output the team produces, they should focus on how much value the team produces. Viewed from the perspective of the customer, there is no connection between output and value experienced.

To better understand unmet customer needs, teams need to be able to run experiments about value quickly, gather information about whether those experiments met customer needs, and then adapt their figure plans quickly. In this context, it's not delivery speed that's important, but learning speed. Teams can improve their performance in this respect by focusing on reducing waste and interruptions that steal their attention from the learning goals they have set, as expressed in their Sprint Goals. Over time, achieving these value-oriented, learning-oriented Sprint Goals will help a team make progress toward their intermediate goals, and ultimately toward strategic goals, both usually expressed in terms of fulfilling unmet customer needs.