INTERNATIONAL FUNCTION POINT USERS GROUP

Trends in Agility – Implications for Functional Measurement

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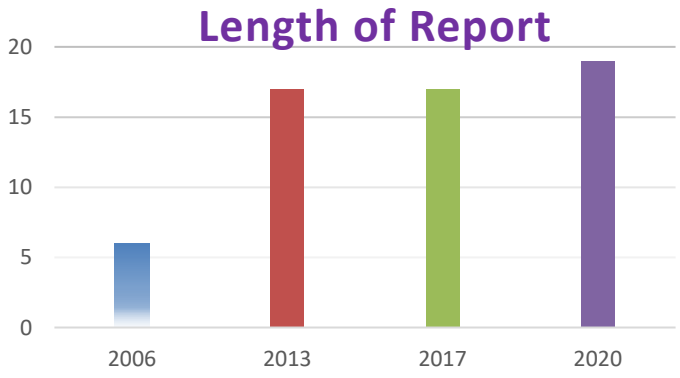
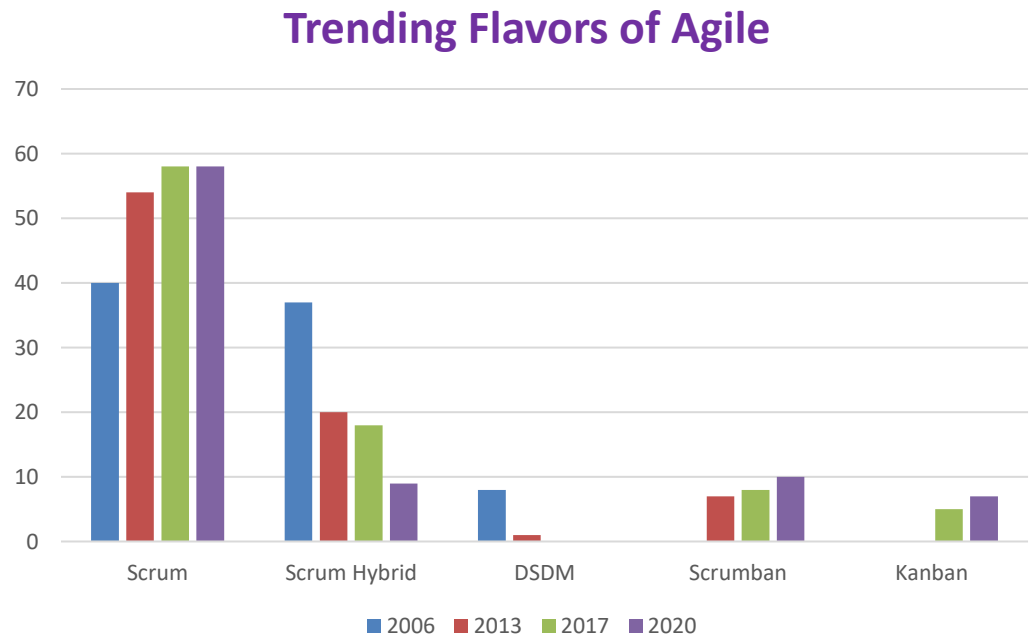
Topical Overview

- Agile Trends – Usage
- Adoption Barriers & Challenges Trends
- Noted Improvement Trends
- Agile Practices Trends
- Success Measures
- Context Clarifies Content
- Story Points can Align with Function Points – Not new!
- Estimating and Planning vs. Actual
- Cumulative Value Deliver
- Traditional Reporting Ill-suited for Agile Development
- The Measurement Challenge – McKinsey & Company research
- Thank you!
- Presenter Notes

Agile Trends – Usage





Annual State of Agile™ Report; VERSIONONE, digitial.ai; 2006 – 2020

Adoption Barriers and Challenges Trends

2006	
%	Barriers to Success
21	Right people
20	Resistance to change
15	Customer collaboration
14	Management Support

