

Project Management Symposium

Risk: Muse and Metrics

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PROJECT MANAGEMENT
CENTER FOR EXCELLENCE

A.J. CLARK SCHOOL OF ENGINEERING
Civil & Environmental Engineering Department



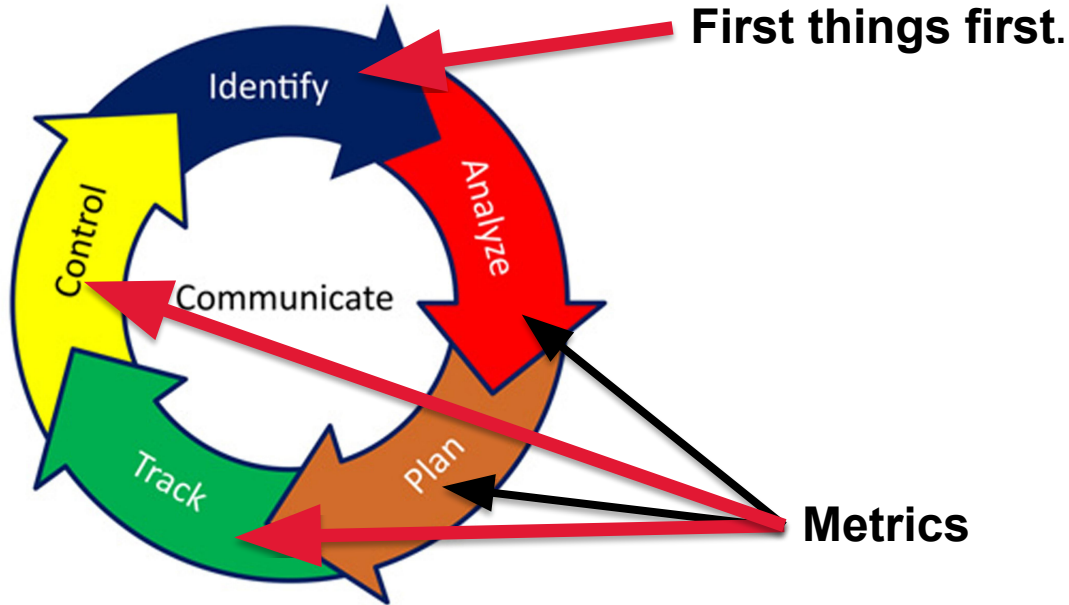


Poor Risk Management



- Little time exploring what can go wrong
- No metrics
- Poor monitoring (continuous)
- Risk register collects dust

