

the
10
th

annual

**STATE OF
AGILE™
REPORT**



EXECUTIVE SUMMARY

AGILE IS SUCCEEDING AT SCALE

The 10th annual State of Agile™ survey makes it clear that agile software development has grown increasingly popular over the last decade. Participation in the survey has grown more than three-fold. In 2006, there were fewer than a thousand respondents to the survey, while the latest survey had 3,880.

Agile methodologies are no longer solely the domain of startups and small development shops. In 2006, nearly two-thirds of the survey respondents said they worked in software organizations with *fewer* than 100 people. By 2015, nearly two-thirds of the respondents said they worked for software organizations with *more* than 100 people, and 31% said they worked for software organizations with more than 1,000 people.

The number of large enterprises that are embracing agile continues to increase each year. More than 24% of the

respondents worked for organizations with over 20,000 employees, compared to 21% last year.

Agile is going global as the number of enterprises around the world adopt agile. The number of respondents that worked for organizations in Europe increased from 21% to 26%. In addition, 18% of the respondents worked in Asia, South America, Oceania, and Africa.

The pool of talent and agile experience continues to grow annually. Once again there was an increase in the number of respondents who said they were 'very' to 'extremely' knowledgeable about agile, an increase from 58% in 2014 to 63% in 2015.

While 95% of the respondents said their organizations practice agile, only 1% of the 3,880 respondents said that their agile implementation was unsuccessful.



AGILE DRIVES ENTERPRISE SUCCESS

Why are increasing numbers of enterprises adopting agile? The top reasons for the third year in a row are: accelerating product delivery (62%) and enhancing their ability to manage changing priorities (56%), which is not a surprise as organizations respond to increasing market demands and customer expectations.

By all indications, agile is helping enterprises around the world succeed. For the past five years, the top three cited benefits of agile include: manage changing priorities (87%), team productivity (85%), and project visibility (84%).



BARRIERS TO ADOPTION AND SUCCESS

While agile adoption is increasing, there are still obstacles to overcome. The key barriers to further adoption usually hinge around culture, including the ability to change, general resistance to change, and management support. Interestingly, the majority of respondents pointed toward company culture as the reason for failed agile projects as well. Once these barriers are overcome, the limiting factor most often cited has been availability of personnel with the necessary agile experience.



TOP 3 TIPS FOR SUCCESS WITH SCALING AGILE

Now that momentum around scaling agile is growing, what are the key factors for success? The respondents said the top three tips for successfully scaling agile are consistent process and practices (43%), implementation of a common tool across teams (40%), and agile consultants or trainers (40%).



HOW AGILE SUCCESS IS MEASURED

As agile grabs the attention of larger organizations and the C-suite, there is an increased interest in measuring agile success at the overall initiative level. For several years now the top three measures of successful agile initiatives has been on-time delivery of projects (58%), product quality (48%), and customer/user satisfaction (46%).



AGILE METHODS AND PRACTICES

While Scrum continues to dominate at the team level with 70% of respondents saying they practice Scrum or Scrum/XP hybrid, the Scaled Agile Framework® (SAFe®) made a significant jump to become the second most popular scaling methodology from 19% in 2014 to 27% in 2015.

Kanban is spreading too, as more organizations transition to more flow-based methods. From 2014 to 2015, the percentage of respondents who practiced Kanban techniques jumped from 31% to 39%. As Kanban popularity has increased, the number of people using work-in-progress and cycle time as measurements of agile success has grown as well.



RECOMMENDED AGILE PROJECT MANAGEMENT TOOLS

While the majority of respondents continue to use spreadsheets as one of their agile project management tools, the top three most recommended project management solutions were VersionOne (94%), LeanKit (89%), and Atlassian/JIRA (86%).

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ABOUT THE SURVEY

The 10th annual State of Agile survey was conducted between July and November, 2015.

Sponsored by VersionOne, the survey invited individuals from a broad range of industries in the global software development community and was promoted far beyond VersionOne's customer base through multiple digital marketing channels and campaigns, as well as community events and tradeshows.

A total of 3,880 completed responses were collected, analyzed and prepared into a summary report by Analysis. Net Research, an independent survey consultancy. Only 28% of the 3,880 respondents were VersionOne customers, further adding to the range and diversity of respondents.

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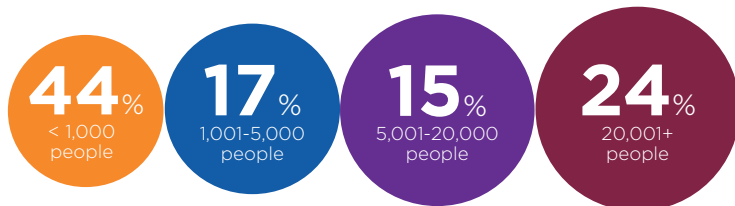
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RESPONDENT DEMOGRAPHICS

The number of respondents in very large organizations with more than 20,000 people, continues to rise. Respondents from very large organizations increased from 20% last year to 24% this year. Compare that to 2006 when nearly two-thirds of the survey respondents said they worked in software organizations of fewer than 100 people.

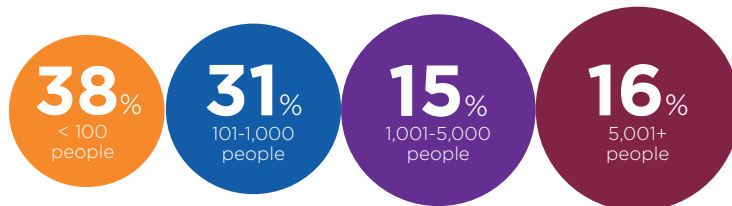
Size of Organization

Respondents who worked for organizations with:



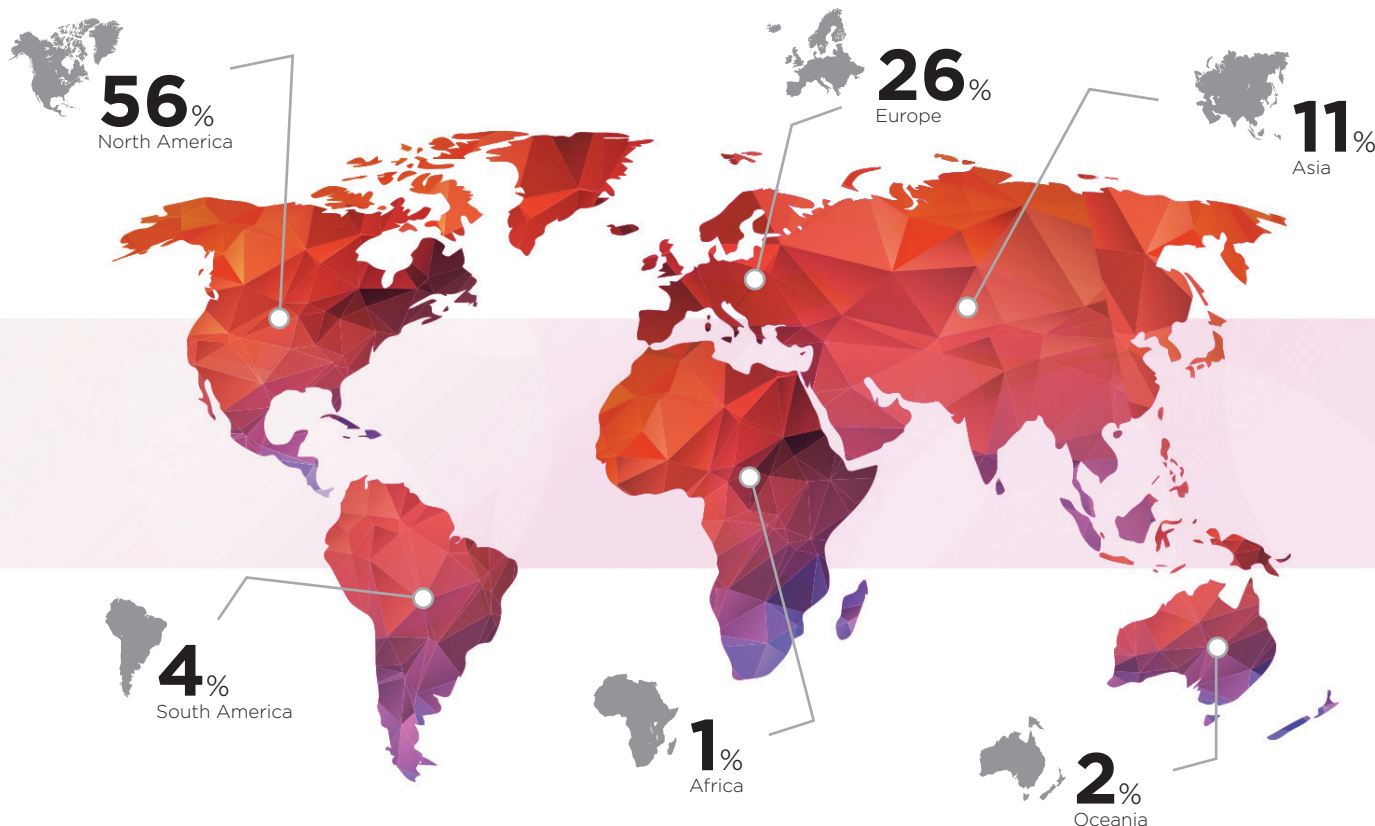
Size of Software Organization

Respondents who worked for software organizations with:

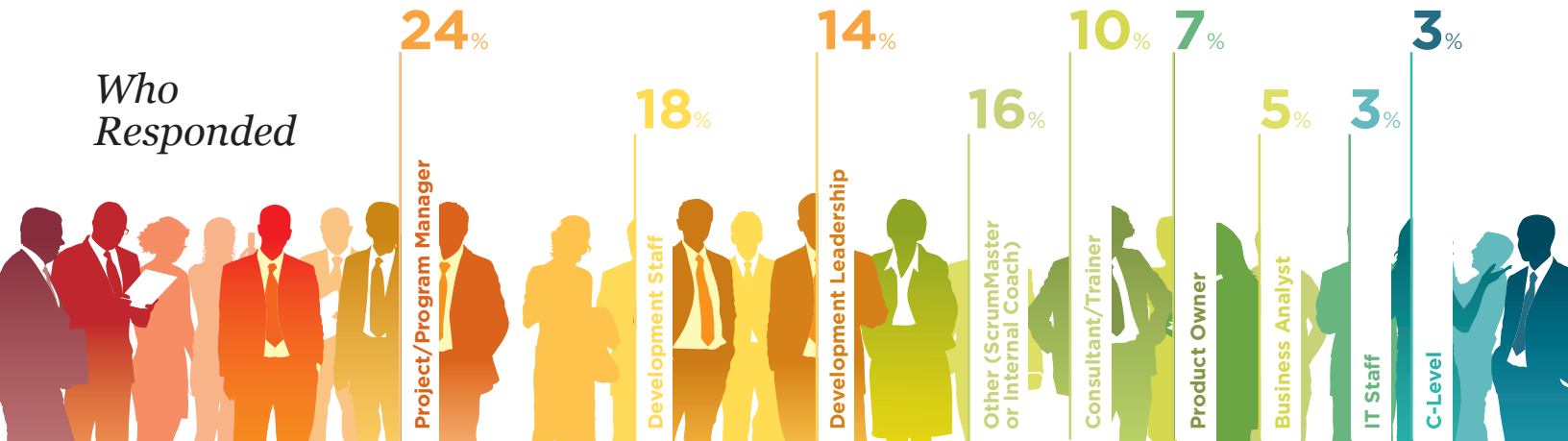


Location of Organization

More people responded from outside of North America than ever before. 26% of respondents worked in organizations from Europe, up from 21% in 2014. In addition, a significant number of respondents were from Asia (11%).