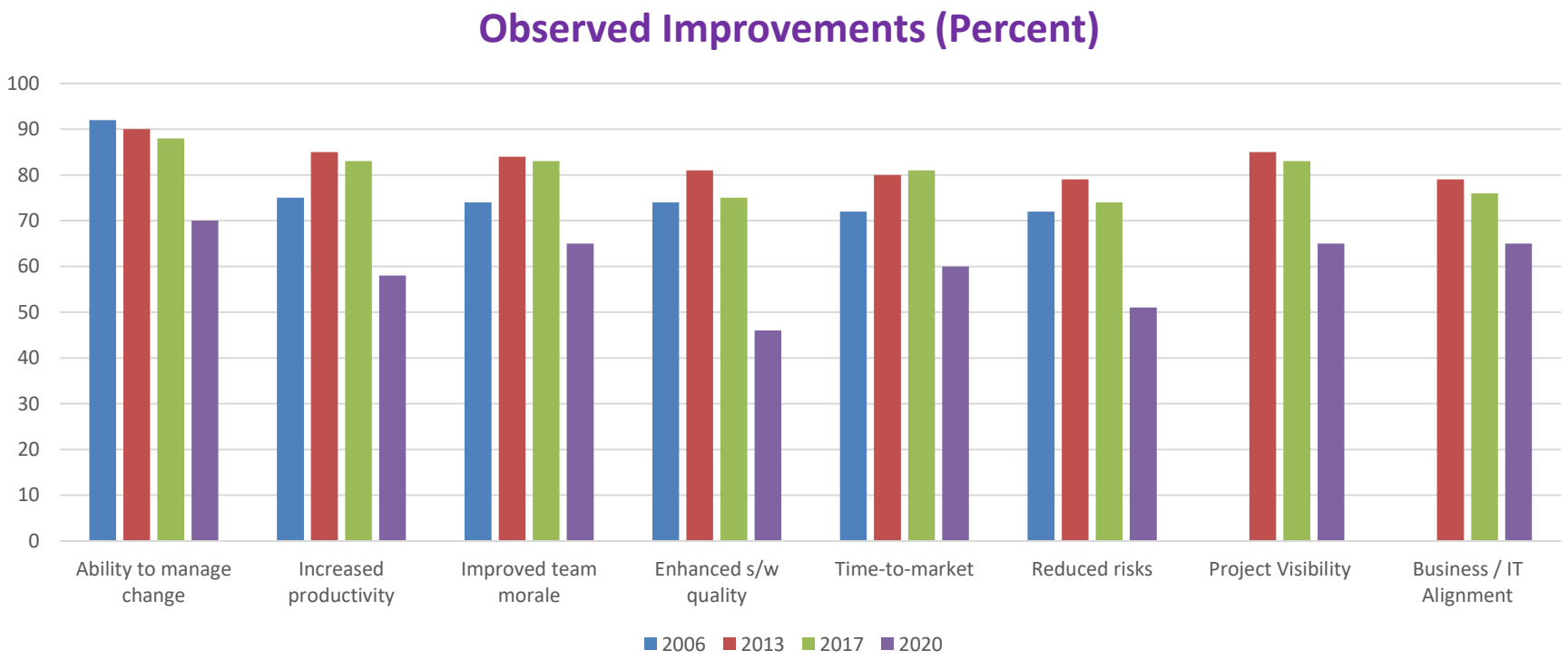
2017	
%	Challenges to Success
47	Inexperience with agile
45	Lack of management support
43	Resistance to change
41	Lack of business support / PO

2013	
%	Causes of Failed Projects
12	Culture conflict
11	Pressure to use waterfall
11	Organization / communication
9	Inexperience

2020	
%	Challenges to Success
48	Resistance to change
46	Limited leadership participation
45	Inconsistent team practices
44	At odds with culture
43	Management support
43	Lack of skills
41	Lack of training