Risk Management Processes



- Identify
(continuous)
- Importance of metrics
- Decisions

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Introduction

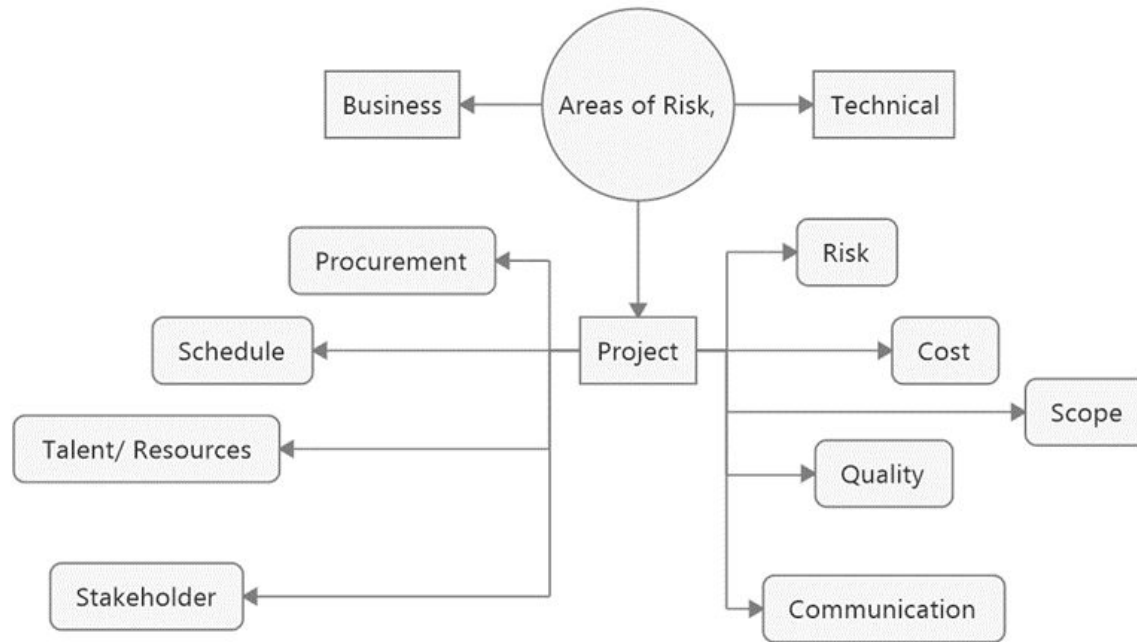


<https://www.britannica.com/biography/Aristotle>

“Well done is half done”
~Aristotle

Strategies and tactics.

The things can go wrong



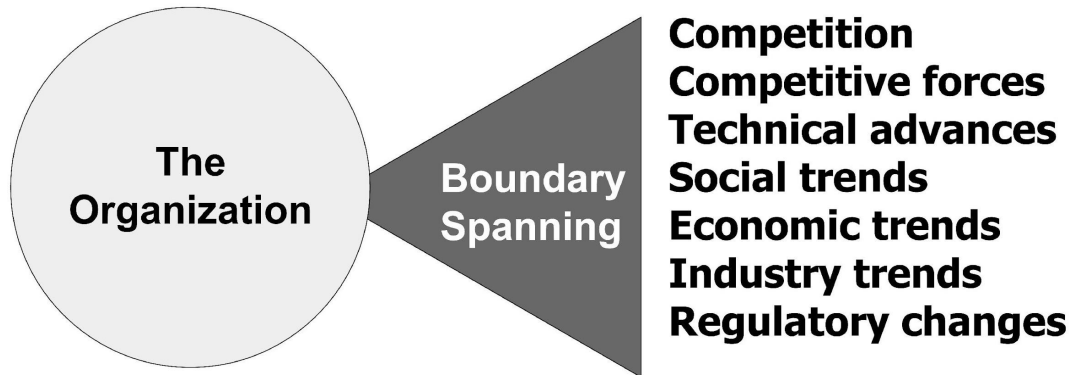
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2024 Project Management Symposium





Project and Strategy Selection



The number of things that must go well for the project to be successful

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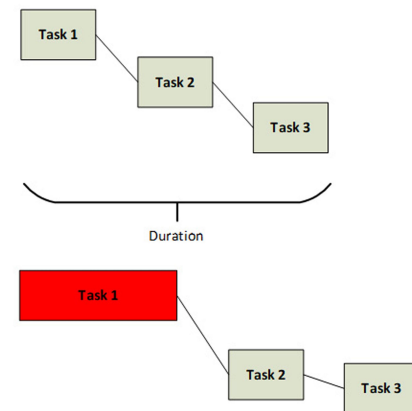
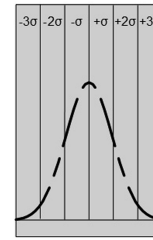
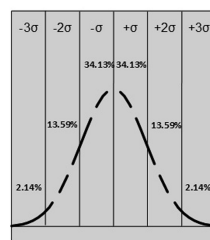
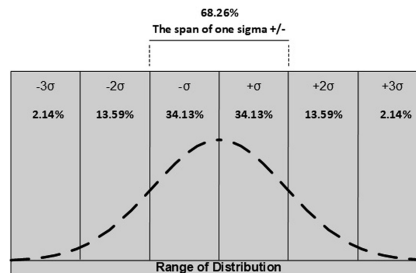
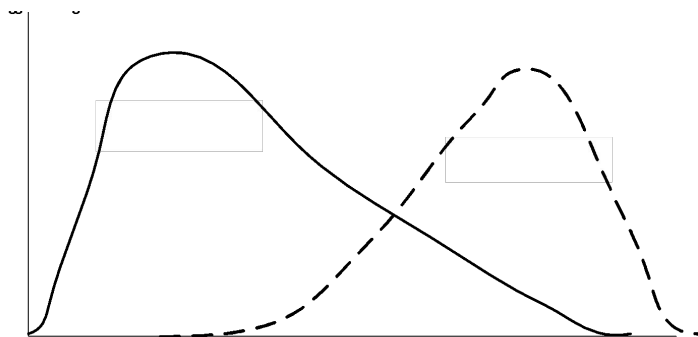
Strategy Selection

