



A guide to

# Agile Product Metrics

*20 Metrics used by successful Agile teams*

*written by*



**SURESH KONDURU**  
*Certified Scrum Trainer and Agile Coach*

[www.SureshKonduru.com](http://www.SureshKonduru.com) | [www.PremierAgile.com](http://www.PremierAgile.com)  
Contact +91-91542-AGILE

## About the author

This book is written by Suresh Konduru – a globally recognized Scrum Alliance Certified Scrum Trainer (CST).

Suresh has more than 23 years of experience in Agile Transformation, Product Development, Agile Consulting, Agile Coaching & Scrum Training, Delivery Management, Program Management, Project Management for Global Fortune 500 customers.

He conducts workshops for Scrum Alliance flagship certifications such as Certified Scrum Master (CSM) and Certified Scrum Product Owner (CSPO). These are interactive zero Power-Point sessions conducted across Bangalore, Hyderabad, Mumbai, Pune, Delhi, Kolkata, Chennai, Kochi and other cities in India; as well as in USA, Europe, ME and APAC regions.

Suresh conducted more than 300 workshops, trained 10,000+ professionals across 30 countries in Agile and Scrum. Suresh delivered workshops in global locations including USA, India, Sweden, China, Netherlands, Belgium, Spain, France, Thailand, UAE etc.

Suresh is specialized in "Training Scrum from the Back of the Room" based on Brain Science learning. He uses real-world examples, group learning activities to make the workshops learning as well as fun.

Suresh also consults for Fortune 500 organizations in product development, Agile transformation and change management initiatives.

Suresh runs 'ASK' program – a lifelong free mentoring program for his students registered through PremierAgile.

## Credits

This book is based on my Agile work experience apart from taking key inputs from a collaborative effort by a team of Agile coaches during the Scrum Alliance Coaches Retreat organised in Goa, India during January 2016.

During the Retreat, over the 3 Sprints, we brainstormed and listed metrics that can be used to measure Agile transformation and performance at two levels:

- a. Level 1: Product Owner, Scrum Master, Developers.
- b. Level 2: Customer or Business or Organization.

I am glad to be part of the team that jointly has several thousands of hours of Agile coaching experience.

I made several changes – added many and deleted few from the original list based on my Agile transformation work experience, interactions with Agile practitioners, reading books, attending conferences etc.

If you have used any other metrics and think they are useful to suggest to the Agile community, please email to [Info@PremierAgile.com](mailto:Info@PremierAgile.com), Call or Whatsapp our AGILE hotline number +91-91542-AGILE (24453).

*The images in this book are from PresenterMedia – legal copyrights obtained.*

## A Note to consider

This book consists of 20 metrics adopted by several Agile teams across the world. The recommendation is NOT to track ALL the metrics, but to choose 'just enough' that make sense. Remember the Agile Manifesto:

We are uncovering better ways of developing software by doing it and helping others do it. Through this work we have come to value:

Individuals and interactions **Over** Processes and tools  
Working software **Over** Comprehensive documentation  
Customer collaboration **Over** Contract negotiation  
Responding to change **Over** Following a plan

That is, while there is value in the items on the right, we value the items on the left more.

An interaction is valued more than a process or a tool or metrics. A working product is valued more than comprehensive documentation.

## More Metrics

Need more metrics than the 20 listed here? We have many more metrics compiled for your tracking, and we will provide upon registration for our PremierAgile workshops.

## Table of Contents

- I. What are Metrics?
- II. Why are Metrics needed?
- III. Benefits of Metrics
- IV. Who needs Metrics?
- V. 5 Metrics for a Product Owner
- VI. 5 Metrics for a Scrum Master
- VII. 5 Metrics for a Developers
- VIII. 5 Metrics for Stakeholders, Management Teams
- IX. References

## What are Metrics?



As per Dictionary.com, a metric means ‘a system or standard of measurement’.

As per Wiktionary.org, a metric means ‘A measure for something; a means of deriving a quantitative measurement or approximation for otherwise qualitative phenomena especially used in engineering.’

Measurement is one of the integral parts of running a business, developing products and services, validate plans, check performances etc. Agile organizations and Agile teams are no exceptions. They need to measure their product and process performances, the value they offer to stakeholders, how much more work is remaining etc.

This book helps you understand the various metrics used for measurement by Agile organizations and Scrum roles.

## Why are Metrics needed?

**If you can't measure it, you can't improve it**

- Lord Kelvin (William Thompson), Physicist.

The following questions are frequently asked by the various roles in an organization:

1. Are we delivering value?
2. Is the work of good quality?
3. What are the problems we are trying to resolve?
4. Are we working on the right product?
5. Are we on track for:
  - a. For planned budget?
  - b. For planned dates?
  - c. For planned cost?
  - d. When will we complete the remaining work?
6. How do stakeholders feel about our product, service?