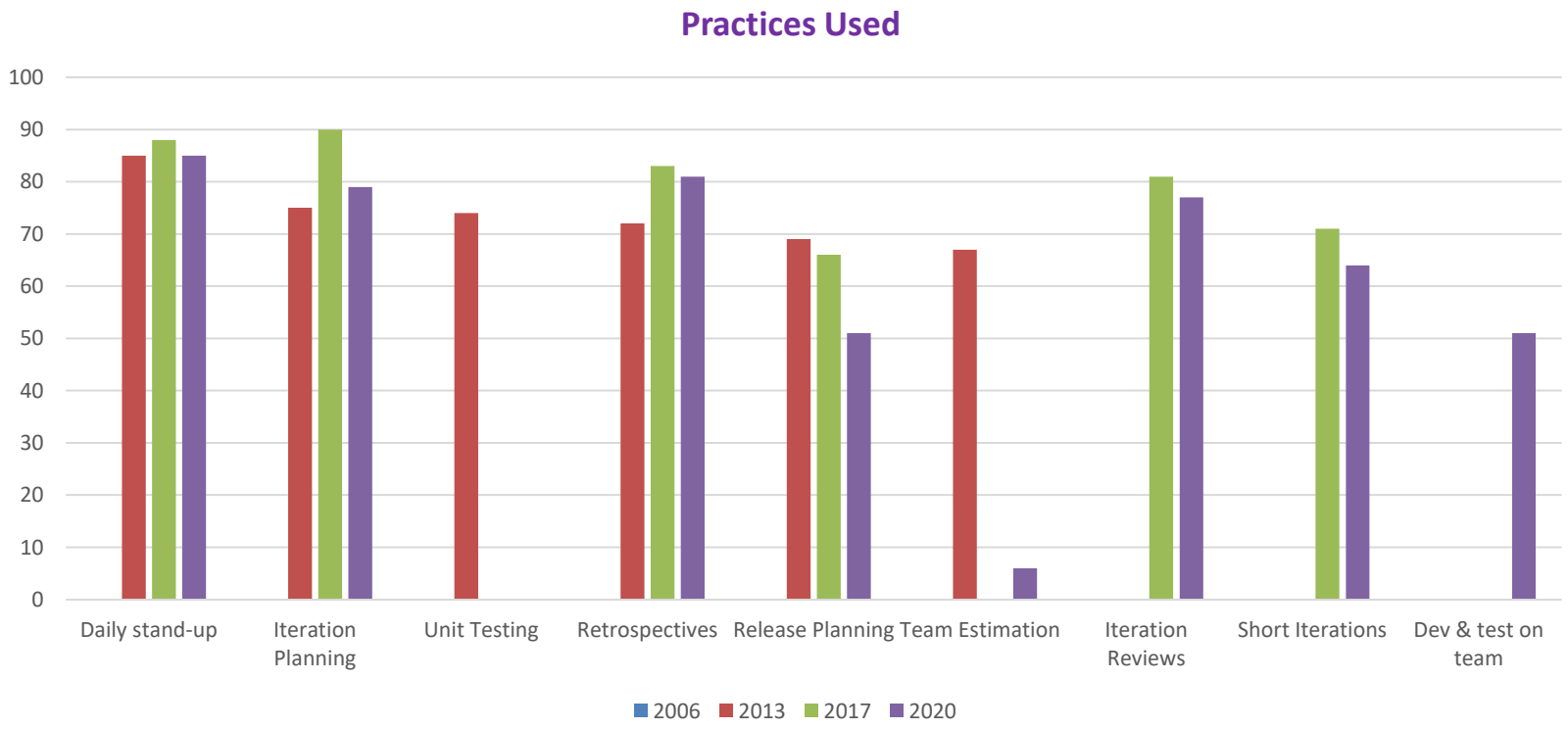
Annual State of Agile™ Report; VERSIONONE, digitial.ai

Noted Agile Improvement Trends



*2013 these were called “top benefits”

