

# 8<sup>th</sup> **ANNUAL**

# STATE OF AGILE™

## SURVEY

# Executive Summary

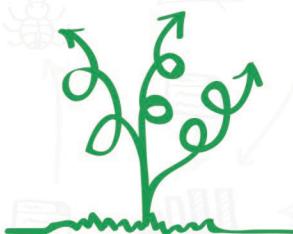
## Why Agile?

More people are recognizing that agile development is beneficial to business, with an 11% increase over the last 2 years in the number of people who say agile helps organizations complete projects faster.



This year we plotted the reasons people adopt agile against the actual improvements they get from their implementations. The results proved that agile implementation, on the whole, delivers what organizations hope for. In a comparison of what respondents ranked as most important against actual improvements, those who implemented agile saw improvements in over a dozen areas measured. The top 3 were: ability to manage changing priorities, productivity, and project visibility.

## What Makes Successful Agile Transformations?



So why are some organizations still experiencing less-than-successful agile transformations? Survey data indicates that when agile initiatives fail, it is often because of issues related to culture and resistance to change. Specifically, people are concerned about a perceived lack of up-front planning and a loss of management control stigmatized with agile practices.

Those who have been successful shared their best lessons learned in this report. Again this year, executive sponsorship was the number-one most important success factor when scaling agile beyond a single team. Common strategies for successful enterprise agile included: buy-in from the business, clear processes and training around the basics of agile, strong leadership, inter-team communication and collaborative work flow, pilots, knowledge sharing and continuous improvement.

## Current Practices & Tools



It's no surprise that Scrum and Scrum variants remain the most widely practiced agile methodology, and Kanban continues to gain popularity among teams (7% increase). Several new and interesting trends have emerged this year:

- More distributed teams are practicing agile – more than doubled this year from 35% to 76%
- More people are using, or plan to use, an agile project management tool (76% in 2013 vs. 67% in 2011)
- Greater use of retrospectives – increased by 10% in last 2 years

Up Top

Out of all the agile tool categories, the biggest increase in use or planned use was in agile project management tools and Kanban boards (both up 6%).

In terms of specific tools, the majority of respondents are still using Excel. Yet, a host of new tools are emerging in the market including Agilefant, Fogbugz, Mantis, Redmine, Trac and Trello. The biggest variance in specific tools used over the last 2 years was a 6% increase in Microsoft TFS and a 5% increase in VersionOne use. Boutique tools continue to get the highest customer satisfaction rate over Excel and plugin tools not specifically built for agile project management. When asked whether respondents would recommend a specific tool based on their use of that tool, VersionOne again ranked on top with a 93% recommendation, followed by Atlassian/JIRA/Greenhopper (87%) and Vendor Y\* (85%). LeanKit, while having fallen by 8% in its tool recommendation rating since 2012, is still a top-5 choice, along with Target Process, which increased its year-over-year rating by 9%.

## Agile Momentum



Software professionals are getting more knowledgeable about agile development and are now scaling it more broadly within their organizations.

About 88% of respondents said they are knowledgeable with agile practices, a 7% increase over 2012, and the majority of organizations surveyed have practiced agile between 2 and 5 years. Approximately 19% of respondents work in organizations that have practiced agile for more than 5 years, up from 9% 2 years ago.

It's not just knowledge; the agile community is applying what they know about the methodologies more broadly in the workplace based on the success they've seen within single teams. Today 57% of the respondents work where there are 5+ teams practicing agile; 38% have 10+ teams. This figure was only 30% a year ago, indicating that agile momentum has taken off and its successes are being embraced at the enterprise level.

\* Note: Previously vendors "X" and "Y" requested not to be identified in the State of Agile Dev Survey.

# About The Survey

The eighth annual "State of Agile" survey was conducted between August 4th and October 16, 2013. Sponsored by VersionOne, the survey invited individuals from a multitude of channels in the software development community. A total of 3,501 responses were collected, analyzed and prepared into a summary report by Analysis.Net Research, an independent survey consultancy.





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# Respondent Demographics

8<sup>th</sup>  
ANNUAL  
STATE OF  
AGILE™  
SURVEY

## SIZE OF ORGANIZATION

# 100

The median size of respondents' software organizations was 100, with 3/4 of respondents coming from organizations between 100 and 1,000 employees. The majority were from North America (66%) and Europe (20%).



The majority were from North America 66% and Europe 20%.



## CURRENT COMPANY POSITION

81% worked in Software Development or the IT departments of their employers, most commonly Project Managers, ScrumMasters and Team Leads, followed by development staff and development leaders. The remainder was spread between HR, administration, marketing, legal services, support and sales, reflecting the increasing influence of agile interest beyond solely software development.

## PERSONAL EXPERIENCE WITH AGILE DEVELOPMENT PRACTICES

About

**88%**  
of respondents

say they are at least "knowledgeable" about agile software development techniques, up 7% from last year. Additionally, since 2012 the number of people who have "very little" to no experience with agile has dropped by 7%.



Extremely knowledgeable



Moderately knowledgeable



Knowledgeable



Very Little/No Knowledge



## COMPANY EXPERIENCE

### How Many?

88% of respondents said their organizations were practicing agile development, up from 84% in 2012 and 80% in 2011.

88% 12%

&

### How Long?

On average, respondents worked at companies that have been practicing agile for over 5 years, with a rapidly growing number of companies in the 2-5 year range (53% compared to 36% in 2012). Approximately 19% have practiced agile for over 5 years, up from 9% in 2011.



## PERCENTAGE OF PROJECTS USING AGILE

52%

Over 1/2 of respondents said they are using agile to manage the majority of their projects.

27%

0-25% of Projects

21%

26-50% of Projects

14%

51-75% of Projects

38%

76-100% of Projects

## WHO KNOWS AGILE?

Product Owners are getting more knowledgeable; Business Analysts have taken their spot at the bottom of the pack.





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# Agile Adoption in the Enterprise

Respondents were from a broad range of organization sizes, varying from single-employee businesses to those with more than a hundred thousand. 3/4 were from smaller organizations – those with fewer than 1,000 employees.



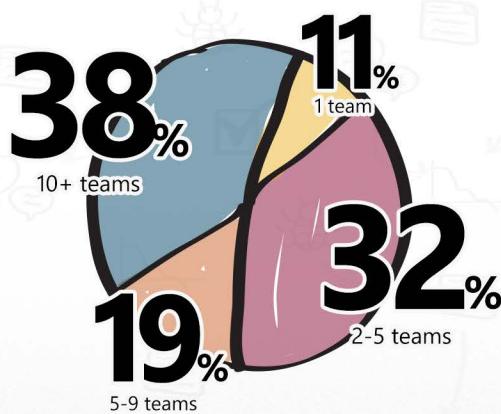
## WHO DECIDES?

