

# When Culture Is Incompatible With Facts, What Wins?

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“Measure what’s important.  
Don’t make important what  
you can measure.”

*Robert S. McNamara*

# **Fact:**

There is no known valid method to measure software development productivity in the wild.

# Measuring Software Development Productivity

[www.construx.com](http://www.construx.com)



@stevemconstrux



Steve  
McConnell

# But Then There's This

“Velocity is the average amount of work a scrum team completes during a sprint, **measured** in either story points or hours, and is very **useful for forecasting.**”

# The Problem

Development velocity has become erroneously perceived to be a productivity metric. Thus:

1. Any time spent looking at, discussing, or “digging into” this metric is waste
2. Anything we make our teams do to support this wasted effort is potentially demotivating waste

# **surrogation** *noun*

The tendency for managers to lose sight of the strategic construct(s) the [performance] measures are intended to represent, and subsequently act as though the measures are the constructs of interest.

# The “Experts”

“Velocity is a key feedback mechanism for the Team. It helps them measure whether process changes they make are **improving their productivity or hurting it.**”

- <https://www.scruminc.com/velocity/>



# How did we get here?

1. The Need
2. The Name
3. The Definition
4. The “Experts”

# The “Experts” (2)

“While a Team's velocity will oscillate from Sprint to Sprint, over time, a well-functioning Scrum Team's velocity should steadily trend upward by roughly 10% each Sprint.”

- *ibid.*

# Dispelling the Confusion

Productivity = Output / Input

Dev Velocity = Amt of Work / Sprint

1. Amt of work is *estimate of effort*
2. There's no yardstick here.

=> *Can't attribute fluctuations to causes*

# The Solution: Deprecate Velocity

1. Politely decline to share velocity numbers with anyone but happily provide ship date estimates
2. Don't make a big deal out of velocity on your team
3. Don't dig into this quantity
4. Don't use it as a motivator – use business goals
5. Stop calling it a metric
6. Ideally: rebrand this quantity as something less sexy

# One Alternative: Better Statistics

1. Stated purpose of velocity is *forecasting*
2. “Bootstrapping” from a solid historical data set would be far more accurate
3. “90% probability ship date” harder to mistake for productivity

# Recap

- We have a real management need
- With no corresponding measure
- But with a pseudo-metric that looks *convincingly* like the missing measure
- **And a culture of metricization**

# The Fundamental Problem



“If you can’t measure it,  
you can’t manage it.”



You can’t measure  
dev productivity.



“I’m gonna need you  
to maximize our dev  
team’s productivity.”

## Pick Two.

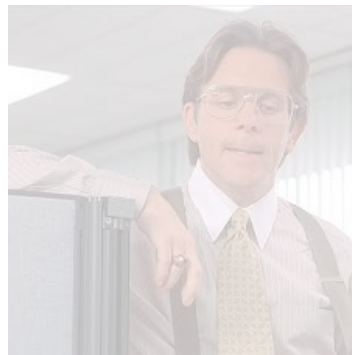
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## 1. Throw Up Your Hands



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## 2. Measurement Theater

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## 3. Management sans Measurement



**BTW:**



**“It is wrong to suppose that if you can’t measure it, you can’t manage it — a costly myth.”**

# In Practice

“Study after study has shown that motivation probably has a larger effect on productivity and quality than any other factor” [McConnell, 4]

“Organizational influences define the productivity envelope within which a team performs.” [McConnell, 5]

# Takeaways

- Velocity does not measure dev productivity
- Because *nothing* measures dev productivity
- But it's commonly abused as a measure of productivity
- Owing to its name, its definition, and “metric yearning”
- So we should avoid tracking, sharing, discussing, and digging into this quantity and probably deprecate it
- But we can still aim to maximize productivity through leadership, intelligent org design, and smart process

# More General Takeaways

- Measure what's important
- Make sure it's actually measureable – Don't succumb to measurement theater!
- Avoid surrogation in managing around metrics

# Thank you!

## References

1. <https://hbr.org/2019/09/dont-let-metrics-undermine-your-business>
2. <https://www.atlassian.com/agile/project-management/metrics>
3. Steve McConnell. *Measuring Software Development Productivity*. ACM Talk, <https://www.youtube.com/watch?v=Umj-I1CS4YU>
4. Steve McConnell. *Rapid Development*. Microsoft Press, 1996.
5. Steve McConnell, *Making Software*. O'Reilly, 2010.