

Software Economics Newsletter

Happy Summer – We are at the mid-point of the new year and a lot is happening especially in the world of agile methods, agile-at-scale frameworks, artificial intelligence, cloud computing, DevOps, and other software innovations that are currently being pursued. We will attempt to capture what we are doing to keep up with these exciting developments as they pertain to business issues in this newsletter.

New Agile-at-Scale and Other Recent Reports Available – We have published a *major survey of agile-at-scale results* that is based on a survey of 50 enterprises, 114 organizations and 800 completed development efforts. The survey shows that 50 percent of those embarking on an agile-at-scale journey either abandoned it or reverted back to Scrum or more traditional ways of doing business after 7 years. Even though agile-at-scale frameworks like LeSS and SAFe are popular, many abandon these at-scale techniques as well. Instead, they develop hybrid approaches that allow them to tailor the framework to interface and work with their internal systems and procedures (accounting, finance, procurement, human resources, etc.). Recently released reports that are listed below and this agile-at-scale survey are available to our subscribers. For subscription information, contact donald.reifer@gmail.com.

No.	Title	Description
1	Agile Scaling Findings and Productivity Results Date: Apr 2019 (Revision 2)	This report provides insights into the challenges associated with using agile-at-scale frameworks and how to tap their benefits using a variety of means.
2	Agile Metrics and Measurement Date: Mar 2019 (Revision 2)	This report provides a shopping list of metrics that can be used to gain visibility into and control over agile efforts.
3	Agile Rework, Waste Reduction and Technical Debt Date: Mar 2019 (Revision 2)	This report provides an overview of lean, Kanban and Kaizen techniques and then discusses how they can be used to reduce rework, waste and technical debt.
4	Agile Test Metrics Date: Mar 2019 (Revision 2)	This report develops a shopping list of agile metrics for use during software testing.
5	The Cost of Software/Systems Integration & Test Date: Mar 2019 (Revision 2)	This report summarizes methods used to estimate the cost of software/systems integration & test. This testing is conducted to qualify hardware/software systems.
6	Agile Visibility and Control Date: Mar 2019 (Revision 2)	This report provides guidance on how to maintain visibility into and control over agile developments.
7	Agile Estimating: Straightforward and Simple+ Date: Feb 2019 (Revision 2)	This report provides readers with an estimating procedure for use in sizing, time-boxing and estimating software cost for agile efforts.
8	Firmware Estimation Date: Feb 2019 (Revision 2)	This report recommends an estimating approach for firmware including programs that are stored in FPGAs.
9	Agile Sizing Survey Date: Feb 2019 (Revision 2)	This report summarizes an assessment of five approaches that can be used to size agile software developments.

June 2019 Edition of Software Benchmarking Report Pending - The next release of our Software Benchmarking report for this year will be issued in early this month. This issue will be based on a new and improved data set which is based on an analysis of 1,750 completed efforts, i.e., both commercial (1,000) and defense (750). These developments involved the delivery of more than 7,000 software releases and the completion of over 12,000 sprints. All of the efforts were less than 10 years old. These

benchmarks are provided for 20 applications domains (automation, medical, telecommunications, etc.) and can be used for making comparisons and performing competitive analyses.

This release of this new edition of our productivity, cost and quality benchmarks contains the following improvements suggested by our subscribers:

- Additional results for both the integrated and enterprise-wide business system domains including hundreds of efforts that used agile, agile-at-scale, hybrid and traditional frameworks and methods.
- Productivity, cost and quality updates that reflect our analysis for the period from 2009 through the 1st quarter of 2019. Results graphically portray the mean and standard deviations for our datasets.
- General conclusions and trends that paint industry-wide pictures by application area.
- Technology watch list updates for each of our application domains.

DevOps Study to be Released Later this Month – Our on-going study looking at the impact of combining software development and DevOps is progressing nicely. Many in industry believe that that this trend can dramatically impact software productivity, cost and quality. To determine if this belief is true, we are analyzing data that we have collected on about 50 such efforts that delivered 676 products and analyzed the results. The report summarizing our findings and conclusions will be issued later this month.

Impact of AI Technology Study Nearing Completion – Our study on the impact of artificial intelligence and machine learning on software development operations is also progressing. The six impact areas that we are investigating include: automation, cost to develop and deploy, possible displacements (and what firms are doing about them), improvements, products and services, and timing. The innovations that we are exploring include: (1) deep learning via automata for visual design tasks, (2) knowledge oracles or hubs to assist developers, (3) test avatars that automatically generate and run tests, (4) sustainable designs with self-diagnosis and repair capabilities, and (5) tools for smart collaboration, analysis, guidance and support. We are also trying to determine the actions that organizations need to take to accommodate displaced workers.

Agile Seminar Series – Our popular newly revamped seminar series on agile topics is now available for conduct for clients in-house at their facilities. Based on popular demand, we are now offering the following one-day action-oriented seminars on the following topics:

- **Agile strategy workshop** – how to get the most from your agile initiatives (yield, value and ROI)
- **Agile software quality** – embracing the “one team, one approach, build quality in” paradigm
- **Agile estimation** – how to estimate resources (staff, duration, \$) for agile efforts
- **Agile product management** – understanding the tricks of the trade associated product management
- **Agile executive issues workshop** – understanding the issues with agile and how to solve them

Based on demand, the following additional seminar is planned to be aired later this year:

- **Managing agile-at-scale in large enterprises** – unveiling the mystery associated with success with agile-at-scale frameworks

Those interested in any of these offerings can contact donald.reifer@gmail.com for more information.

Web Site Blog Updated – If you have not visited our web site, you should as it is continuously being updated. Besides providing an overview of our efforts, the site provides interesting postings and a blog provides much more information about items identified in this newsletter.

Donald Reifer, Consultant, 79410 Azahar, La Quinta, CA 92253

Phone: (310) 922-7043

Web Site: www.reifer.com