Initial champions of agile methods continue to be mostly in the management layer (61%):



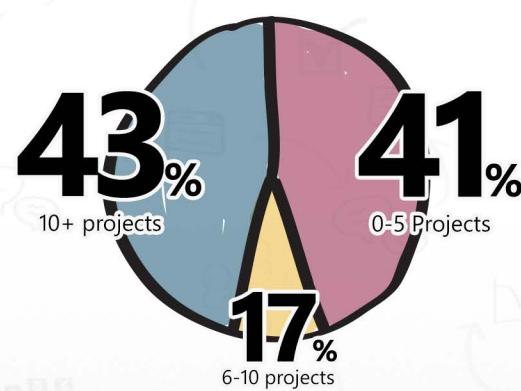
## HOW MANY TEAMS ADOPTED AGILE?

The number of teams practicing agile at each organization continues to grow, and this year there is evidence that it's growing fastest at the enterprise level. 57% of respondents said their companies had adopted agile practices across 5 or more teams. This number has nearly doubled in the last 2 years (48% in 2012 and 33% in 2011). The fastest-growing group is those who practice agile in 10 or more teams (38% of respondents), which is an 8% increase over 2012.



## NUMBER OF COMPANY PROJECTS USING AGILE

In addition to scaling agile across more teams, organizations are also scaling agile to a greater number of projects. The percentage of respondents with 10 or more agile projects has jumped from 30% in 2012 to 43% in 2013. The trend has shifted from most having 0-5 agile projects last year to heaviest representation in the 10-or-more-projects group.



## NUMBER OF DISTRIBUTED TEAMS USING AGILE

The number of respondents who have distributed software teams practicing agile has more than doubled in one year. 76% had distributed software teams in 2013 compared to only 35% in 2012.



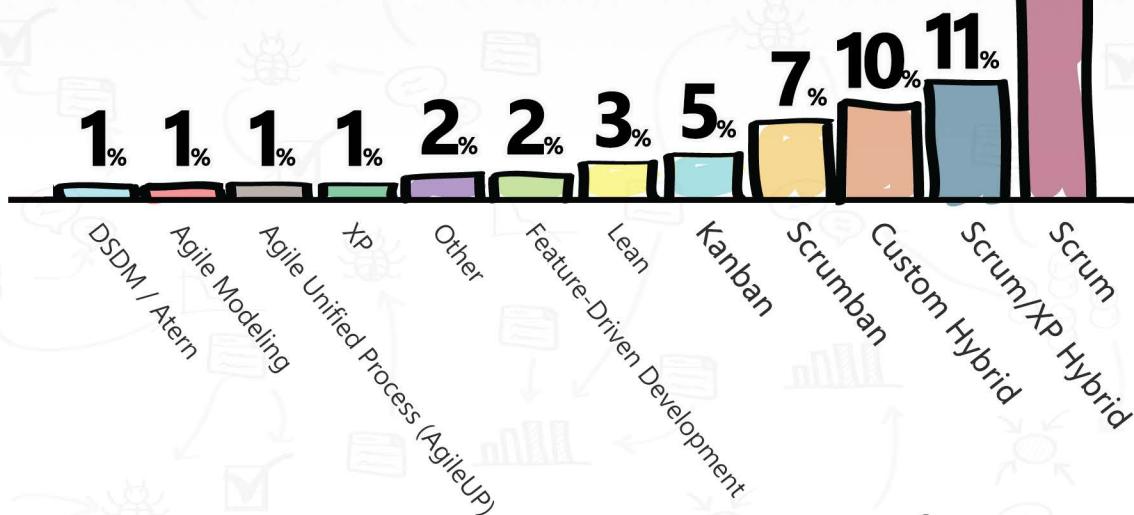
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# Agile Methods & Practices

8<sup>th</sup>  
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## AGILE METHODOLOGY USED

Once again Scrum and Scrum variants (73%) remain the most popular agile methodologies being used.

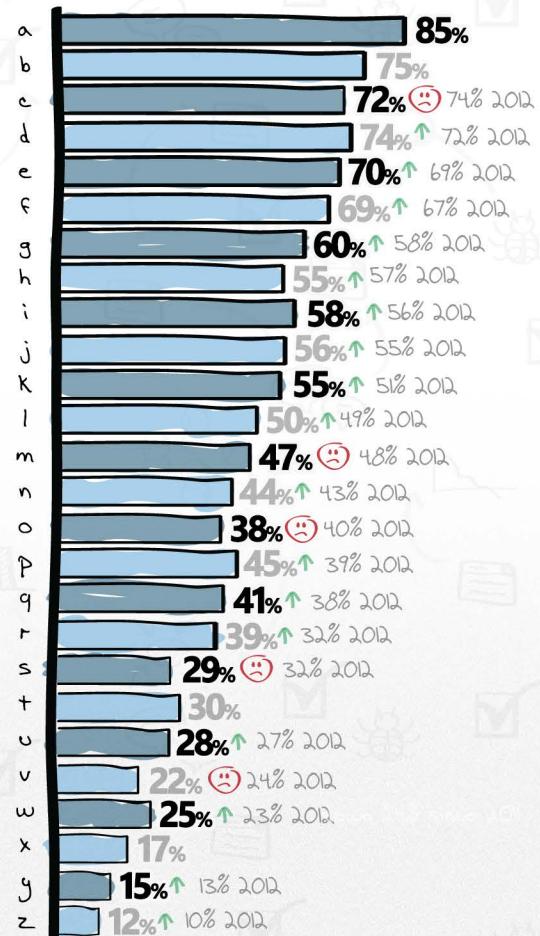


## AGILE TECHNIQUES EMPLOYED

Respondents are making use of a wide variety of different agile management techniques. More than 85% practice Daily Standups, ¾ are using Iteration Planning and Retrospectives, and nearly the same proportion said they maintain Burndown charts. Over the last 2 years we've seen a 10% increase in the use of Retrospectives (from 64% in 2011 to 74% in 2013).

\*Respondents were able to select multiple options.