**IF EVERYONE IS
THINKING ALIKE,
THEN SOMEBODY
ISN'T THINKING**

GEORGE S. PATTON



VARIATION



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The muse

1. Calliope: Muse of Epic Poetry
2. **Clio: Muse of History**
3. Euterpe: Muse of Music and Lyric Poetry
4. **Thalia: Muse of Comedy and Idyllic Poetry**
5. **Melpomene: Muse of Tragedy**
6. **Terpsichore: Muse of Dance**
7. Erato: Muse of Love and Erotic Poetry
8. Polyhymnia: Muse of Sacred Poetry
9. Urania: Muse of Astronomy and Astral Poetry



The Muses

<https://greekreporter.com/2023/07/04/muses-of-greek-mythology/>



Clio: The Muse of History

- Learning from the past
- Historical data
- Trends and patterns

Caution: history does not necessarily repeat



www.theoi.com





Melpomene: The Muse of Tragedy

- Dangers that lurk in our pursuit.
- Confront and mitigate
- Identify potential risks
- Robust risk strategies



<https://www.greekboston.com/culture/mythology/melpomene/>





Thalia: The Muse of Comedy

- Sometimes, work life may seem like a joke (Dilbert cartoon).
- Jovial spirit
- Humor in the face of adversity
- Embrace challenges



Terpsichore: The Muse of Dance

We tap dance and sidle our way through the project risk minefield

- Collaboration
- Communication
- Agile and Flexibility

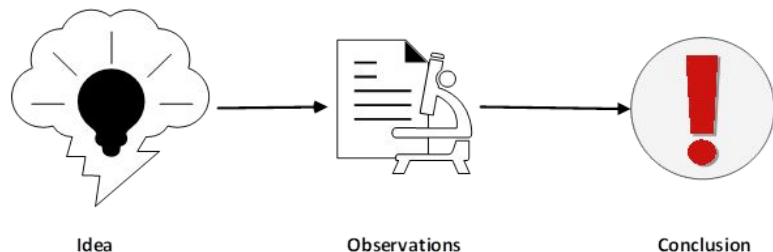


Identifying

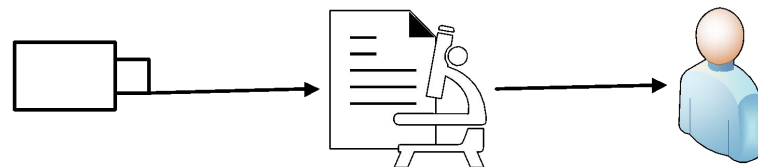
- Experience
- Scenario based
- Check lists
- Pre-mortem