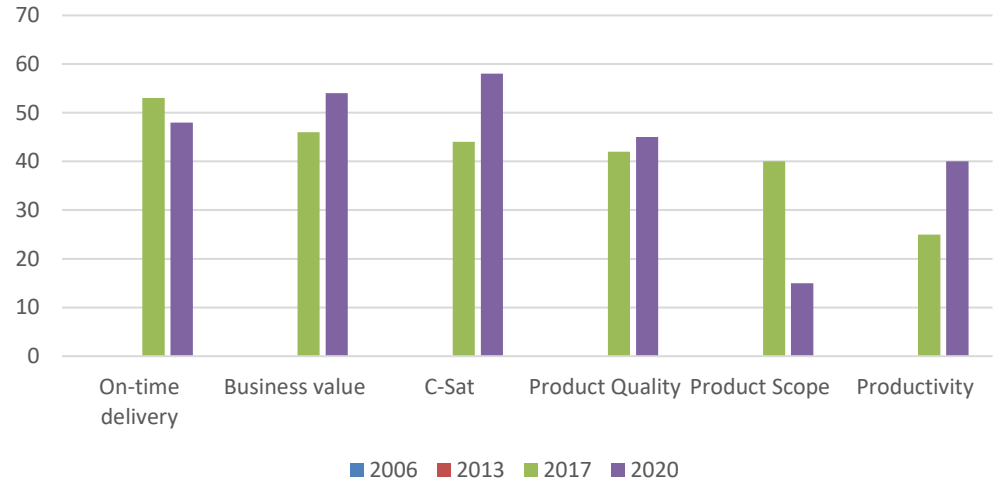
Agile Practices Trends



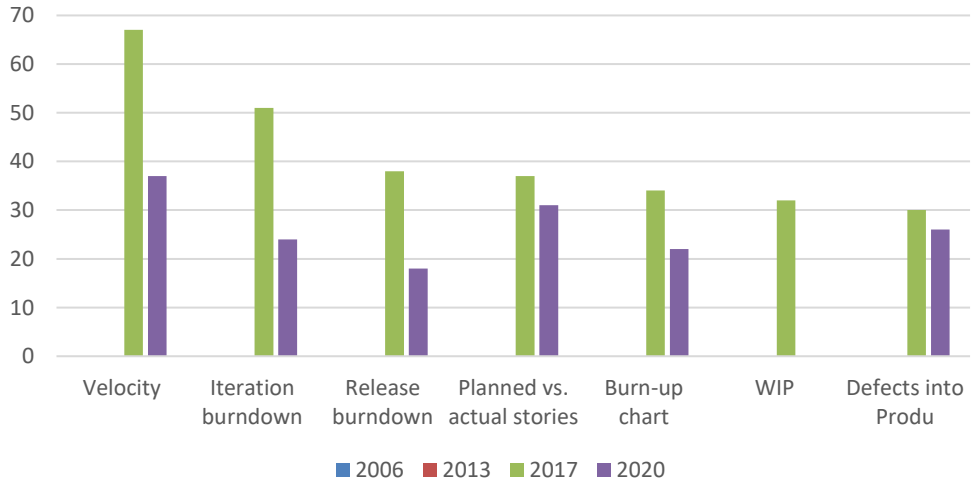
Success Measures

1,121 global respondents in 2020

Measuring Success of Agile *Initiatives*



Measuring Success of Agile *Projects*



*86% not CollabNet or VersionOne clients

Few Apples to Compare: Context Clarifies Content

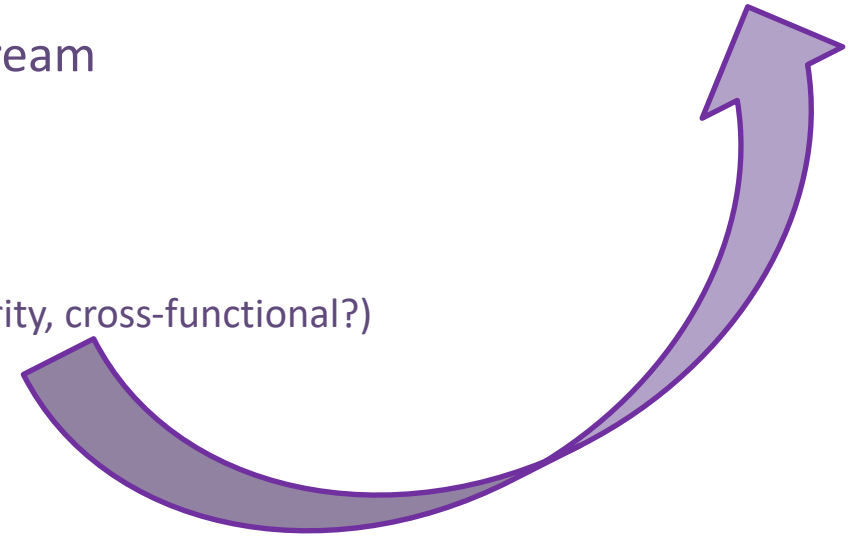
Organizational Context:

- ✓ Technology, platform
- ✓ "In-house," supplier-driven, outsourced
- ✓ Enterprise coverage of agile use (partial, most)