- |                                   |                                |
|-----------------------------------|--------------------------------|
| a Daily Standup                   | n Open Workarea                |
| b Iteration Planning              | o TDD                          |
| c Unit Testing                    | p Digital Taskboard            |
| d Retrospectives                  | q Story Mapping                |
| e Release Planning                | r Kanban                       |
| f Burndown/ Team-Based Estimation | s Collective Code Ownership    |
| g Velocity                        | t Pair Programming             |
| h Coding Standards                | u Automated Acceptance Testing |
| i Continuous Integration          | v Analog Taskboard             |
| j Automated Builds                | w Continuous Deployment        |
| k Dedicated Product Owner         | x Agile Games                  |
| l Integrated Dev/QA               | y Cycle Time                   |
| m Refactoring                     | z BDD                          |





State of Agile Survey

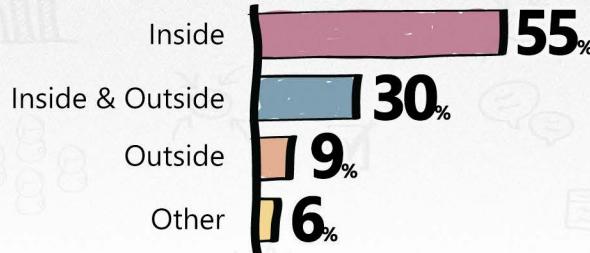
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## KANBAN USES

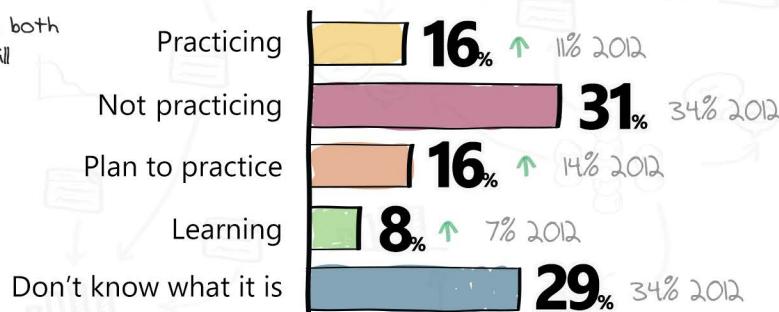
How is Kanban applied?

About 1/2 the respondents who use Kanban or ScrumBan said they were primarily using these methods for business processes inside the software organization only.



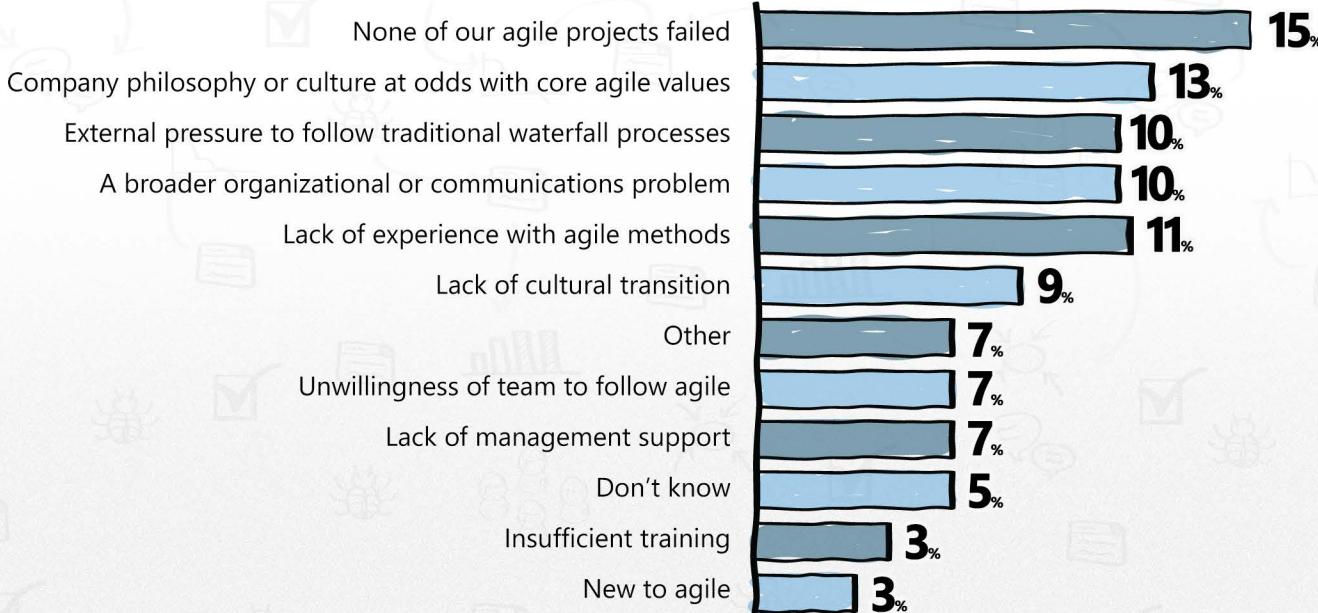
## AGILE PORTFOLIO MANAGEMENT (APM)

This year trends suggest a slight increase in both knowledge and practice of APM. Yet, it is still relatively new or unfamiliar to almost 1/3 of respondents.



## LEADING CAUSES OF FAILED AGILE PROJECTS

When asked why agile projects fail, 15% of respondents said none of their projects would be considered unsuccessful. Of those with failed agile projects, most attributed it to an opposing company philosophy or some other form of cultural resistance (24%).