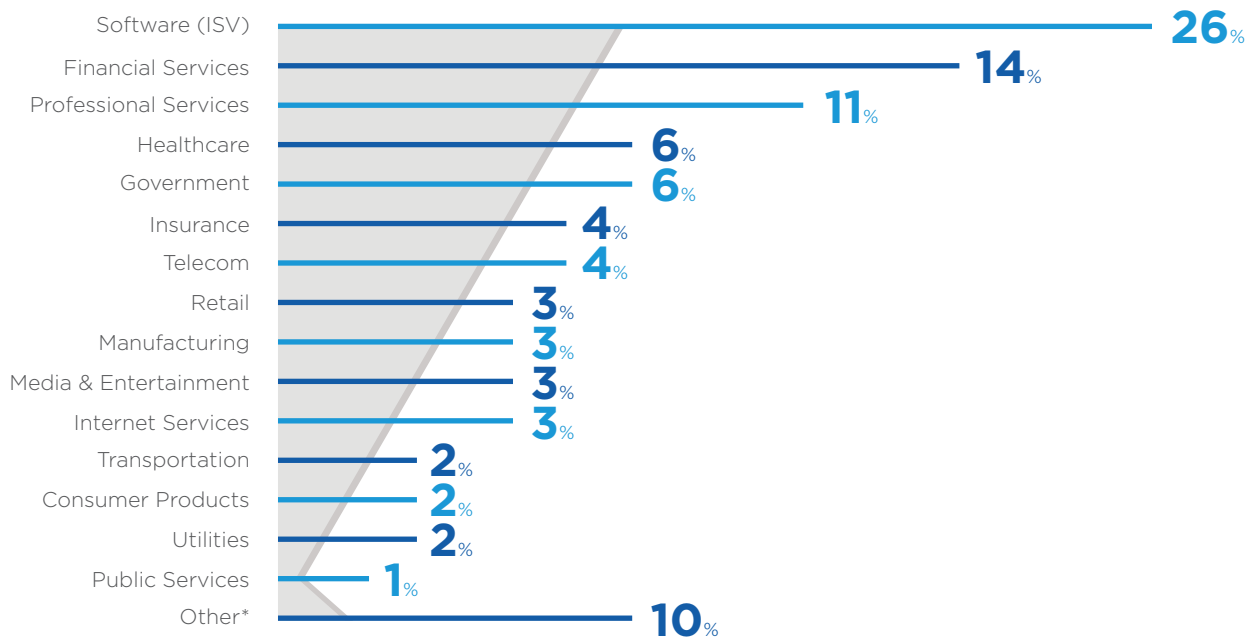


Who Responded



Industries

Most respondents worked for software/ISV companies (26%). In addition, a significant number of respondents worked for financial services (14%) and professional services (11%) organizations.



*Write-in responses were commonly Education, Consulting, Aerospace, Automotive, Hospitality, and Non-Profit.

Personal Experience with Agile Development Practices

Respondents who said they are 'very' to 'extremely' knowledgeable about agile continued to increase from 58% in 2014 to 63% in 2015.



COMPANY EXPERIENCE AND ADOPTION

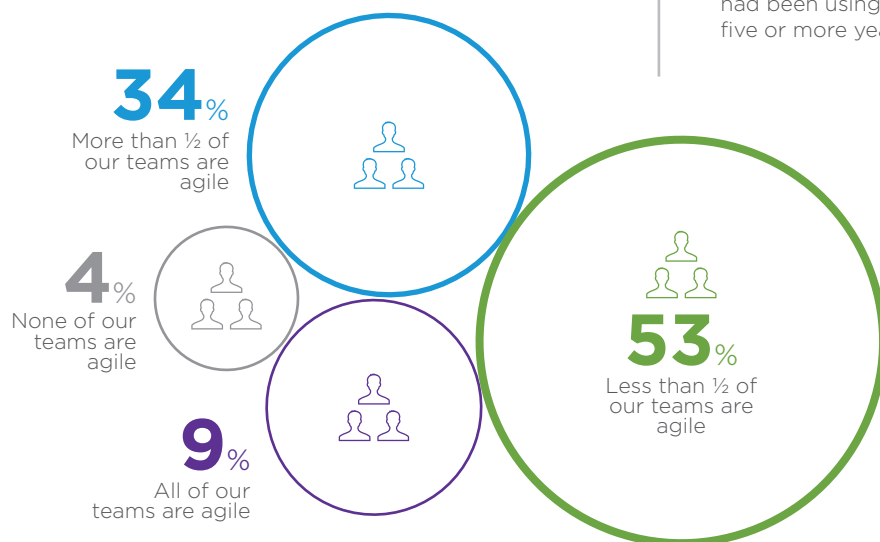
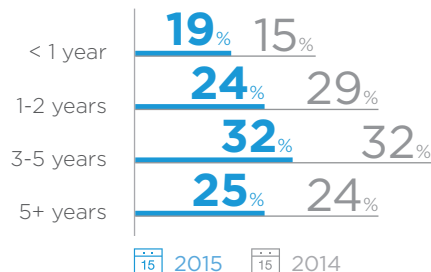
Company Experience

HOW MANY?



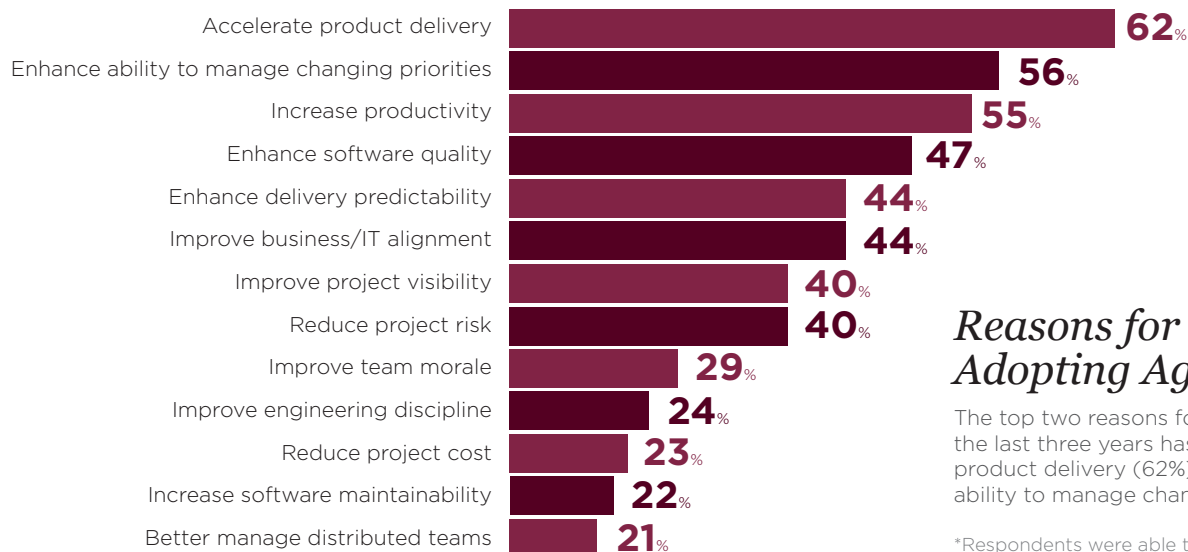
HOW LONG?

While 33% of respondents said they had 5+ years of agile experience, they reported that the organizations within which they worked had less experience - only 25% of organizations had been using agile for five or more years.