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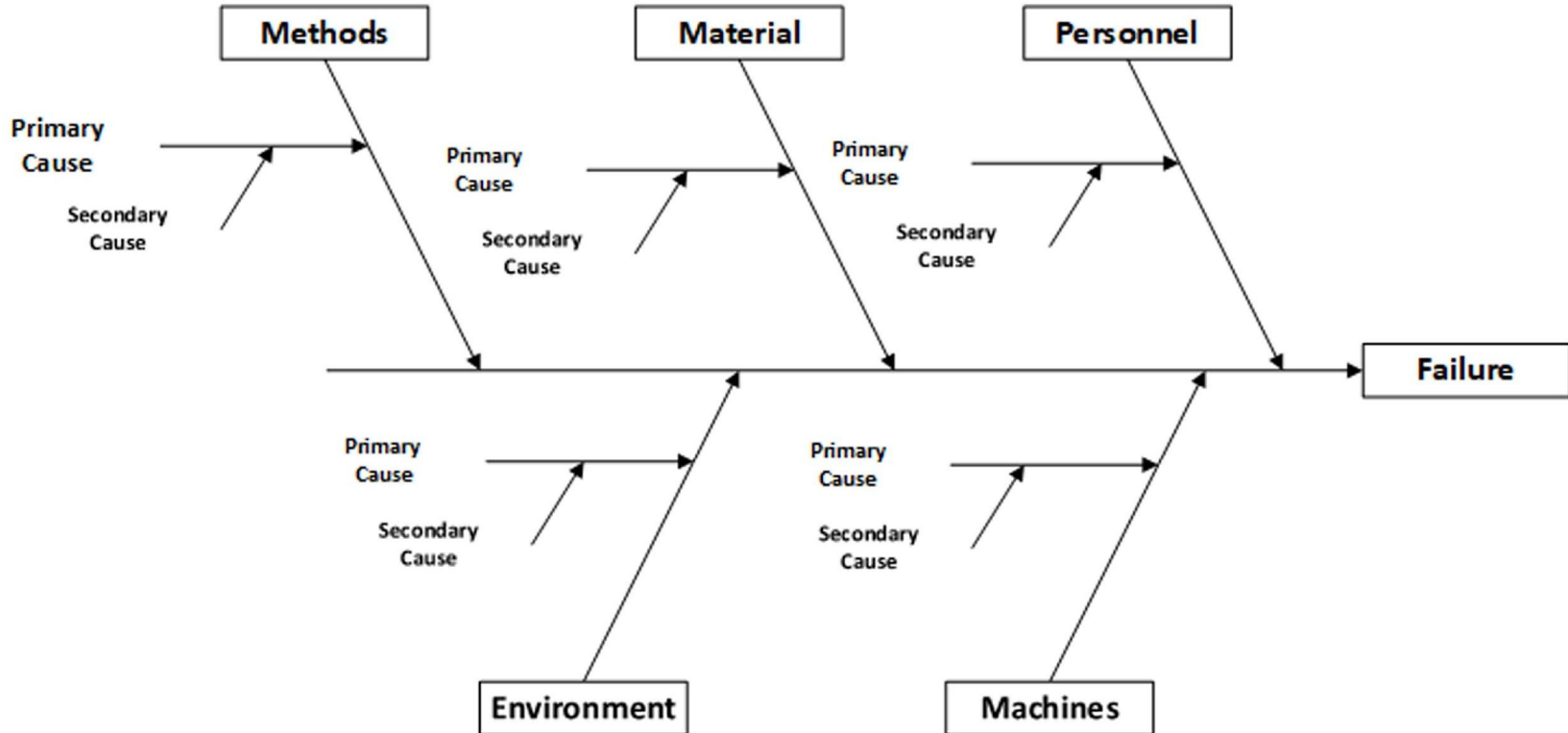
Deductive



