



CMMI Institute

DRIVING ADOPTION BY FOLLOWING THE (JOURNEY) MAP

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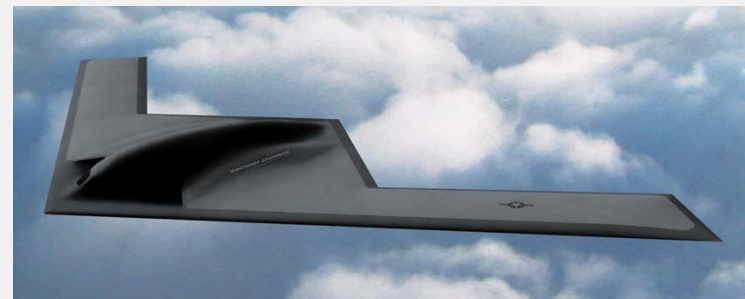
NORTHROP GRUMMAN

**CAPABILITY
COUNTS 2017**

CMMIINSTITUTE.COM/CONFERENCES

NORTHROP GRUMMAN TODAY

- Leading global security company
- \$23.5 billion sales in 2015
- \$35.9 billion total backlog
(as of Dec. 31, 2015)
- Leading capabilities in:
 - Cyber
 - Logistics
 - Autonomous Systems
 - C4ISR
 - Strike

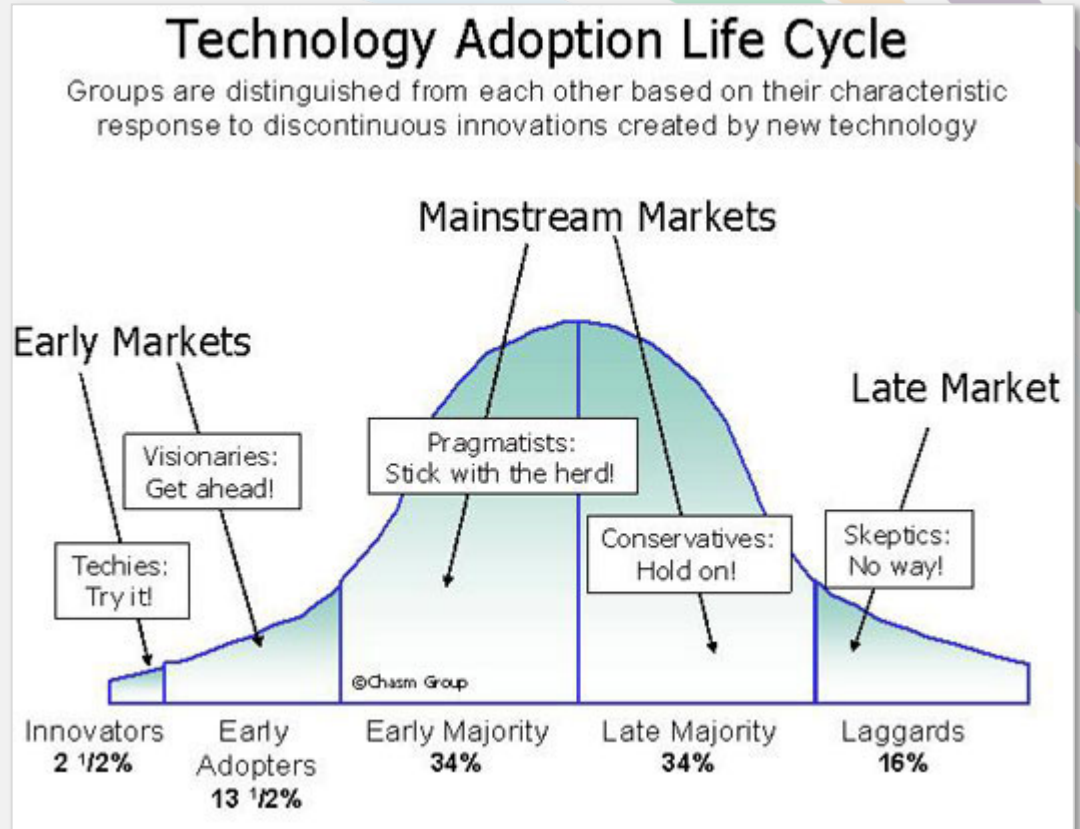


STAKEHOLDERS AND SPONSORS?