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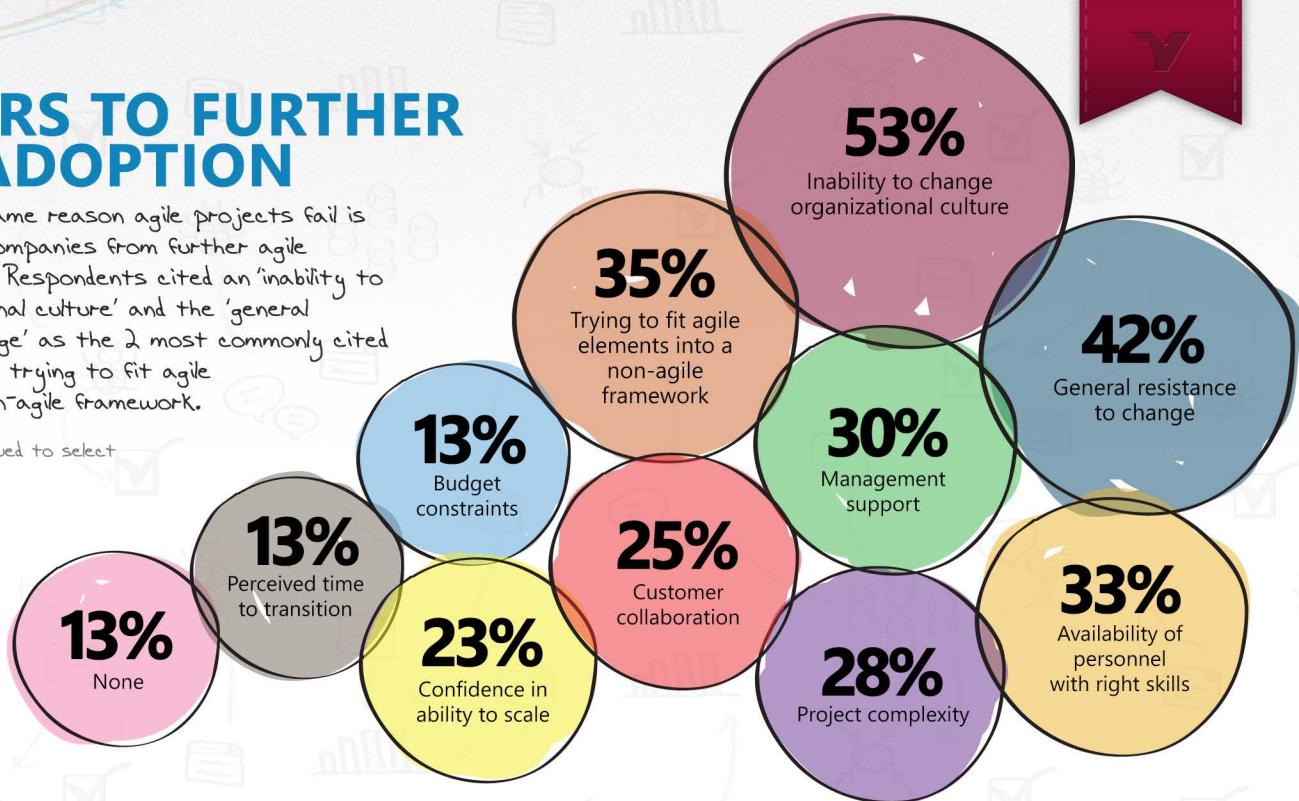
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8<sup>th</sup>  
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## BARRIERS TO FURTHER AGILE ADOPTION

As expected, the same reason agile projects fail is also what keeps companies from further agile adoption - culture. Respondents cited an 'inability to change organizational culture' and the 'general resistance to change' as the 2 most commonly cited barriers, followed by trying to fit agile elements into a non-agile framework.

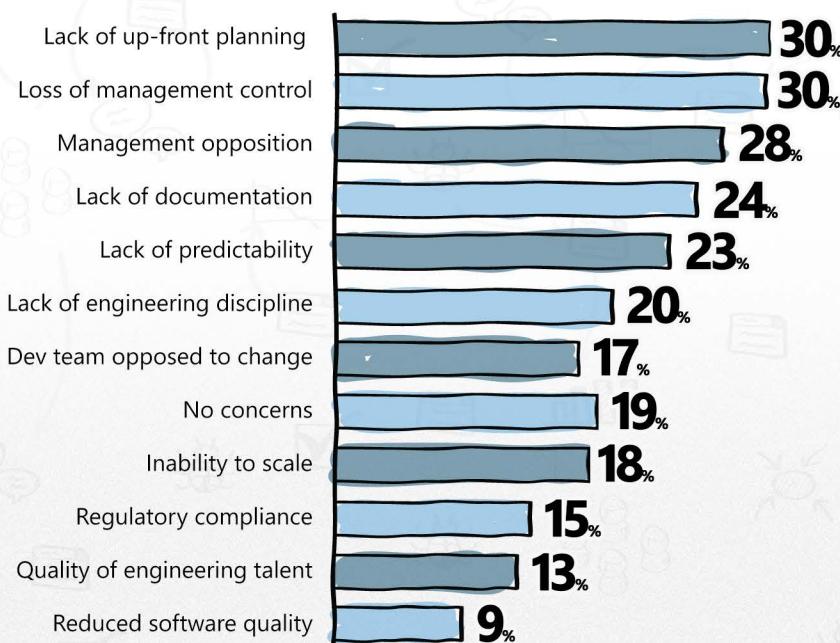
\*Respondents were allowed to select more than 1.



## GREATEST CONCERN ABOUT ADOPTING AGILE

The top 2 most common concerns when considering an agile initiative remain a lack of upfront planning (30%) and loss of management control (30%).

\*Respondents were able to select multiple options.



# Reasons for Adopting Agile

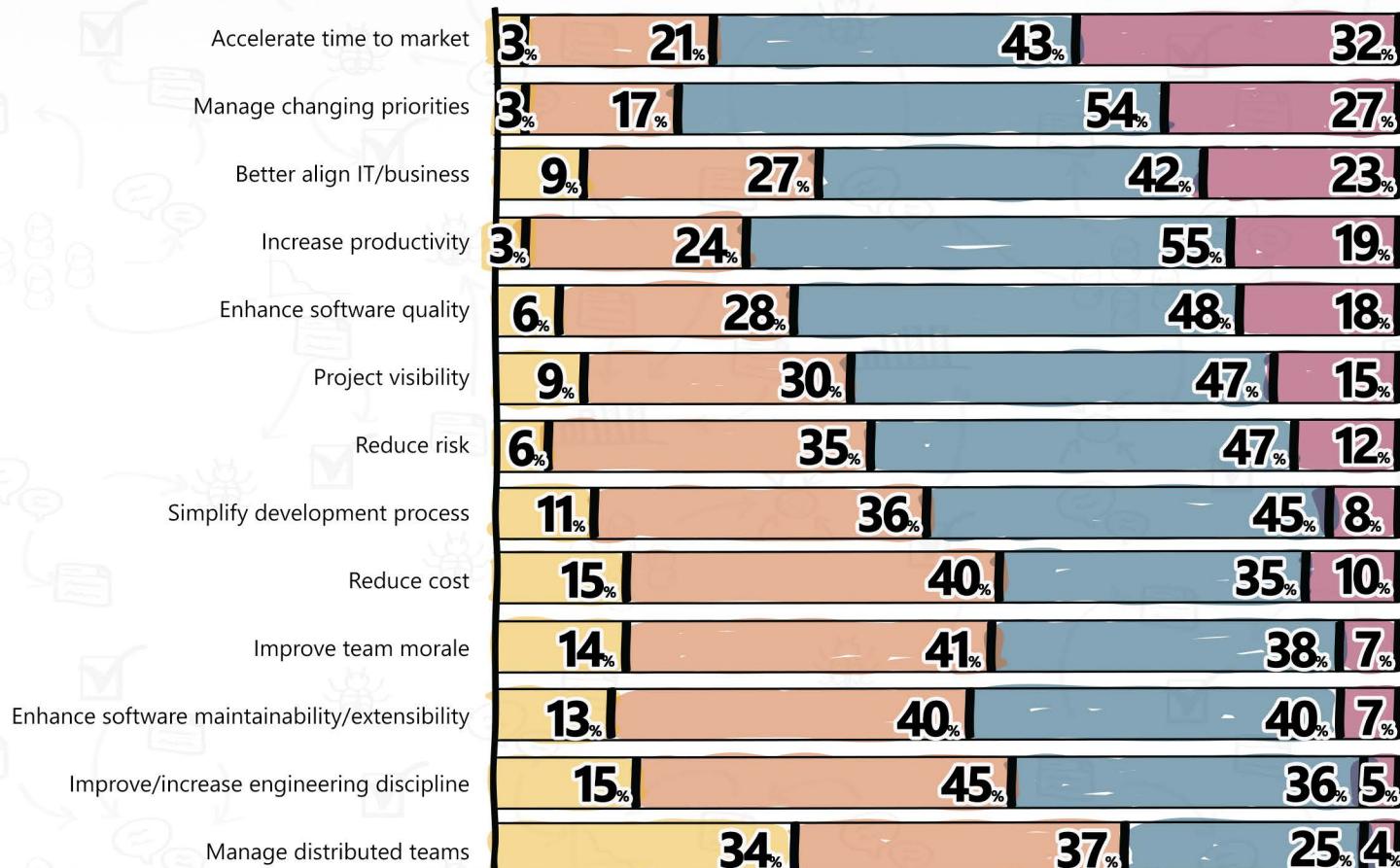
## WHY AGILE?