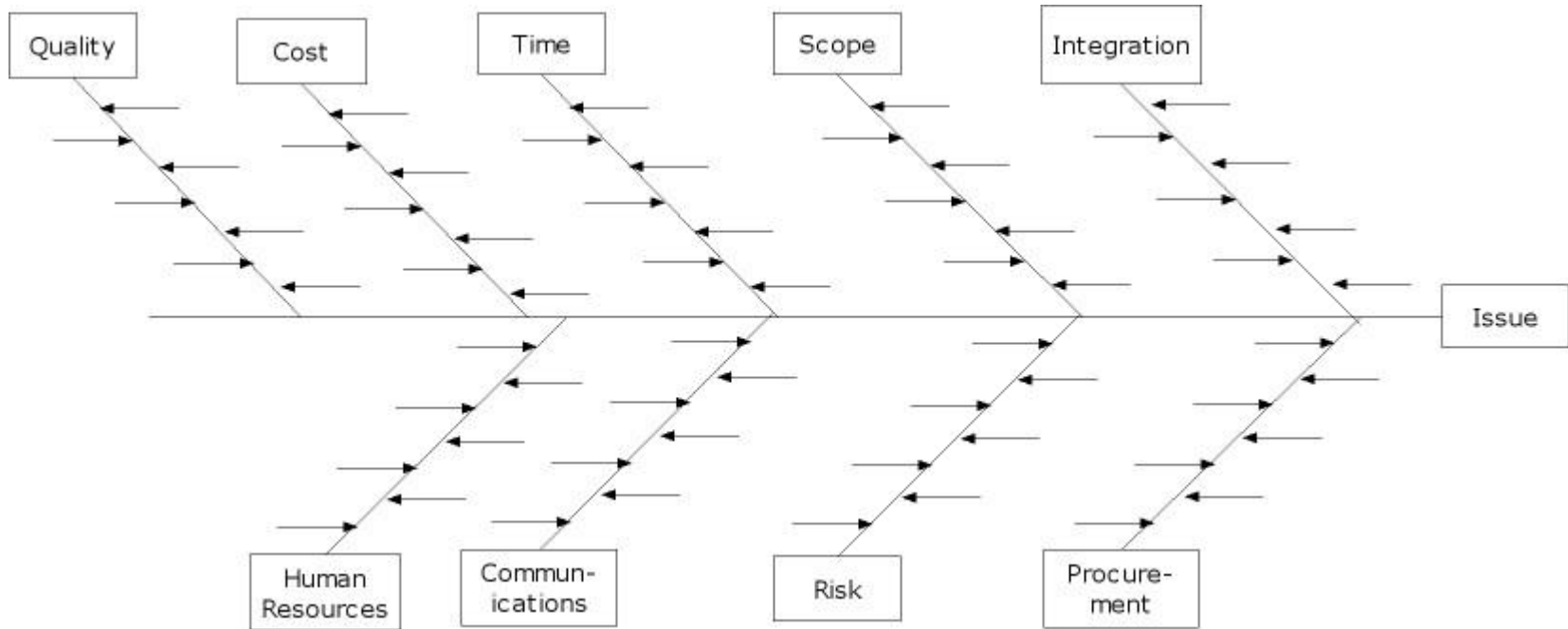
Inductive



Ishikawa? For Risk?



Identification Example





Analyze

Importance of thorough
analysis in understanding
potential impact

Prioritizing risks based on
potential damage and
likelihood

Utilizing risk assessment tools
and methodologies

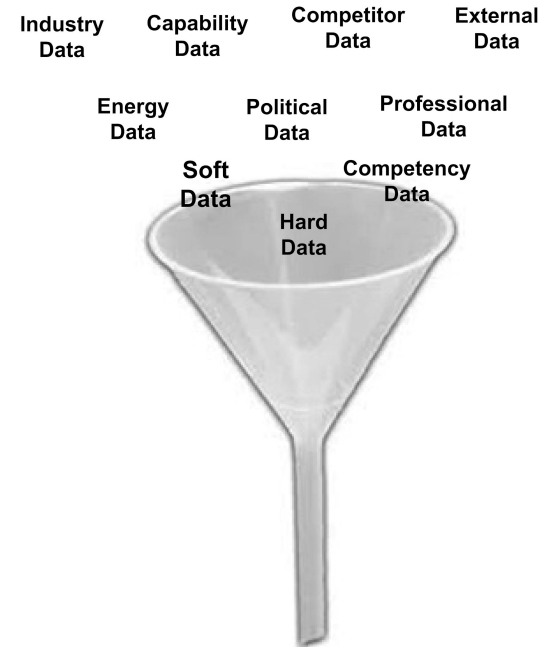
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MIL_STD_882E



Planning

- Avoid
- Mitigate
- Transfer
- Accept (do nothing)
- Accept (metrics, monitor and review)
- Contingency plan
- Some folks say exploit...



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Measurements

Measure what is measurable
and make measurable what
is not so.