- ✓ Which agile (Scrum, hybrid, Kanban)
- ✓ Agile maturity (getting started vs. well-established)
- ✓ DevOps teams
- ✓ Product teams (or project teams)
- ✓ Product or project funding stream
- ✓ CI / CT / CD maturity
- ✓ Scaling approach

Team-Related Context (size, maturity, cross-functional?)

Agile metrics:

- ✓ Value delivery
- ✓ Time to market
- ✓ T-Sat (team)
- ✓ C-Sat
- ✓ Release defects



Story Points Can Align with Function Points

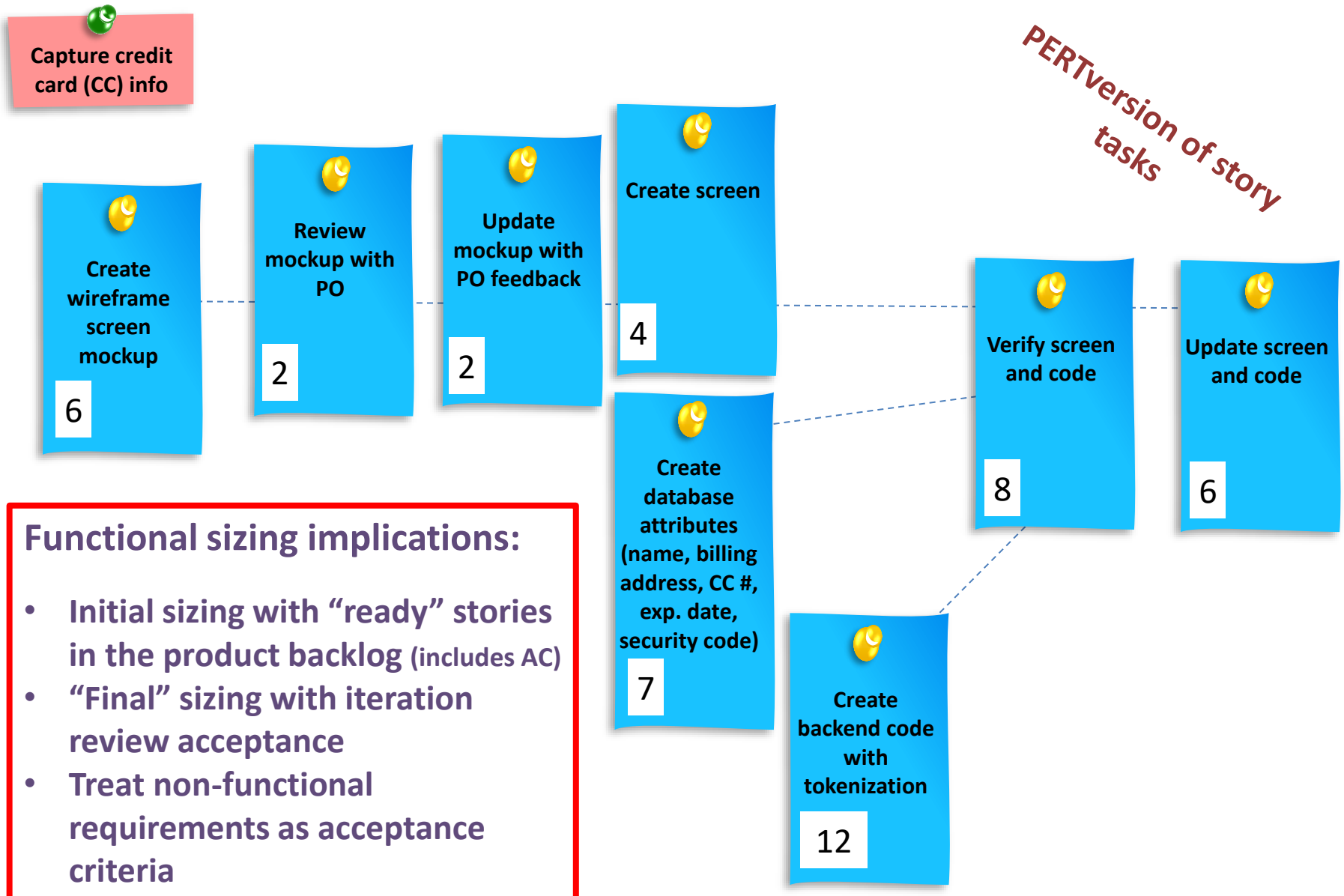
Teams struggle with user stories such that:

- Stories are often not written in the language of the business often as technical stories that are masked tasks.
- Stories are often inconsistently sized. Small enough to be completed in an iteration is an upper limit; there is no similar notion for how small a story might be. This is the Goldilocks dilemma, that is stories that are too large or too small but not "just right."
- Few teams assess when to stop decomposing epics into stories and the targeted size or functionality of that story.
- Business value may not translate to a "degree of difficulty" associated with Fibonacci values.

And the best kept secret, the secret sauce is . . . Decompose stories to the elementary process (transaction) level. Compare story points (degree of difficulty) to function points (degree of functional size).

Ref: *Function Points, Use Case Points, Story Points: Observations from a Case Study*; CrossTalk; May / June, 2013

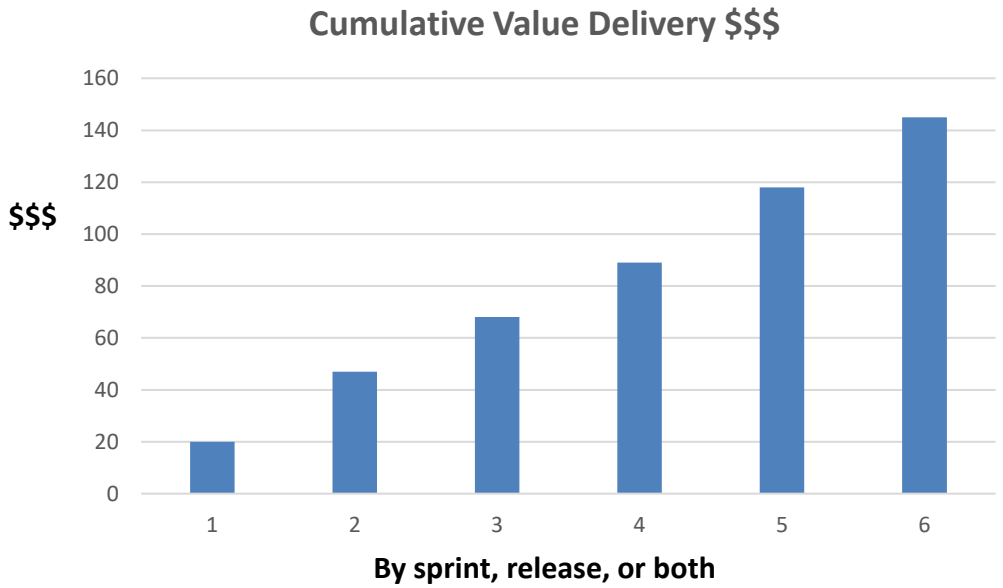
Estimating & Planning (sprint planning)