Percentage of Teams Using Agile

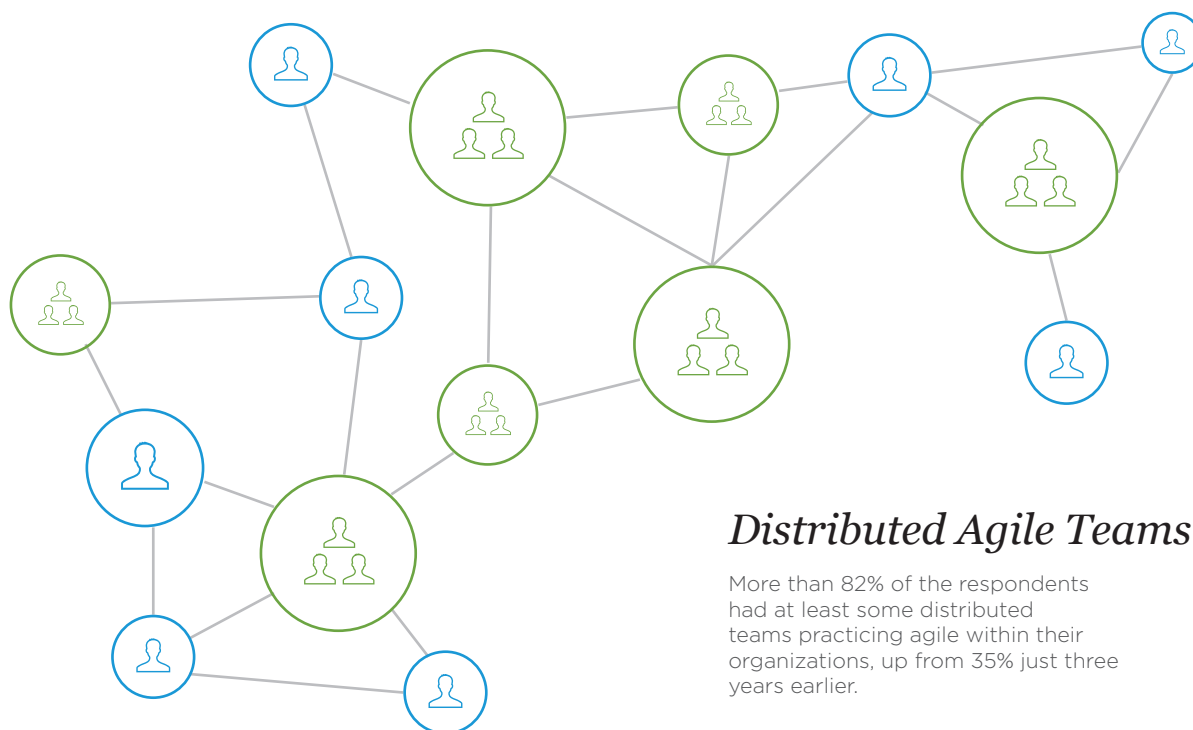
A total of 43% of respondents worked in development organizations where the majority of their teams are agile. Only 4% of respondents work in a completely traditional/non-agile development organization. Contrast this with the 2009 report, in which (31%) of the respondents worked where there were two teams or less practicing agile!



Reasons for Adopting Agile

The top two reasons for adopting agile for the last three years has been to accelerate product delivery (62%) and enhance their ability to manage changing priorities (56%).

*Respondents were able to make multiple selections.

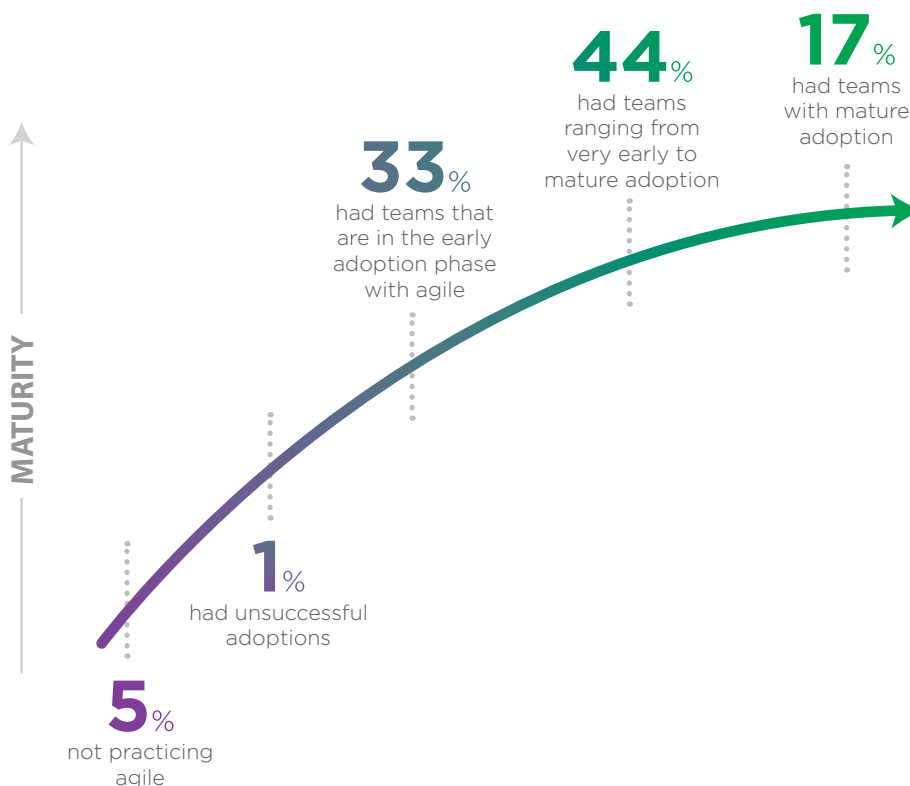


Distributed Agile Teams

More than 82% of the respondents had at least some distributed teams practicing agile within their organizations, up from 35% just three years earlier.

Agile Maturity

While 95% of the respondents said their organizations practice agile, only 1% of the 3,880 respondents said their agile implementation was unsuccessful.