The top 3 reasons\* respondents cited for adopting agile are consistently: to accelerate time to market (23%), more easily manage changing priorities (16%), and to better align IT and business objectives (15%).

Most responses centered on better customer focus and increased predictability.

\*Respondents were able to select multiple options.

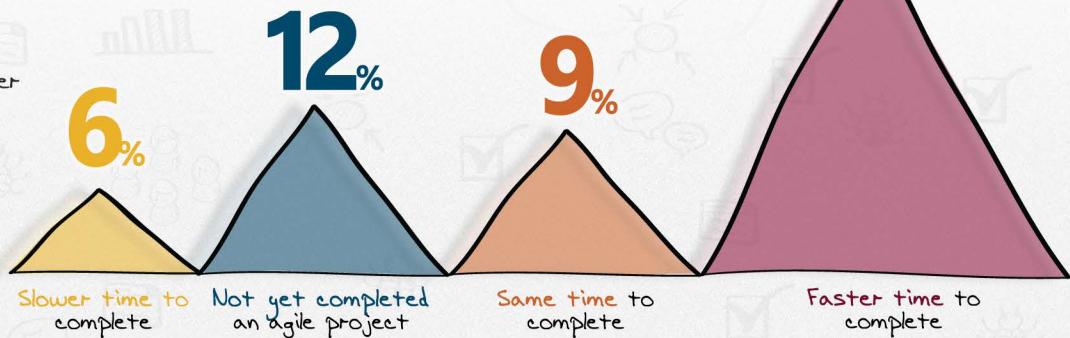
Not important at all   Somewhat important   Very Important   Highest importance



## OVERALL CONSENSUS REGARDING ADOPTION OF AGILE

The number of people who felt that agile projects were the same or faster to completion than previous non-agile ones has increased by double-digits in the last 2 years, now at  $\frac{3}{4}$  of the respondents. Fewer respondents this year said agile projects were 'slower' to completion.

73%





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# Benefits Obtained from Implementing Agile

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## IMPROVEMENTS ACROSS THE BOARD WITH AGILE

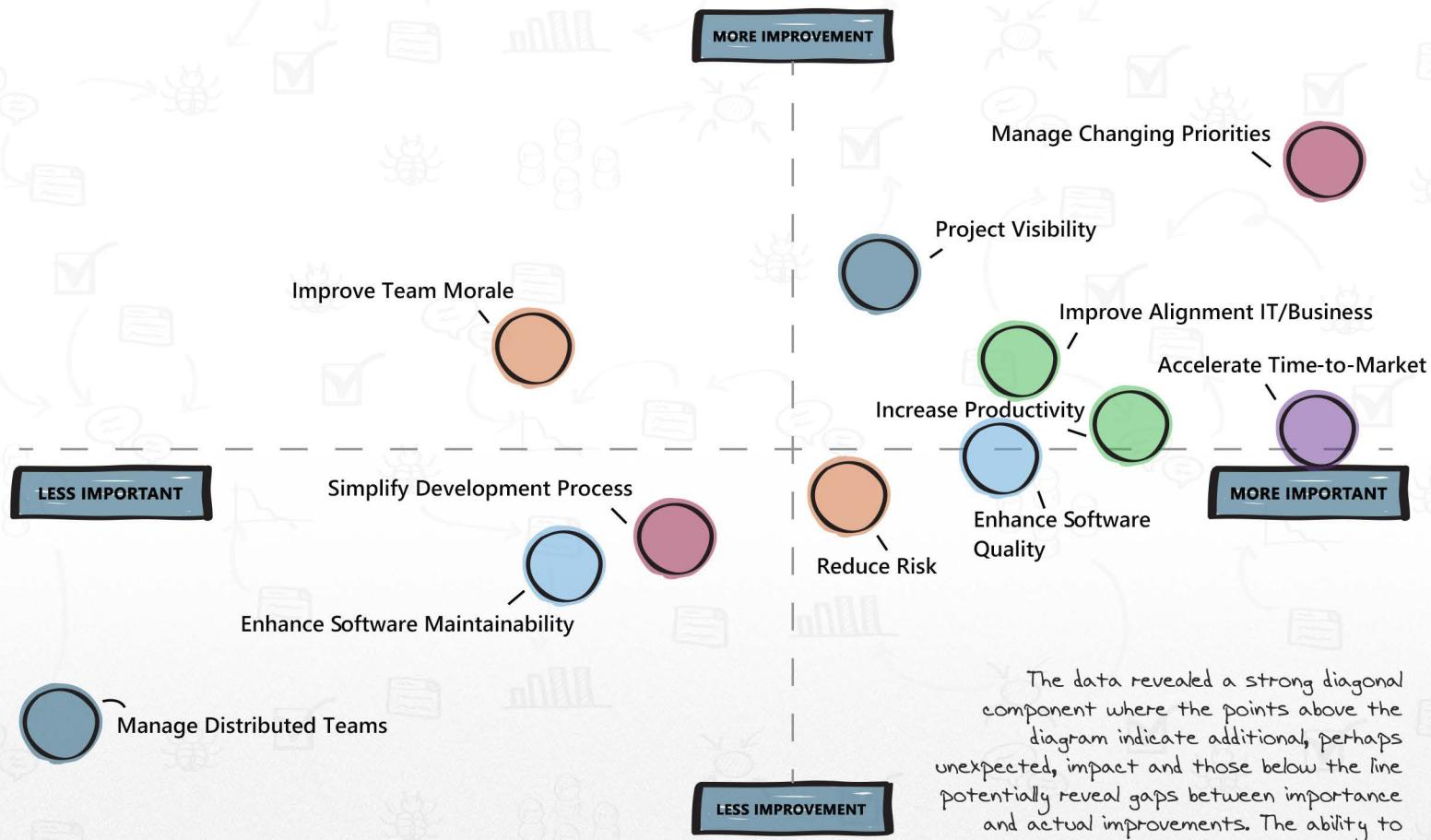
Respondents reported year-over-year improvements in ALL areas measured. Experienced agile users said the top business benefits were the ability to manage changing priorities (92%), productivity (87%) and project visibility (86%).