Functional sizing implications:

- Initial sizing with "ready" stories in the product backlog (includes AC)
- "Final" sizing with iteration review acceptance
- Treat non-functional requirements as acceptance criteria

Cumulative Value Delivery



Functional sizing implications:

- Compare functional size to expected value (cost/FP or value/FP)
- Compare functional size to releases on the roadmap (Delivery time per FP)

Side-by-side comp; traditional reporting is ill-suited for agile development

	Traditional	Agile
Tracking Intent	Project status (KPIs)	Business outcomes (OKRs?)
Development philosophy	Predictive Outcomes	Discovery drives new priorities
Requirements	Signed-off upfront; often obsolete when published (or will be soon!)	Enough initial understanding to get started
Estimation models	Based on historic work	Detailed estimation conducted when work is undertaken
Who estimates	A model, a tool or a committee	Persons performing the work
Project Plan	Details the work of the project before it starts; updated as needed	Intentionally absent; frequent sprint and release planning
Planning & Tracking	Gantt & PERT	Release Roadmap & PERTversion
Cost	"Firm" commitments tracked	Substitute Value Delivery
Schedule	Schedule becomes a contract	Substitute release frequency
Scope	Non-negotiable after start w/o change control	Substitute priorities (check product backlog)
Change Control	Onerous, battering, belittling	Expected as part of grooming
Focus	Project	Product

Measurement Challenge – McKinsey & Company

When conducting our {enterprise agility} research, we encountered three main challenges that influenced our sample size and the outcome metrics considered:

- the limited number of enterprise-wide cases that are currently sufficiently mature, given the pioneering nature of such full-scale transformations
- the lack of a single measure of impact—impact depends on industry, and measurements need to be taken across a combination of metrics, given the complexity of impact
- the difficulty in tracing the impact of marginal output (for example, additional product features resulting from more agile development) on financial results

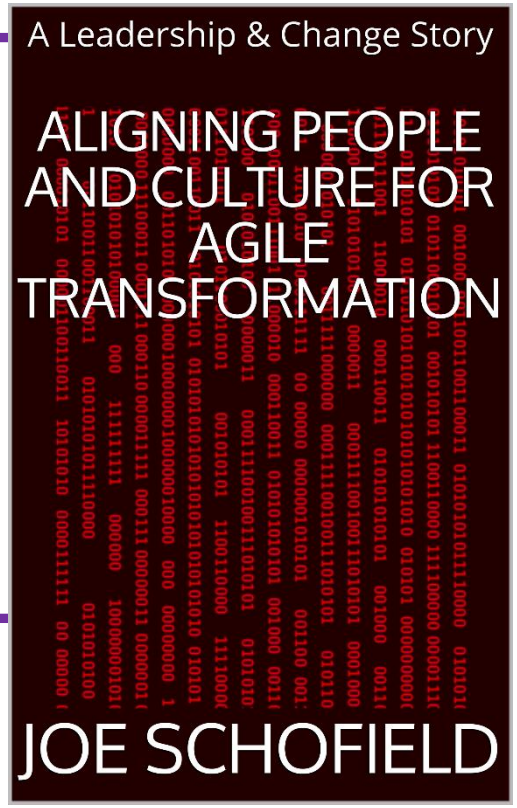
Enterprise agility: Buzz or business impact?; McKinsey & Company; 3-2020

With all of the other cultural influences, *productivity measurement* may be *unproductive*

(still more factors related to team and benchmarks)

Just because historic metrics are not useful in an agile environment, doesn't mean that agile measures are wrong. Nor does it mean that we need to establish agile measures that mimic "predictive" work patterns.