BENEFITS OF AGILE

Top 3 Benefits of Agile



87%

Ability to manage
changing priorities



85%

Increased team
productivity



84%

Improved project
visibility

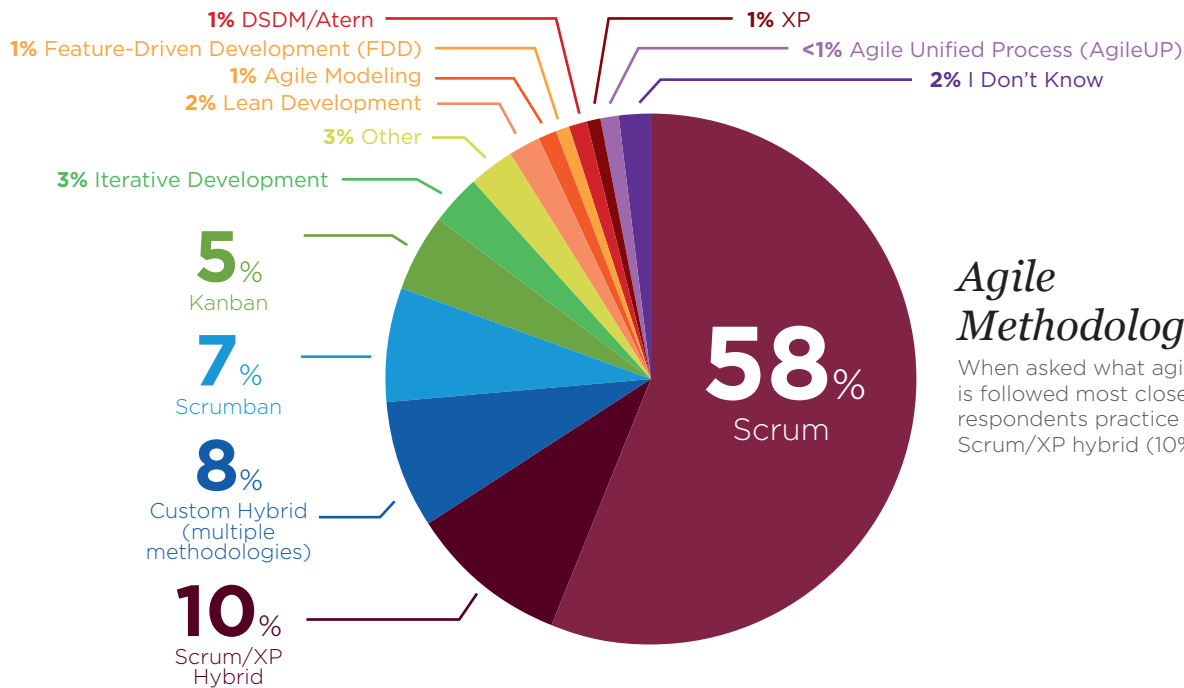
Actual Improvements from Implementing Agile

The top three benefits of adopting agile have remained steady for the past five years: manage changing priorities (87%), team productivity (85%), and project visibility (84%).

BENEFIT	GOT BETTER	NO CHANGE	GOT WORSE	DON'T KNOW
Ability to manage changing priorities	87%	3%	1%	9%
Increased team productivity	85%	3%	1%	11%
Improved project visibility	84%	3%	1%	12%
Increased team morale/motivation	81%	5%	3%	11%
Better delivery predictability	81%	6%	2%	11%
Faster time to market	80%	7%	1%	13%
Enhanced software quality	79%	6%	2%	14%
Reduced project risk	78%	6%	1%	15%
Improved business/IT alignment	77%	6%	1%	16%
Improved engineering discipline	73%	7%	2%	19%
Enhanced software maintainability	70%	8%	2%	21%
Better manage distributed teams	62%	11%	2%	25%

*Respondents were able to make multiple selections.

AGILE METHODS AND PRACTICES



Agile Techniques Employed

More than 39% of the respondents practiced Kanban within their organizations, up from 31% in 2014. Conversely, iteration planning dropped slightly from 71% in 2014 to 69% in 2015, likely indicating a transition to more flow-based methods such as Lean and Kanban.