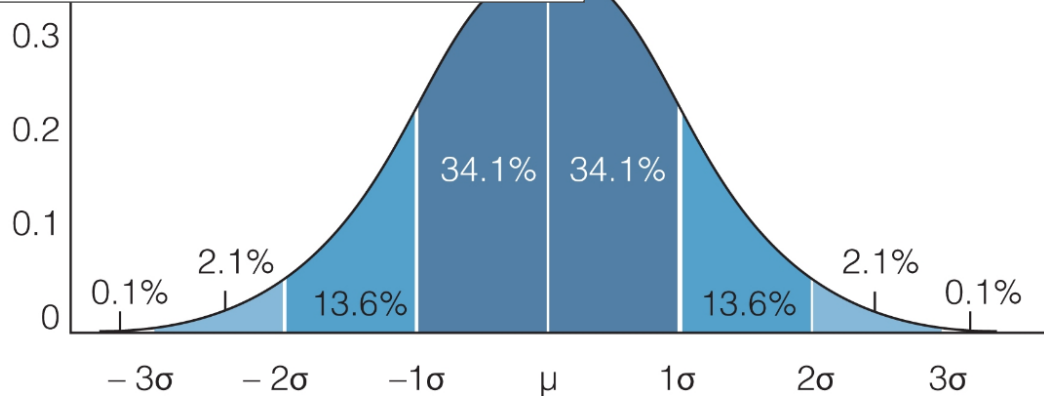
- Who is the target audience of your process improvement program?
 - Sponsor?
 - Stakeholders?
- How do you ensure that your target audience actually adopts your improvements?
- Is your target audience extrinsically or intrinsically motivated to adopt your improvements?

WHEN DOES ADOPTION HAPPEN? USING THE TECHNOLOGY ADOPTION LIFE CYCLE

- People often differentiate themselves by their reaction to new technology
- Reference:
 - [Technology Adoption Life Cycle \[wikipedia\]](#)
 - [The Diffusion Process, Bohlen & Beal](#)
 - [Crossing the Chasm, Geoffrey Moore](#)
 - [Digital Habitats: Stewarding technology for communities](#)



TARGET AUDIENCES & THEIR NEEDS BY TECHNOLOGY ADOPTION GROUP



Group	Innovators	Early Adopters	Early Majority	Late Majority	Laggards
# of SW Engineers (3725)	78	507	1270	1270	585
# of Key Programs (300)	6	41	102	102	47
Need	Want something better	Want to apply the change	Want change but without the pain	Want it to "just work"	Want to keep the old way
Help for next group	Advocate innovations	Build aids and show success	Automate	Build policy	Enforce policy & automation

AN ADOPTION JOURNEY MAP

- A Journey Map describes the experience that your customer undergoes as they interact with you and your organization.
- Here we show the map of how an engineer or program manager goes from being unaware of a static code analysis tool (SonarQube) to becoming a promoter of it.

Understanding

Supporting

Promoting

Conversion #1
Commit to Use
(Use patterns)