## Benefits of Metrics



- Provide transparency
- Measure and manage performance of products, services and processes
- Answer Stakeholder queries
- Inspect & adapt for continuous improvement
- Challenge teams and stakeholders – for constructive discussions

## Who needs Metrics?



- Product Owners
- Scrum Masters and Agile Coaches
- Developers
- Program Sponsors and Leaders – Business and Technology
- Release Managers
- Portfolio Manager
- Business Analyst
- Technical Architect
- Departmental Leads
- Product Management Leaders
- Project Managers and Program Managers
- Product Managers
- Product Architects
- Entrepreneurs
- Start-up founders
- Investors
- Senior Leadership roles handling product development and services teams.

# Metrics for Product Owner



## Metrics # 01 of 20

<b>Name of measurement</b>	Business Value
<b>Definition</b>	Business Value delivered to users, business stakeholders, businesses, communities.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. Frequently expressed in product revenue or sales.</li> <li>2. Others could be Net Promoter Score (NPS), Customer satisfaction, Net Present Value (NPV) etc.</li> </ol>

## Metrics # 02 of 20

<b>Name of measurement</b>	Usage Index
<b>Definition</b>	Utilization of the product features by end users. This helps to promote simplicity and reduce waste.
<b>Units of measurement</b>	# of features used versus # of features developed.

### Metrics # 03 of 20

<b>Name of measurement</b>	Product Backlog Readiness
<b>Definition</b>	The availability of well refined User Stories at the top of the Product Backlog that the Developers can pick during Sprint Planning. As much as a Product Backlog is ready, the effectiveness of the Scrum Team.
<b>Units of measurement</b>	Example: 1.5 x Velocity, 2 x Velocity etc.

### Metrics # 04 of 20

<b>Name of measurement</b>	Cost per release
<b>Definition</b>	The total money or resources spent on a release.
<b>Units of measurement</b>	Effort cost, Infrastructure cost, Licensing cost etc.

## Metrics # 05 of 20

<b>Name of measurement</b>	Release Burn-up
<b>Definition</b>	Burnup chart is a tool to track completed work.
<b>Units of measurement</b>	Completed work is plotted on Y-axis and the Sprint # on X-axis.

# Metrics for **Scrum Master**



## Metrics # 06 of 20

<b>Name of measurement</b>	Impediment Removal Efficiency
<b>Definition</b>	The main responsibility of a Scrum Master is to remove impediments. This metric measures the efficiency of how well (quickly) a Scrum Master removes impediments, hence making the Developers more productive.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. # of days an impediment is open.</li> <li>2. Time blocked per work item.</li> <li>3. Open Versus Total (Trend).</li> </ol>

## Metrics # 07 of 20

<b>Name of measurement</b>	Evolution of Definition of Done (DoD)
<b>Definition</b>	The Scrum Master facilitates Product Owner and Developers to create the DoD. The quality of the product can be driven by Definition of Done. The objective is to make Definition of Done more stringent over a period of time.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. Trend showing how the DoD evolved.</li> <li>2. How DoD impacted quality.</li> </ol>

## Metrics # 08 of 20

<b>Name of measurement</b>	Retrospectives
<b>Definition</b>	A Sprint Retrospective is an event facilitated by the Scrum Master on the last day of the Sprint. This helps to inspect and adapt the current way of working, and improve further. A Scrum Master can utilize this event to make the Scrum Team high performing.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. Retrospectives skipped versus Retrospectives conducted.</li> <li>2. # of Innovation Techniques.</li> <li>3. Team Happiness Index.</li> </ol>

## Metrics # 09 of 20

<b>Name of measurement</b>	Team Happiness Index or Team Morale
<b>Definition</b>	Indicates happiness as an indicator of team well-being. A team that is happy, will also be more efficient, more cohesive and helping each other to delivery high quality products.
<b>Units of measurement</b>	<p>May be discussed during a Sprint Retrospective:</p> <ol style="list-style-type: none"> <li>1. How happy are you with your team or the organization? May use different smileys rated 1–5.</li> <li>2. What feels best (and worst) right now?</li> </ol>

## Metrics # 10 of 20

<b>Name of measurement</b>	Ability to innovate
<b>Definition</b>	Innovation brought into the Scrum Team or the organization that helped improve time to market, organizational transformation etc.
<b>Units of measurement</b>	<p>Monthly numbers such as:</p> <ol style="list-style-type: none"> <li>1. Communication practices optimized.</li> <li>2. Engineering practices followed.</li> <li>3. Stakeholder and Management transformation sessions organized.</li> <li>4. Knowledge sharing sessions conducted etc.</li> </ol>

# Metrics for Developers



## Metrics # 11 of 20

<b>Name of measurement</b>	Velocity
<b>Definition</b>	The amount of work done in a Sprint. It is a measurement for past performance, and can be used to plan for future Sprints.
<b>Units of measurement</b>	Number of Story Points pertaining to the User Stories that meet Definition of Done in a single Sprint.