TOP 5 AGILE TECHNIQUES



83%
DAILY
STANDUP



82%
PRIORITIZED
BACKLOGS



79%
SHORT
ITERATIONS



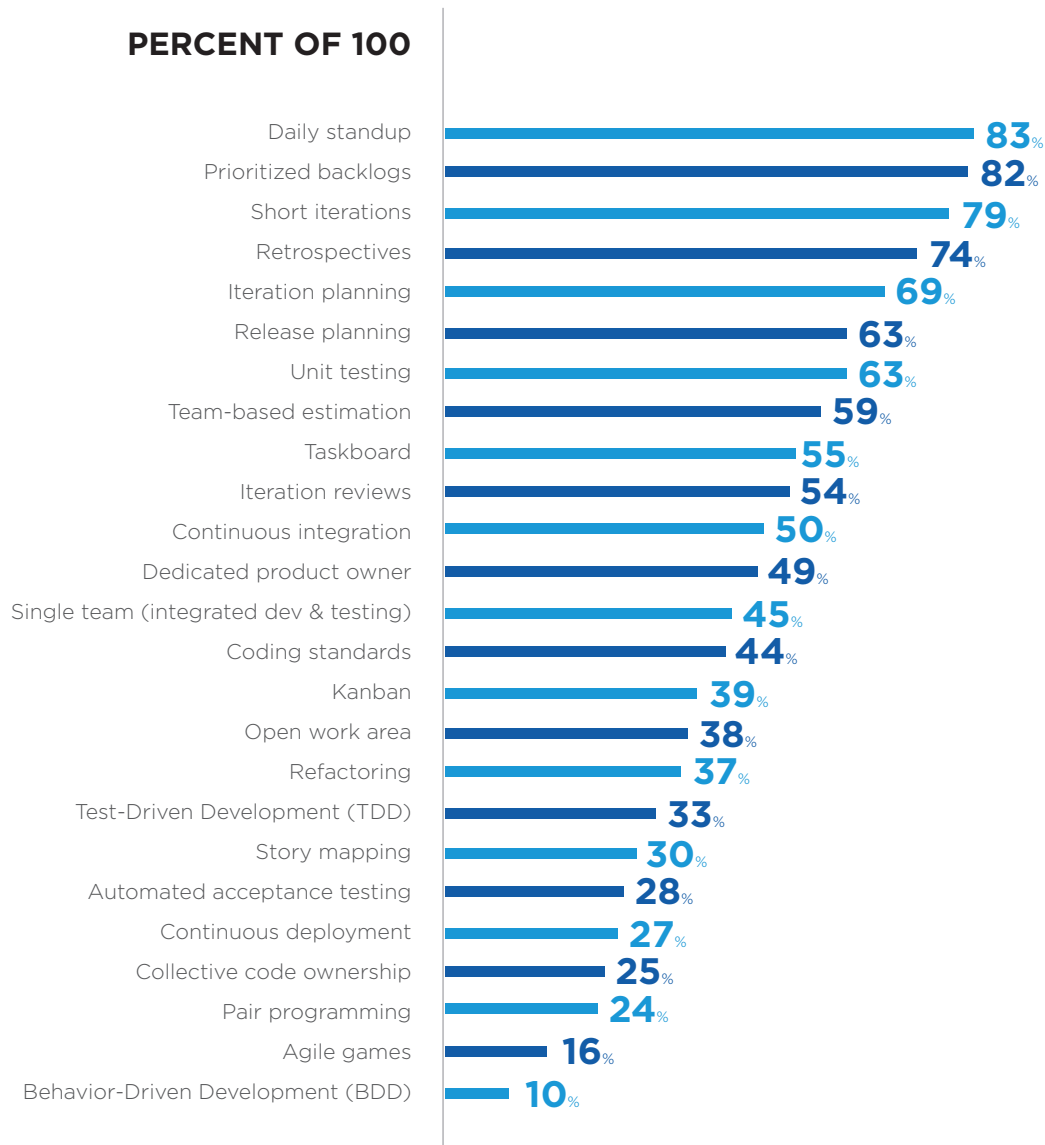
74%
RETROSPECTIVES



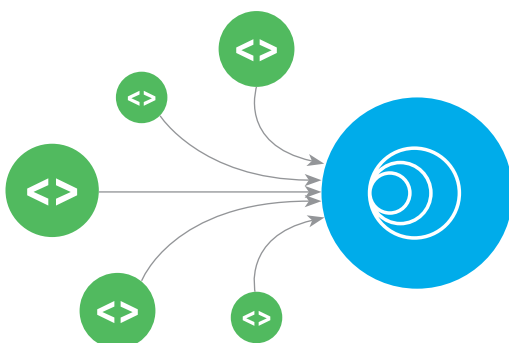
69%
ITERATION
PLANNING

Agile Techniques Employed

Continued...



*Respondents were able to make multiple selections.



Agile in Outsourced Dev Projects

Nearly 70% of respondents are outsourcing development projects. Of these, 20% are using agile practices to manage the majority of these outsourced projects.

AGILE SUCCESS AND METRICS

WHAT CAUSES AGILE PROJECTS TO FAIL?

WHAT IMPEDES AGILE ADOPTION?

Leading Causes of Failed Agile Projects

Company culture continues to dominate the top causes of failed agile projects with company philosophy or culture at odds with core agile values at 46%, and lack of management support for cultural transition at 38%.



*Respondents were able to make multiple selections.

Barriers to Further Agile Adoption

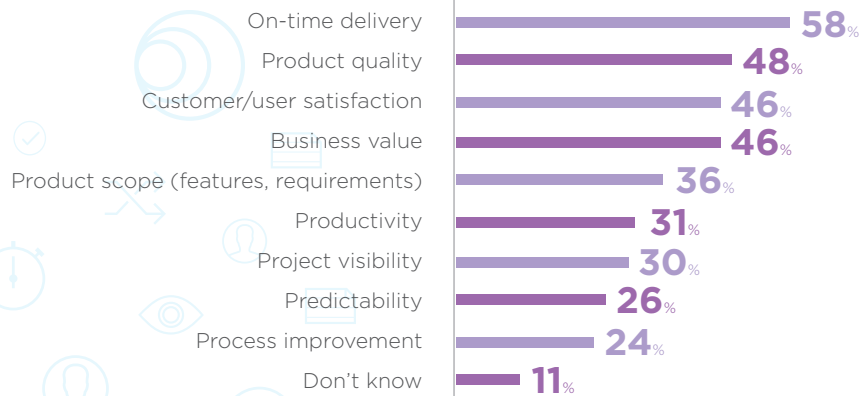
As in previous years, respondents continued to increasingly cite organizational culture and a general resistance to change as their biggest barriers to further agile adoption. Concerns about organizational culture increased from 44% in 2014 to 55% in 2015, and concerns about a general resistance to change increased from 34% in 2014 to 42% in 2015.



*Respondents were able to make multiple selections.

How Is Success Measured... with Agile Initiatives?

On-time delivery of projects, product quality, and customer/user satisfaction have remained steady as the top three measures of agile initiative success for the past few years.

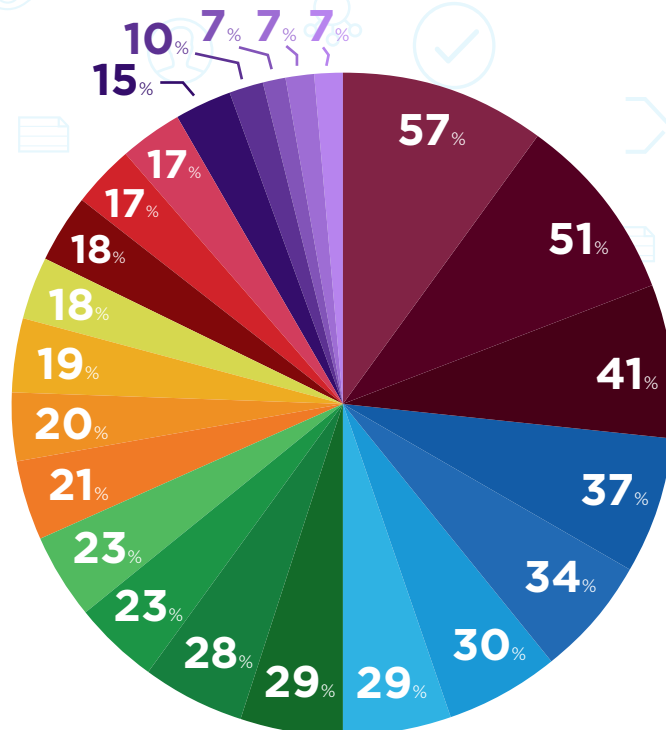


*Respondents were able to make multiple selections.

How Is Success Measured... on a Day-by-Day Basis?

With more teams using Kanban, as noted in the Agile Techniques Employed section, there was a significant increase in respondents who used work-in-process (WIP) and cycle time as a measure of daily success. WIP increased from 27% in 2014 to 30% in 2015, and cycle time increased from 18% in 2014 to 19% in 2015.