~Galileo Galilei



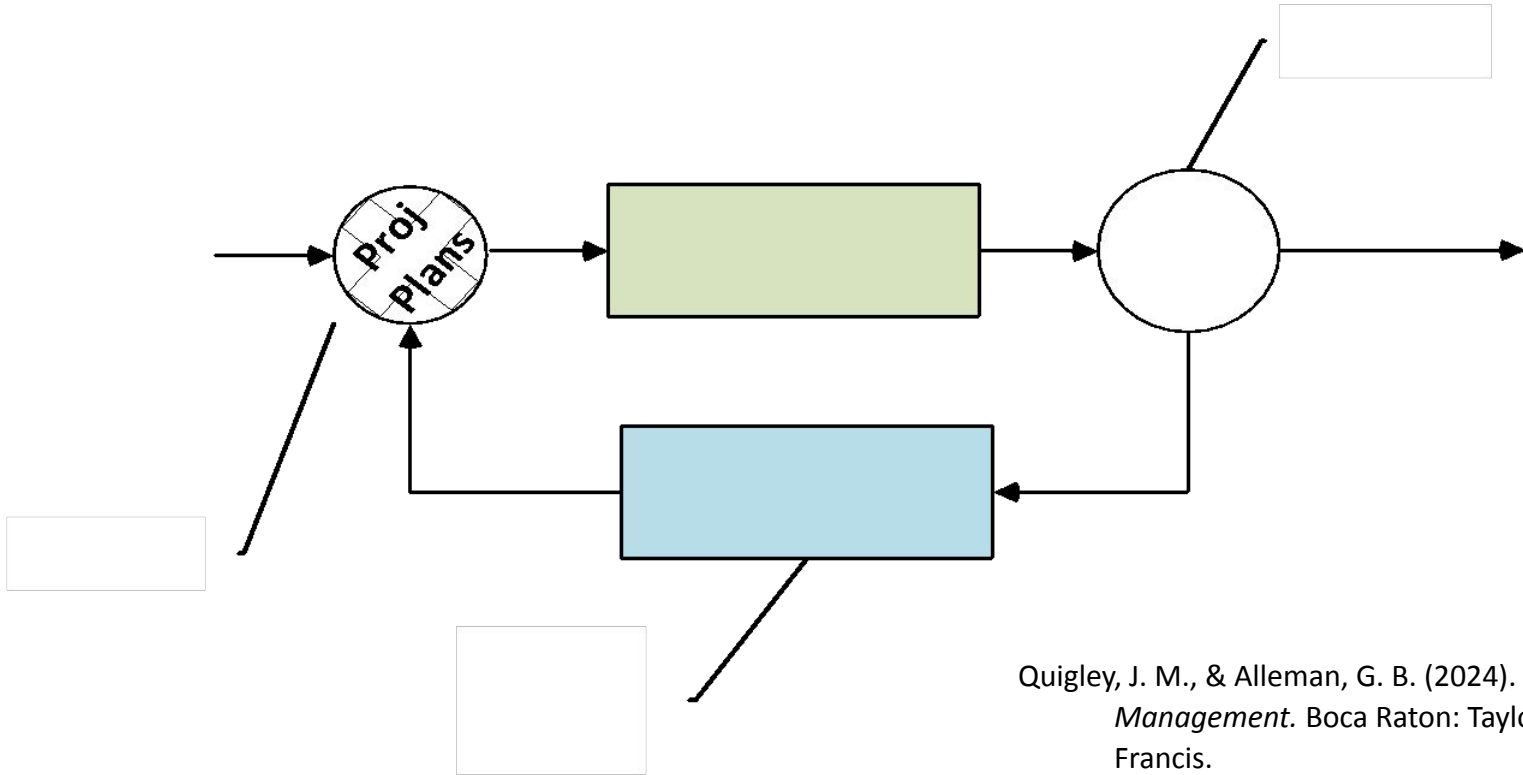


Tracking

- Establishing a robust tracking system for identified risks
- Regular monitoring to identify early warning signs
- Case studies showcasing successful risk tracking and mitigation



Metrics and Control



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A decorative graphic consisting of three overlapping arrows pointing to the right, colored red, yellow, and black.