## Metrics # 12 of 20

<b>Name of measurement</b>	Sprint Burndown Charts
<b>Definition</b>	Burndown chart is a tool to track remaining work in the Sprint. This is updated on a regular basis, to help Inspect the Sprint progress and Adapt the rest of the Sprint.
<b>Units of measurement</b>	Sprint # on X-axis. Remaining work in the Sprint is plotted on Y-axis.

### Metrics # 13 of 20

<b>Name of measurement</b>	Cumulative Flow Diagram
<b>Definition</b>	Is a tool used in queuing theory. It is an area graph that depicts the quantity of work in a given state, showing arrivals, time in queue, quantity in queue, and departure.
<b>Units of measurement</b>	Available in tools such as Jira, Rally etc. Shows the status of tasks – in a Sprint or a Release. It can visualize bottlenecks in the process – a disproportionately large number of tasks in any of the workflow stages indicates a problem.

### Metrics # 14 of 20

<b>Name of measurement</b>	Code Quality
<b>Definition</b>	Quality of source code. Helps to track and maintain good quality code during the entire product development and maintenance stage.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. Cyclomatic complexity</li> <li>2. Adherence to coding standards</li> <li>3. Mean Time Between Failures.</li> </ol>

## Metrics # 15 of 20

<b>Name of measurement</b>	Defect Detection Efficiency
<b>Definition</b>	Efficiency of the team to detect defects even before they reach the production or end-user environment. This can be measured at various stages.
<b>Units of measurement</b>	Defects detected in Production environment Versus Total number of defects detected.

# Metrics for **Other Stakeholders**

(during Agile Transformation)



## Metrics # 16 of 20

<b>Name of measurement</b>	Agile Usefulness Index
<b>Definition</b>	How useful is moving to an Agile way of working from a traditional way of working.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. Time to market (see another metric below)</li> <li>2. Customer satisfaction</li> <li>3. Company revenue</li> <li>4. Value delivered</li> <li>5. Risk averted (Absolute revenue or relative scale of 1 thru 5).</li> </ol>

## Metrics # 17 of 20

<b>Name of measurement</b>	Agile Awareness Index
<b>Definition</b>	Awareness of Agile transformation, the challenges & benefits, Scrum framework, other practices etc.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. # of Associates Trained</li> <li>2. # of Trainings Conducted</li> <li>3. Feedback</li> <li>4. # of self-organizing teams who function without a supervisor and delivery high quality products or features.</li> </ol>

### Metrics # 18 of 20

<b>Name of measurement</b>	Management Sponsorship Index
<b>Definition</b>	How much the management team has embraced an Agile way of working.
<b>Units of measurement</b>	<ol style="list-style-type: none"> <li>1. Frequency of disruption of Scrum teams.</li> <li>2. Agile Awareness Index metrics.</li> <li>3. Resistance by middle management towards change.</li> <li>4. Availability of an Agile sponsor at each unit level.</li> </ol>

### Metrics # 19 of 20

<b>Name of measurement</b>	Agile maturity index
<b>Definition</b>	The organization's maturity level in implementing Agile-Scrum practices or any other Agile framework such as Kanban, XP etc.
<b>Units of measurement</b>	Index or % based on a customized questionnaire

## Metrics # 20 of 20

<b>Name of measurement</b>	Time to market - From Requirement to Deployment
<b>Definition</b>	Time from work-start to successful completion.
<b>Units of measurement</b>	The elapsed time from when an initiative or a product feature request is identified by business team until it is implemented. Usually measured in weeks or months.

## References & Other links

1. Metrics listed during the Scrum Alliance Coaches Retreat January 2016.
  - a. Coaches Retreat sponsored by Scrum Alliance.
  - b. The Coaches team during the Retreat:
    - i. Raghavendra Rao
    - ii. Rohit Arora
    - iii. Suresh Konduru (CST)
    - iv. Sanjay Saini (PST)
    - v. Sherry Wasandi
    - vi. Vipin Gupta
2. Few definitions from Wikipedia.
3. Scrum Guide from [www.ScrumGuides.org](http://www.ScrumGuides.org).
4. <https://premieragile.com/how-to-measure-success-of-an-agile-transformation-program/>
5. <https://www.linkedin.com/pulse/how-measure-success-agile-transformation-program-suresh-konduru/>
6. <https://www.frontrowagile.com/blog/posts/69-30-metrics-for-agile-software-development-teams>

This guidance is offered under the Attribution Share-Alike license of Creative Commons, <https://creativecommons.org/licenses/by-sa/4.0/legalcode>.

By utilizing this, you acknowledge and agree that you have read and agree to be bound by the terms of the Attribution Share-Alike license of Creative Commons.