- Velocity
- Iteration burndown
- Release burndown
- Planned vs. actual stories per iteration
- Burn-up chart
- Work-in-Process (WIP)
- Planned vs. actual release dates
- Customer/user satisfaction
- Defects in to production
- Defects over time
- Budget vs. actual cost
- Business value delivered
- Defect resolution
- Cycle time
- Estimation accuracy
- Individual hours per iteration/week
- Test pass/fail over time
- Scope change in a release
- Cumulative flow chart
- Earned value
- Customer retention
- Revenue/sales impact
- Product utilization

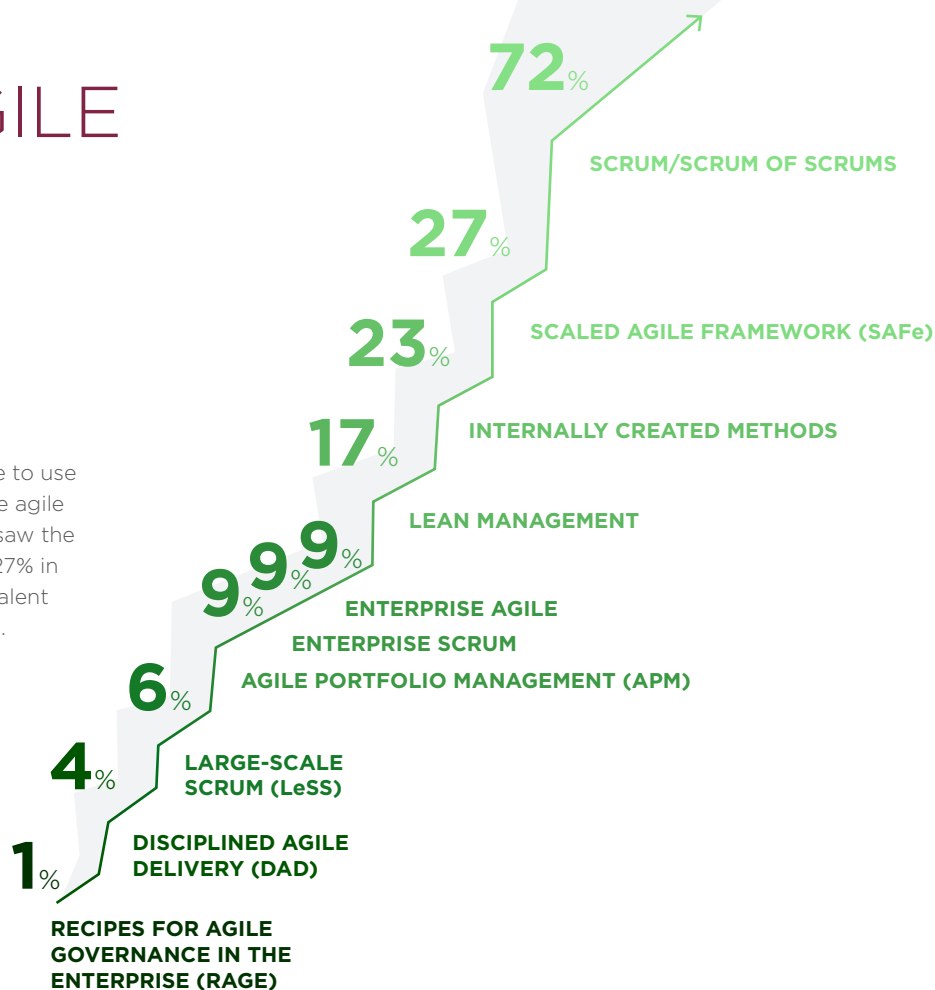


*Respondents were able to make multiple selections.

SCALING AGILE

Scaling Methods and Approaches

The majority of respondents continue to use Scrum/Scrum of Scrums to help scale agile within their organizations, but SAFe saw the largest increase from 19% in 2014 to 27% in 2015 making it the second most prevalent scaling method cited by respondents.



*Respondents were able to make multiple selections.

Top 5 Tips for Success with Scaling Agile

Consistent process and practices (43%), implementation of a common tool across teams (40%), and agile consultants or trainers (40%) were cited as the top three tips for successfully scaling agile.

43%
CONSISTENT
PROCESS AND
PRACTICES

40%
IMPLEMENTATION
OF A COMMON TOOL
ACROSS TEAMS

40%
AGILE CONSULTANTS
OR TRAINERS

37%
EXECUTIVE
SPONSORSHIP

35%
INTERNAL AGILE
SUPPORT TEAM

Other important factors included: externally attended classes or workshops, company-provided training program, online training and webinars, and full-time internal coaches.

*Respondents were able to make multiple selections.

PROJECT MANAGEMENT TOOLS

General Tool Uses and Preferences

More than three-quarters of respondents are currently using spreadsheets, taskboards, and bug trackers. The most notable increase in tool use from 2014 to 2015 included agile project management tools (+6% YOY) and Kanban boards (+11% YOY).