92%

of respondents said implementing agile improved their ability to manage changing priorities.

## ACTUAL IMPROVEMENT FROM ADOPTING AGILE METHODOLOGIES

This year we plotted the reasons people adopt agile against the actual improvements they get from their implementations. The results proved that agile implementation, on the whole, delivers what organizations hope for.



The data revealed a strong diagonal component where the points above the diagram indicate additional, perhaps unexpected, impact and those below the line potentially reveal gaps between importance and actual improvements. The ability to manage changing priorities, productivity and project visibility were the top 3 factors that rated high on both importance and actual improvements delivered.



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# Benefits Obtained from Implementing Agile

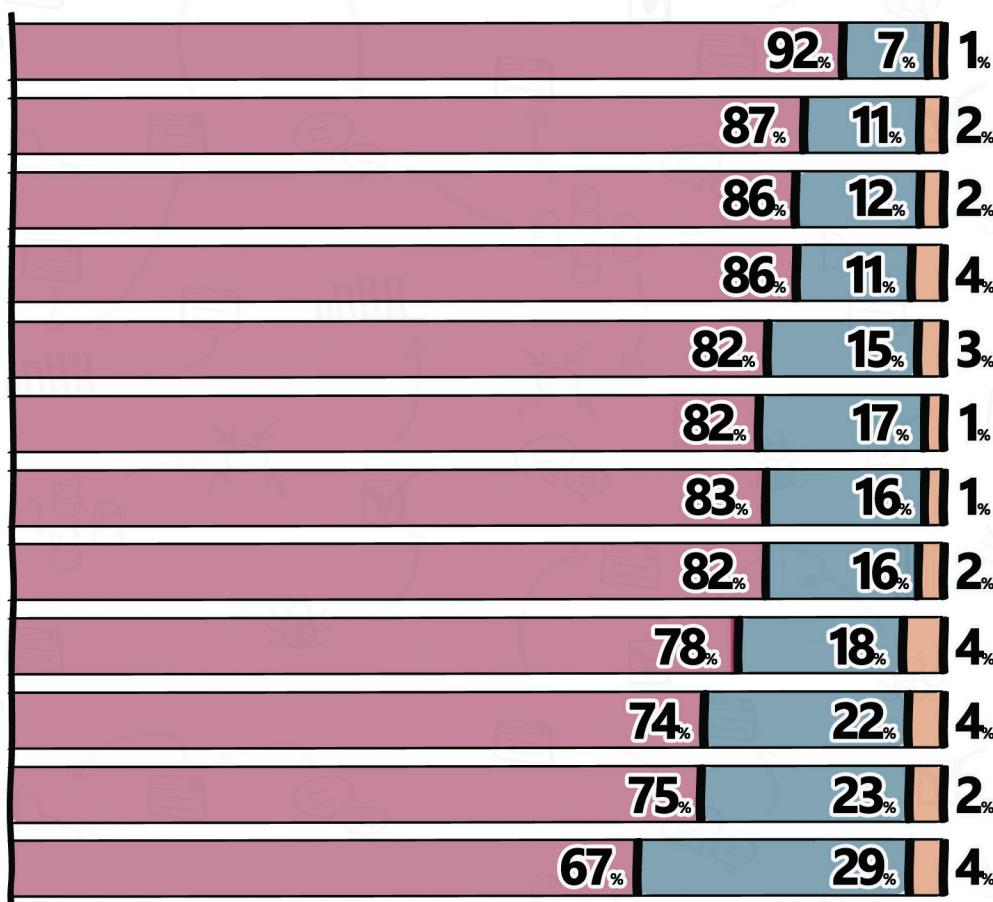
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## ACTUAL IMPROVEMENT FROM ADOPTING AGILE METHODOLOGIES

(Continued)

FOR BELOW, CATEGORIES ARE: Got Better No Benefit Got Worse

- Ability to manage changing priorities
- Increased productivity
- Improved project visibility
- Improved team morale
- Enhanced software quality
- Reduce risk
- Faster time-to-market
- Better alignment between IT & business objectives
- Simplify development process
- Improved/increased engineering discipline
- Enhanced software maintainability/extensibility
- Manage distributed teams



**51%**

Over ½ of respondents said that the majority, if not all, of their agile projects have been successful.

**54% OUTSOURCED DEV PROJECTS**

54% of respondents are using, or plan to use, agile methods on outsourced projects. (Note: This is an update to erroneous data in the original report; updated June 2014).

## BEST 'LESSONS LEARNED'

Again those who have successfully scaled agile said the biggest success factor when extending agile beyond a single team is ensuring the effort has sufficient executive sponsorship. Having a training program, common tools and an internal agile support group were also important.