Setting up Metrics

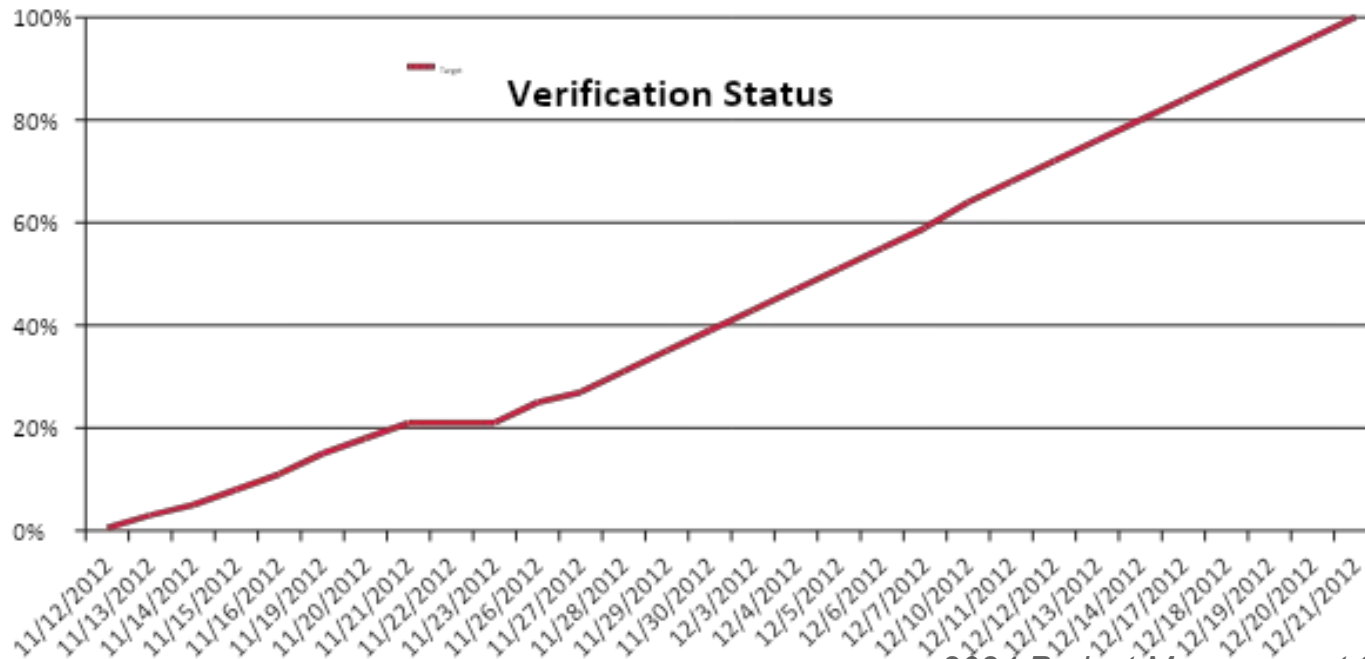
- $$\sigma^2 = \sigma_p^2 + \sigma_s^2 + \sigma_m^2$$

σ_s = variation due to sampling

σ_p = variation due to process

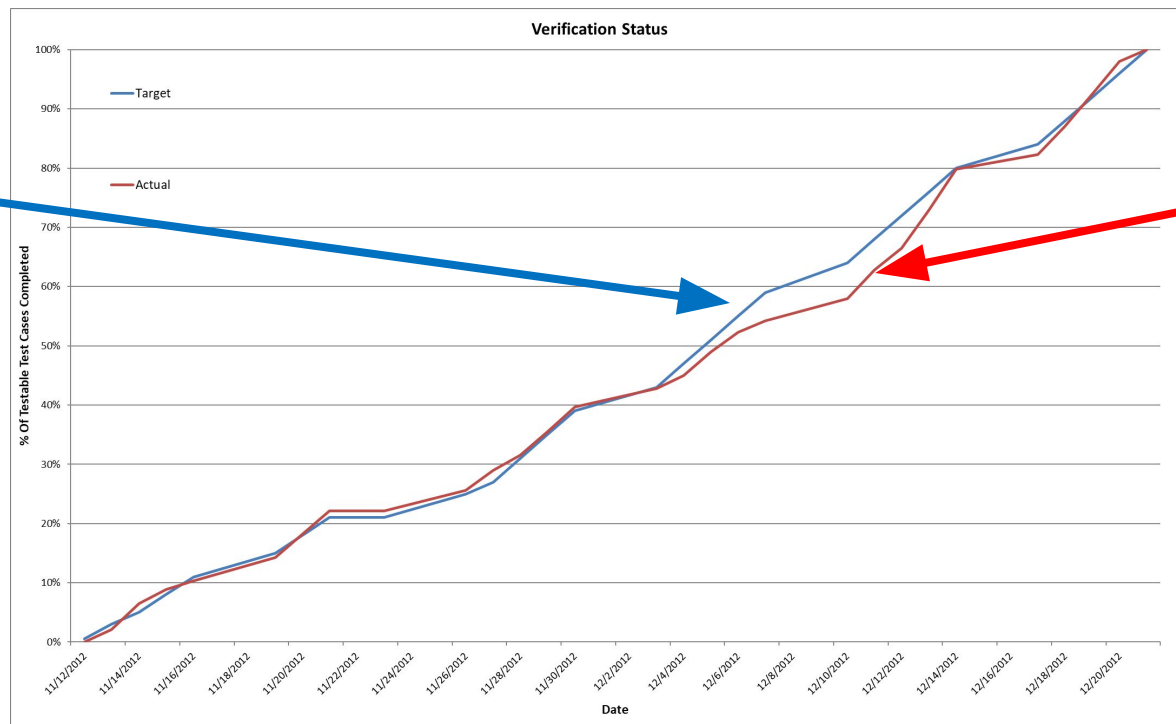
σ_m = variation measurement reproducibility