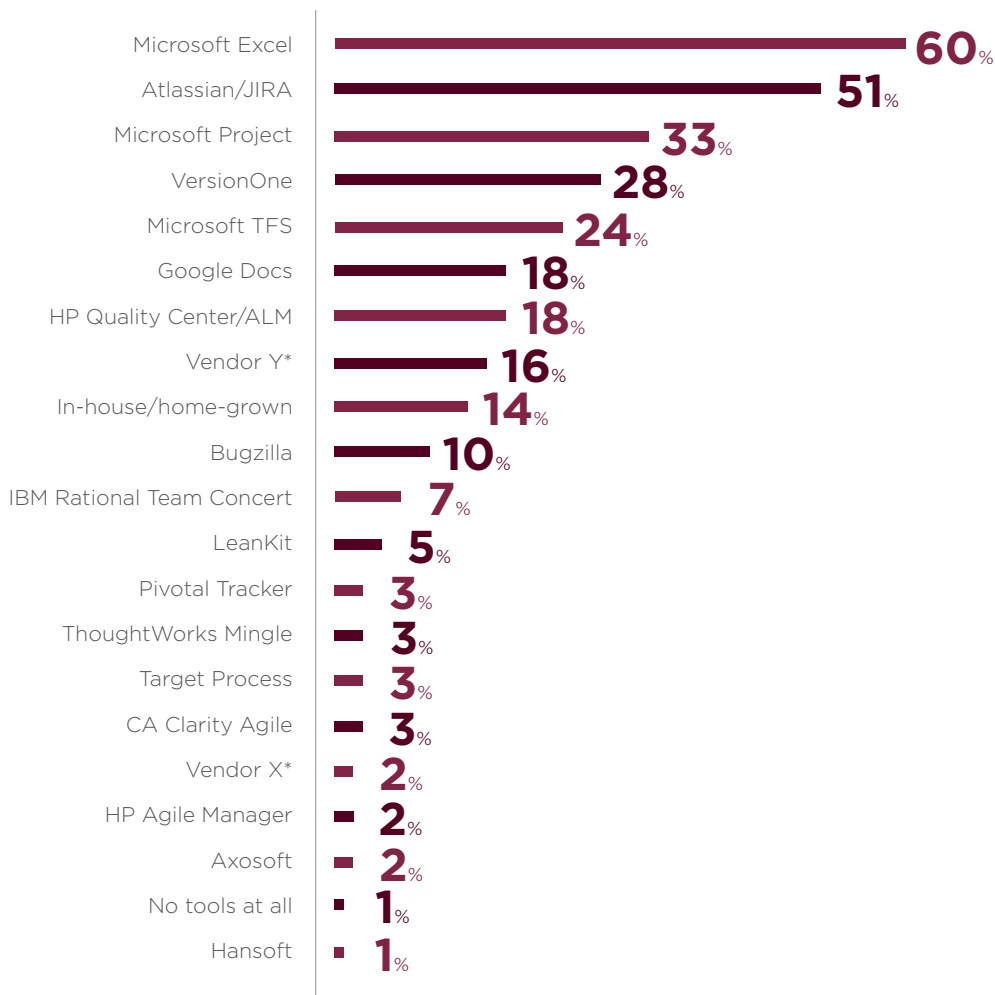
2015 2014

	CURRENT TOOL USAGE		FUTURE PLANS TO USE	
Taskboard	82%	79%	10%	11%
Bug tracker	80%	80%	10%	10%
Spreadsheet	74%	72%	5%	5%
Agile project management tool	71%	65%	17%	20%
Wiki	68%	68%	12%	12%
Unit test tool	66%	65%	23%	21%
Automated build tool	66%	65%	22%	20%
Kanban board	63%	52%	13%	15%
Continuous integration tool	57%	55%	28%	26%
Requirements management tool	51%	50%	22%	22%
Traditional project management tool	51%	51%	7%	7%
Release/deployment automation tool	50%	47%	34%	32%
Index cards	43%	41%	11%	10%
Project & portfolio management (PPM) tool	42%	37%	27%	24%
Automated acceptance tool	38%	35%	41%	39%
Story mapping tool	33%	34%	32%	29%
Refactoring tool	30%	29%	30%	26%
Customer idea management tool	21%	22%	30%	28%

*Respondents were able to make multiple selections.

Use of Agile Management Tools

Over two-thirds of respondents use Microsoft® Excel (60%) as one of the tools they use to manage agile projects. Other commonly used tools were Microsoft Project (33%), Atlassian/JIRA (51%), and VersionOne (28%).*

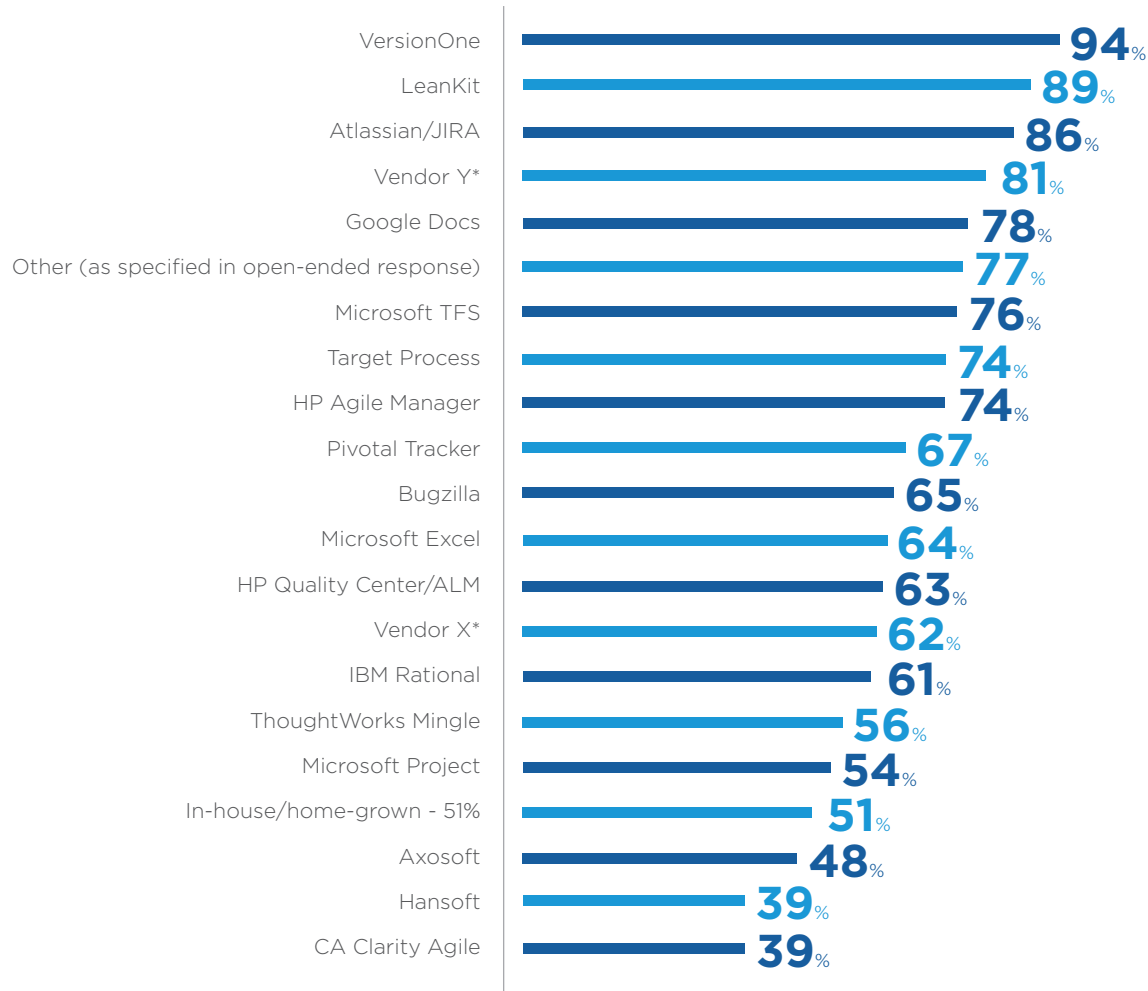


Several notable “write-in” tools were also cited, including: AgileFant, FogBugz, Mantis, Redmine, SharePoint, Trac, and Trello.

*Notes: Previously vendors “X” and “Y” requested not to be identified in the State of Agile report. Respondents were able to make multiple selections.

Recommended Agile Project Management Tools

In addition to tool use, respondents were asked whether they would recommend the tool(s) they are using based on their past or present use. For the fourth year in a row, VersionOne had the highest satisfaction rate of any other tool evaluated in the survey (94%).



*Notes: Previously vendors "X" and "Y" requested not to be identified in the State of Agile report. Respondents were able to make multiple selections.