**22%**

Executive  
sponsorship



**18%**

Training program  
workshops



**15%**

Implementation of a  
common tool



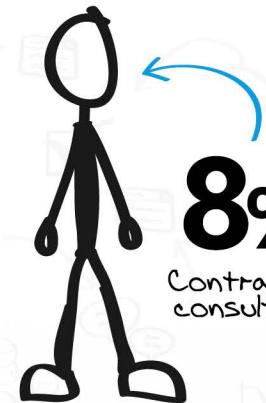
**12%**

Internal agile  
support group



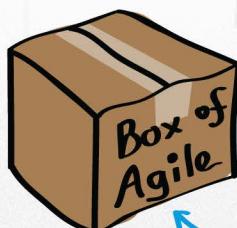
**11%**

Full-time  
agile coach



**8%**

Contracted  
consultant



**5%**

Not yet  
scaled



**5%**

Reference books



**4%**

eLearning



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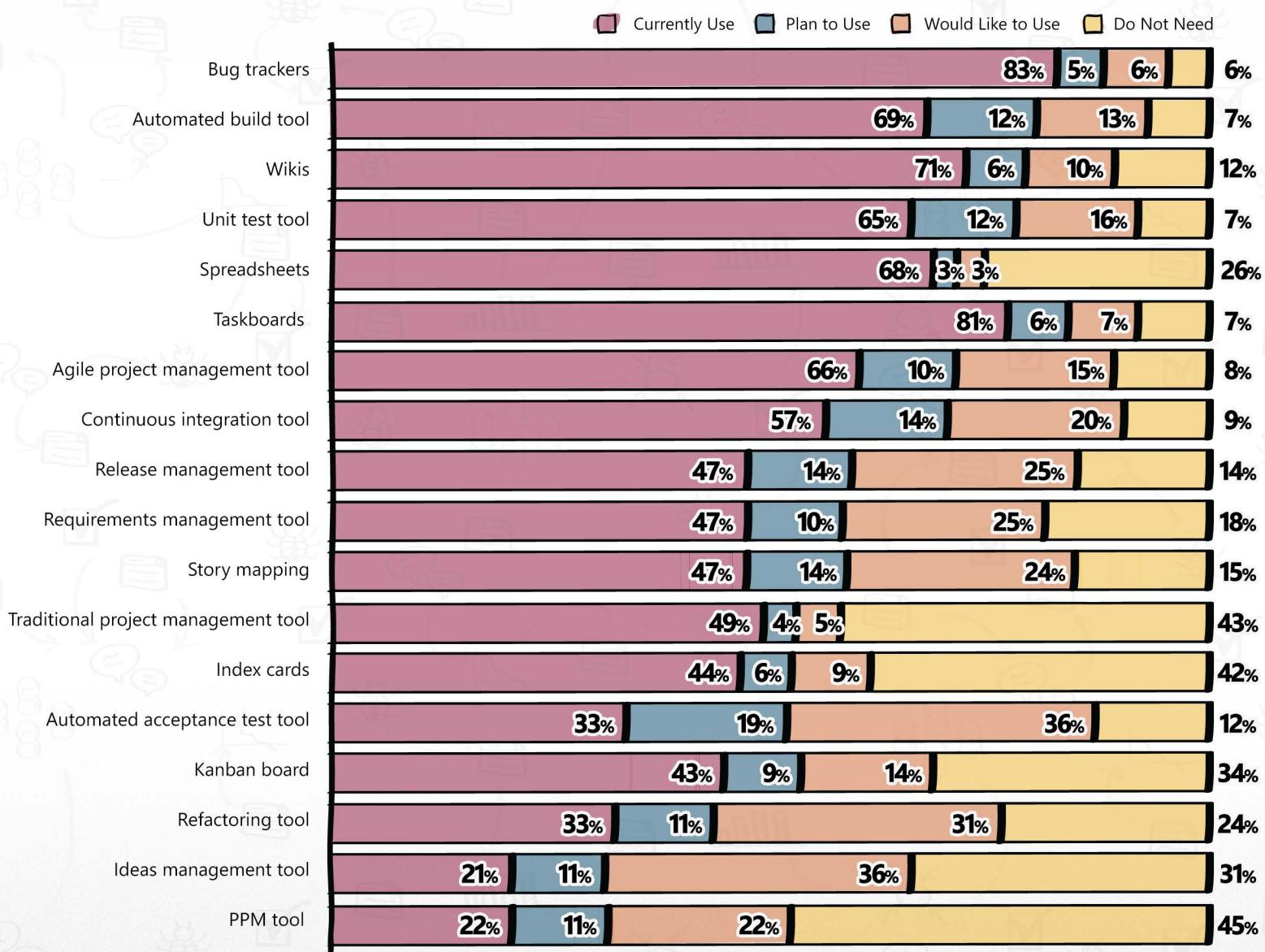
# What Eases Agile Adoption at Scale?

When asked what specific things eased adoption when scaling agile beyond a single team, respondents most commonly answered:

1. Buy-in from technology and the business
2. Grassroots commitment inside and outside engineering
3. Consistent understanding of \*what agile is\* and its processes
4. Pilot groups and knowledge sharing
5. Cell division; build one successful team and divide experience
6. Collaboration / work flow tool
7. Continuous improvement with retrospectives
8. Good leadership
9. Good ScrumMaster
10. Teams talking to one another

## AGILE TOOL USES & PREFERENCES

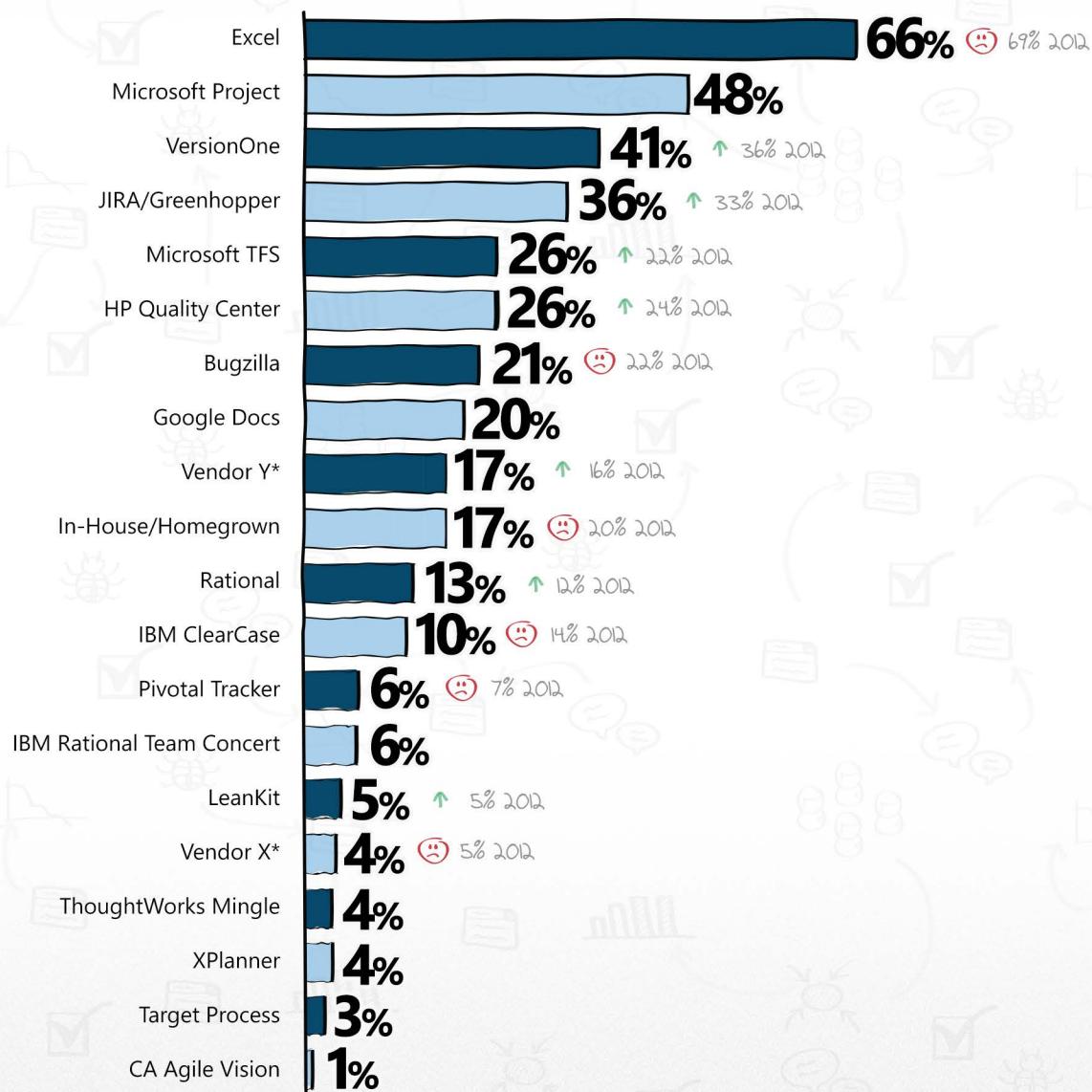
Nearly all respondents used Bug Trackers and Taskboards. This year we have seen the biggest increase in the use or planned use of Agile Project Management tools (+6% are currently using and +3% would like to use them).