Conversion #2
Volunteer to Help

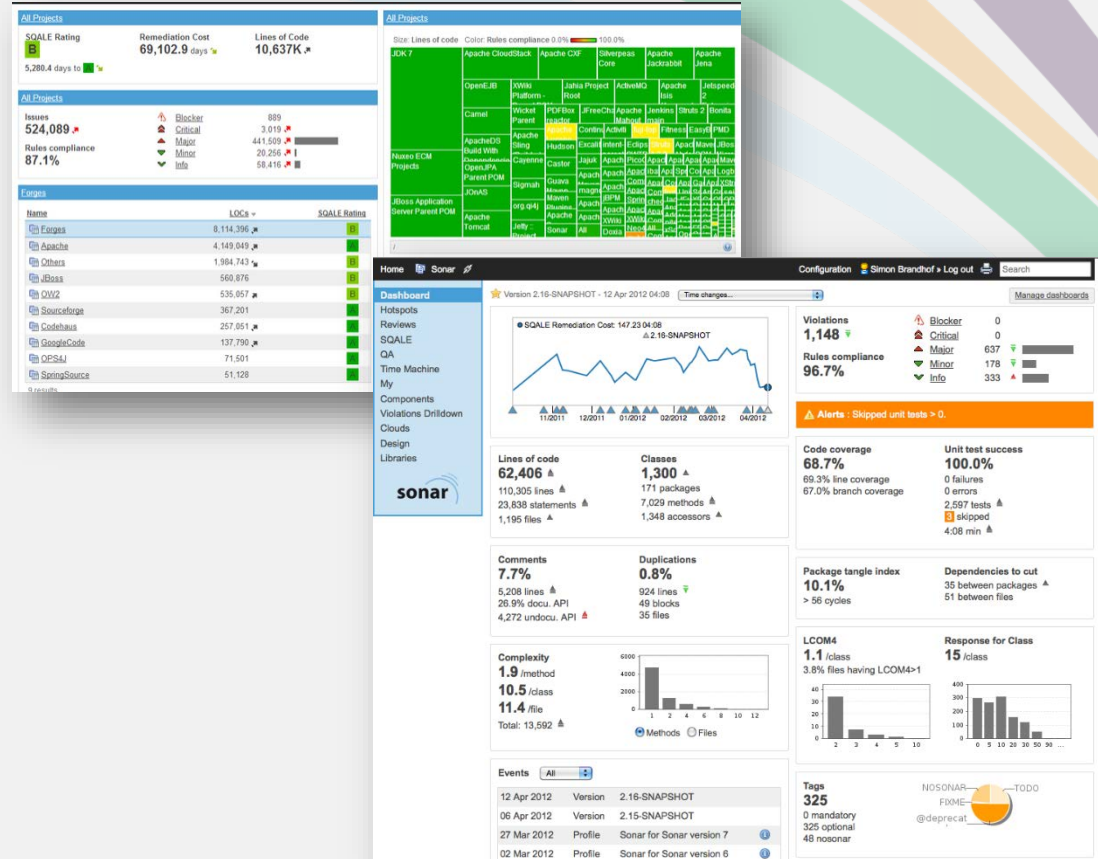
	Unaware	Aware	Understanding Concept	Understanding Value	Internalizing Value	Spreading the idea
What does she say & do?	Long hours, focus on finishing tasks	"Have you heard of this?" Visit the site	Research tool	"What do you think about this tool?" Request an account	Takes training, consults internal experts	"You have to try this!" Volunteers and promotes
What does she think and feel?	Discontent, frustrated	Curious, hopeful	Interested, Optimistic	"I think I see the point."	Motivated and confident	Eager to help others, Motivated
What does she see and hear?	Complaining	Skeptics	Recommendations	Compelling stories	Reports of problems and solutions	Problems she has solved
Pain?	Overtime	Time to learn	Feedback from peers Cons?	How easy is it to get, use, and understand?	Encountered problems	"How do I squeeze this in?"
Gain?	Less rework	Potential help	"This could help me."	"I've tried it and it seems to work initially."	Implementation solutions	Improved work environment
Touch Points	Emails, news	Website	Trade studies, FAQs	New accounts, Compelling stories	Training, CoPs	Support community
Measures	# email recipients	# of website hits		# of new accounts	# of service requests	# of volunteers

What is SonarQube?

Description	SonarQube (formerly Sonar) is an open source platform for continuous inspection of code quality. (Wikipedia)
Who	Software developers
What	Statically analyzes software code and identifies defects and other quality issues
When	Typically applied: <ul style="list-style-type: none">• When the software is built• In agile development, identified errors are removed through sprint tasks• Before a program gate review
Where	Sonarqube.northgrum.com
Why	Early identification of software defects and quality issues reduces rework and improves the software's operational quality
How	Applies language-specific and user-defined plug-ins to identify structural defects

DEEPER DIVE: AUTOMATED SOFTWARE QUALITY

- Technical debt
 - “...the extra development work that arises when code that is easy to implement in the short run is used instead of applying the best overall solution”
- Automated software quality touches multiple responsibilities
 - Process (How to incorporate quality scanning into you product development lifecycle)
 - Metrics (Technical Debt)
 - Common Tools (SonarQube)
 - Best Practices (Coding standards, quality gates)
- Industry best practice is to manage your technical debt as a regular course of business



TAKEAWAYS

- Technology adoption categories help to identify important classes within your target audience.
- Journey maps are useful to develop commitment in specific target audience classes.
- When goals can be expressed as measurable conversions and when journey points can be measured, the user can have significant visibility into adoption trends of target audiences.