Metrics - A Project Story



The Story Continues

Target
Rate

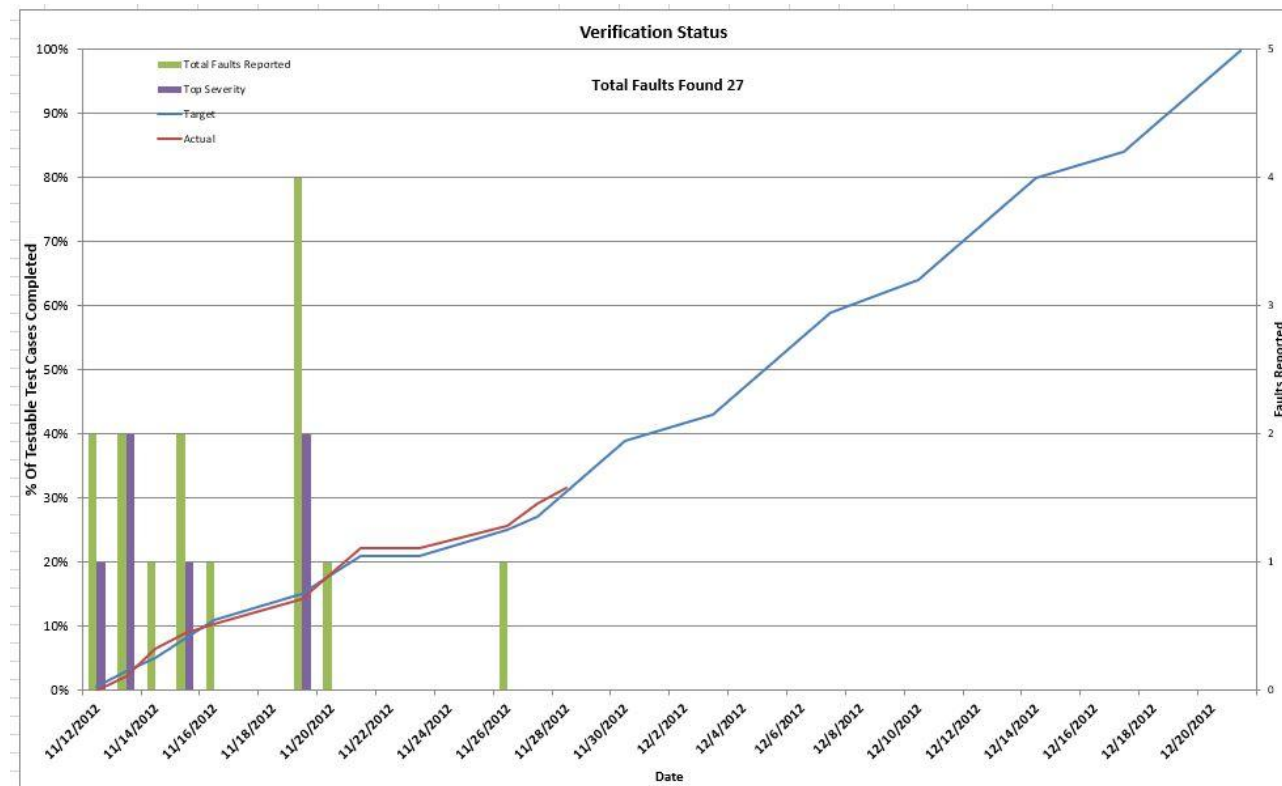


Actual
Rate





Metrics





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and make measurable what
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Questions?



Contact Jon M Quigley

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336-963-0119