## SPECIFIC AGILE TOOLS USED

The most commonly used tools continue to be standard office productivity tools such as Excel (66%), followed by specialized tools like Microsoft Project, VersionOne and Atlassian/JIRA. Over the last 2 years we've seen the biggest variance in the use of Microsoft TFS and VersionOne (up 6% and up 5%, respectively) and in the decreased use of homegrown tools (down 5%). A number of tools outside the survey choices were also cited, including Agilefant, Fogbugz, Mantis, Redmine, Trac and Trello.

\*Respondents were able to select multiple options.

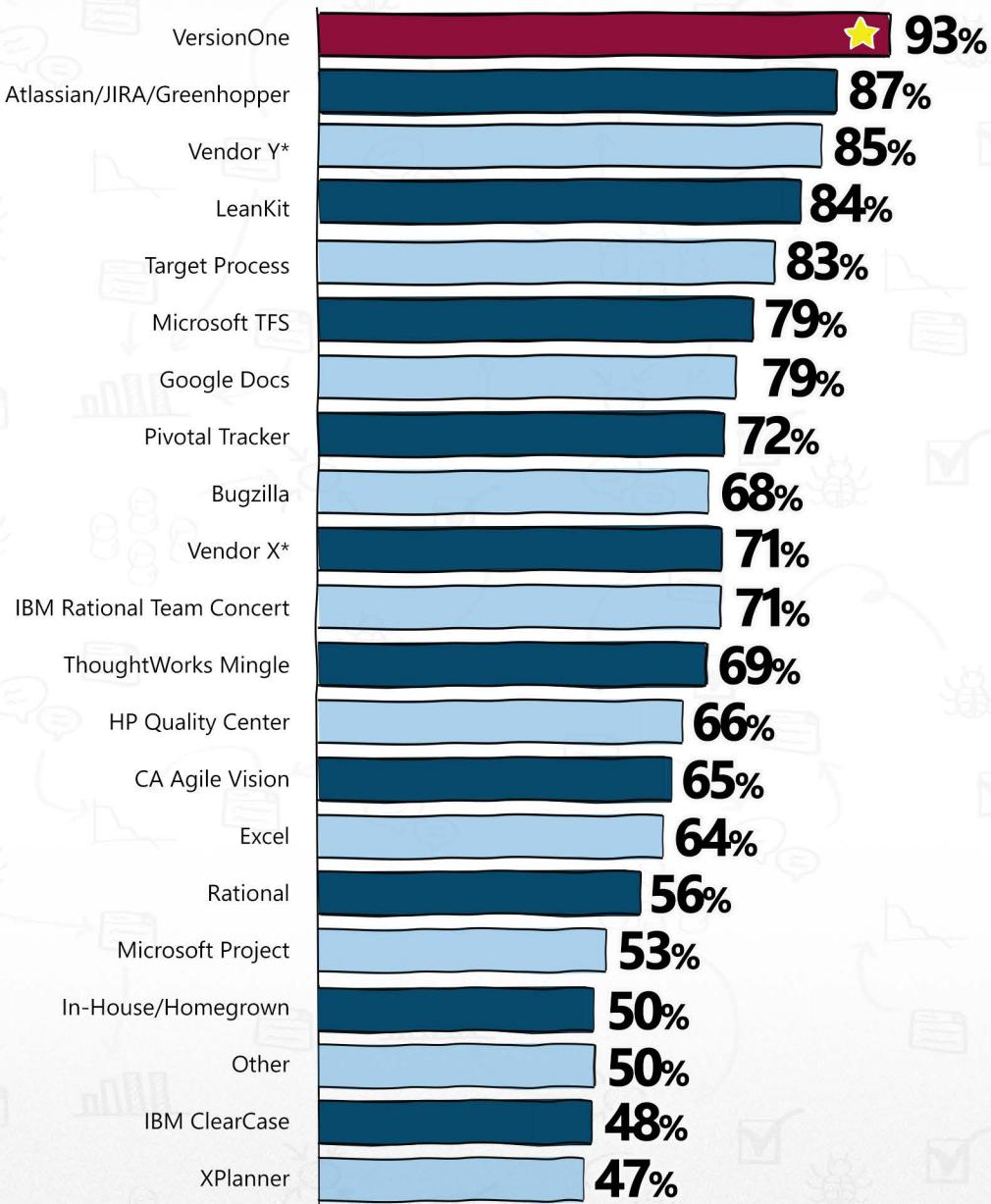


\* Note: Previously vendors "X" and "Y" requested not to be identified in the State of Agile Dev Survey.

## SATISFACTION WITH TOOL CHOICE

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. Of the tools evaluated in the survey, VersionOne had the highest satisfaction rate of any other tool evaluated (93%), followed by Atlassian/JIRA/Greenhopper (87%), and Vendor Y (85%). The least recommended tools were In-house/Homegrown, XPlanner and IBM ClearCase. The biggest year-over-year changes were: an 8% decrease in the number of respondents who recommend LeanKit (84% from 92% in 2012) and a 9% increase in the number who recommend Target Process (83% from 72% in 2012).

## Percent of Users Who Would Recommend



\* Note: Previously vendors "X" and "Y" requested not to be identified in the State of Agile Dev Survey.