Stupid Metrics Tricks
And How to Avoid Them
Introduction

Ever seen someone do something stupid with metrics?
Sure ya have!
Today, we’re gonna look at stupid stuff people do with metrics
  • What are the most common metrics mistakes?
  • Why are they mistakes?
  • Why do people make these mistakes?
  • Are you making these mistakes?
  • Why use metrics at all, when there are so many mistakes?

And, of course, we’ll look at ways to implement metrics that aren’t stupid
You Light Up My Life

Do you find this slide easier to read when the font is lighter or darker?

Or do you find that the changing brightness of the font attracts your attention?

You are a victim of the Hawthorne effect

What gets measured gets done
And What Doesn’t Get Measured, Doesn’t!

- As this figure shows, people can get distracted from important facts.
- Some people measure their worth in followers, likes, retweets, etc.
- How many count whether they cross the street without getting hit by a car?
- What happens if you measure things that are less important than what you don’t measure?
Sometimes You’re Pushing on a String

- What if you attach rewards or punishments to a metric?
- That’ll cause it to move in the right direction, yes?
- Well, it might just frustrate the hell out of people and cause no movement at all
- Or, you might mistake random variation for movement
Deming’s Red Bead Experiment

- Need six volunteer operators, three teams of one bead selector and one bead counter each
- Operators are issued a paddle with nine bead gaps and a bucket with mixed beads
- Operators are to separate white beads from a mix of red and white beads
- Operators are to submit one paddle every 15 seconds, 10 paddles total
- Bead counters are to note any red beads or gaps in the paddle submitted by the selector
- Score per paddle is 1 point per white bead, 0 points per empty gaps, and -2 points per red bead
- Team with the most points wins a prize
Put the Lime in the Coconut

Quick, which shows a lower temperature?
Are you sure?
This illustrates a common mistake made by many testers, test managers, and other managers
One example: taking the test pyramid literally rather than metaphorically
It’s not unusual for people to have a goal of 100% test automation.

Does this make sense?

Does this mean you don’t test areas that aren’t automatable?

Does this mean you automate tests that run rarely?

Is testing that consists entirely of verification (with no validation) really complete?

Who’s wagging whom?
Inscrutable? Irrelevant?

Two questions from assessments:
- Do you understand the test results?
- Do the test results help you do your job?

Common answers:
- No and no
- Yes, but no

Always be able to answer the “so what” question
The Water Cannon of Raw Data

• Some tools make it easy to deliver too much data and low/no information
• How often have you seen 20 page test reports, slicing and dicing test case and bug metrics?
• Does that actually answer key questions like:
  ▪ What’s been tested and what hasn’t?
  ▪ What is still at risk?
  ▪ If we release now, what can we have confidence in and what can’t we?
• These are the kinds of questions management actually cares about
So Why Bother with Metrics?

- So, with all these potential mistakes, why bother?
- Because it’s better to make decisions based on facts, not opinions, first impressions, and common sense
- Human cognition and human psychology do not lend themselves to good choices without the aid of facts
- Ignorance and bad ideas thrive in low-fact settings
- Pick one: proof by assertion or proof by evidence?
What’s Needed to Gather Good Metrics

- Start with the objectives, then derive metrics for effectiveness, efficiency, and satisfaction
- Keep the metrics set concise, relevant, and actionable
- Ensure proper tool setup to gather the metrics
- Provide proper training in the use of the tools
- Remove any direct or indirect incentives or nudges to corrupt data
- Tailor the metrics and their presentation to each audience
Conclusions

- The very act of measurement can change behavior
- Measurement also re-directs attention
- Even well-intentioned metrics can be misused, with dire results
- Be aware of the mistakes so you can avoid them
- But don’t reject metrics simply because it’s hard to use them right
- Instead, work diligently and methodically to put good metrics in place
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