"Those of us with any God-given sense need to resist all attempts by the organization or ourselves, to compare velocity among teams. Don't get inveigled in that thinking. First, the relative nature of estimated values renders velocity as incomparable among teams. Where your team started with an eight as a midpoint, another team could have started with a five or even a thirteen. To make matters worse, much worse, teams don't all have the **same number of members**. Teams aren't all in the **same place in their development**. Teams don't all have the same **composition of talents**. Teams have varying **rates of turnover or churnover**. Teams have more or less **experienced** scrum masters, product owners, and stakeholders. Some teams aren't **colocated**. Some teams invest more heavily in cross-functionality which typically enables their future. Do not fall victim to this mentality." *from the forthcoming Agile novel* ***Aligning People and Culture for Agile Transformation****; jrs; 2020* **Amazon's KDP Select (released 9/3/2020)**



Harvard research shows the ideal number of team members is 4.6

https://www.teamgantt.com/blog/what-is-the-ideal-team-size-to-maximize-productivity

Thank you!

Every morning in Africa, a gazelle wakes up. It knows it must run faster than the fastest lion or it will be killed.

Every morning a lion wakes up. It knows it must outrun the slowest gazelle or it will starve to death.

It doesn't matter whether you are a lion or a gazelle. When the sun comes up, **you better start running**.

The World is Flat; Thomas Friedman; pg. 137

About the presenter . . .

SCT, SSMC, SSPOC, SMC, SPOC, SDC, SA, SAMC, CSQA, CSMS; formerly a Certified CMMI Instructor, CFPS, LSS Black Belt

Bio: https://joejr.com/bio.htm

Presentations: (~65)
https://www.joejr.com/present.htm

Publications: (~45)
https://www.joejr.com/pub.htm

Since 2012: Joe continues to enable enterprise-wide agile transformation through executive coaching; organization training, certification, and practice; policy and process codification; ongoing improvement; organizational alignment; collaborative teaming; and value delivery.

Selected Key Roles: Joe Schofield is a Past President of the International Function Point Users Group. He retired from Sandia National Laboratories as a Distinguished Member of the Technical Staff after a 31-year career. During twelve of those years he served as the SEPG Chair for an organization of about 400 personnel which was awarded a SW-CMM® Level 3 in 2005. He continued as the migration lead to CMMI® Level 4 until his departure.

As an enabler and educator: Joe is an Authorized Training Partner with VMEdu and a Scrum Certified Trainer with SCRUMstudy™. He has facilitated ~200 teams in the areas of software specification, team building, and organizational planning using lean six sigma, business process reengineering, and JAD. Joe has taught over 100 college courses, 75 of those at graduate level. He was a certified instructor for the Introduction to the CMMI for most of the past decade. Joe has over 80 published books, papers, conference presentations and keynotes—including contributions to the books: *The IFPUG Guide to IT* and *Software Measurement* (2012), *IT Measurement*, *Certified Function Point Specialist Exam Guide*, and *The Economics of Software Quality*. Joe has presented several worldwide webinars for the Software Best Practices Webinar Series sponsored by Computer Aid, Inc.

Life long learning: Joe holds eight agile-related certifications: SAFe Agilist 5.0, SCT™, SSMC™, SSPOC™, SMC™, SDC™, SPOC™, and SAMC™. He is also a Certified Software Quality Analyst and a Certified Software Measurement Specialist. Joe was a CMMI Institute certified Instructor for the Introduction to the CMMI®, a Certified Function Point Counting Specialist, and a Lockheed Martin certified Lean Six Sigma Black Belt. He completed his Master's degree in MIS at the University of Arizona in 1980.

Community & Family: Joe was a licensed girl's mid-school basketball coach in the state of NM for 21 seasons--the last five undefeated, over a span of 50 games. He served seven years volunteering in his church's children's choir; eventually called to coordinate 150 children and 20 staff. Joe is a veteran having served four years in the U.S. Air Force and six more in the Air National Guard. He was appointed to serve on the state of New Mexico's Professional Standards Commission. By "others" he is known as a husband, father, and grandfather.