VERSIONONE®
Agile Made Easier

STATE OF
AGILE
SURVEY

2011

"THE STATE OF AGILE DEVELOPMENT"

6TH ANNUAL

EXECUTIVE SUMMARY

This year we saw further evidence that agile is not a fad. More than half of our respondents said they've personally practiced agile for over 2 years, and one-third have carried agile with them to another company. Almost two-thirds of respondents said that up to half of their company's projects were run using agile, and that their company has adopted agile practices across 3 or more teams.

While there were slightly elevated concerns over agile scaling, regulatory compliance and a lack of documentation, there was less pushback from management this year in considering deploying agile. Furthermore, 64% of initial agile champions are in the management layer. Accelerating time to market is again the number-one reason for agile adoption (22%).

Despite the uptick in management support for agile, survey results suggest that the greatest barrier to increased adoption of agile appears not to be awareness of the methodology, but internal company cultures. Only 13% of respondents in larger organizations (more than 500 employees) said that nearly all their projects used agile. In these larger companies, respondents said that lack of management support (27%) and "general resistance to change" (26%) were major barriers to agile adoption. Conversely, among smaller companies, the vast majority (nearly 75%) of projects used agile and only 10% of respondents cited lack of management support or "general resistance to change" as an issue or barrier to adoption.

We saw a continued practice of daily standup meetings (78%), iteration planning (74%) and unit testing (70%). The most notable trend this year was the increased use of Kanban principles (24% versus 18% in 2010). By far, Scrum/Scrum XP continues to lead the pack as the most used agile methodology (66%).

This year there was a shift in the benefits companies gleaned from agile. In 2010, respondents said it was all about productivity (74%). This year productivity improved for 75% of respondents, but the bigger benefit areas were the **ability to manage changing customer priorities** (84%) and **project visibility** (77%). Cost reduction and the ability to manage distributed teams proved the least beneficial. Overall, three-quarters of respondents said that at least half their agile projects had been successful.

The 2011 survey also showed an uptick in the number of companies who do not currently practice agile but plan to in the future (17% this year versus 13% last year). Of those already practicing agile, one-third will continue to do so, and only 3% said they do not plan to continue.

The most common types of tools currently being used (or planned) include: Automated Acceptance Tools (20%), Release Management Tools (16%) and Continuous Integration Tools (16%). Interestingly, the agile tool being used the **least** today is also the **most desired** tool of tomorrow – Ideas Management Tool.

In terms of specific agile software tools, most are using standard office productivity tools such as Excel, followed by specialized tools like VersionOne. The use of bug trackers has also come on strong this year (14%).

ABOUT THE SURVEY

HELLO, I'M

Agile

The sixth annual "State of Agile Development" survey was conducted between July 22nd and November 1st, 2011. Sponsored by VersionOne, the survey polled individuals from a variety of channels within the software development industry. The data was analyzed and prepared into a summary report by Analysis.Net Research. A total of 6,042 responses were received.

RESPONDENT DEMOGRAPHICS

COMPANY SIZE

25%

The **median size** of respondents' **software organizations** was 100, with a **quarter of respondents** coming from **organizations** of **more than 500**.

&

5 YEARS AGO

the **biggest agile adopters** were those **companies** with **0-20 employees**

36%
PROJECT MANAGER/ SCRUM MASTER/ TEAM LEAD

CURRENT COMPANY POSITION

Respondents were most commonly project managers, scrum masters and team leads, followed by software development staff.

23%
DEVELOPMENT STAFF

17%
DEVELOPMENT LEADERSHIP

9%
OTHER

8%
CONSULTANT/ TRAINER

5%
C-LEVEL

2%
IT STAFF
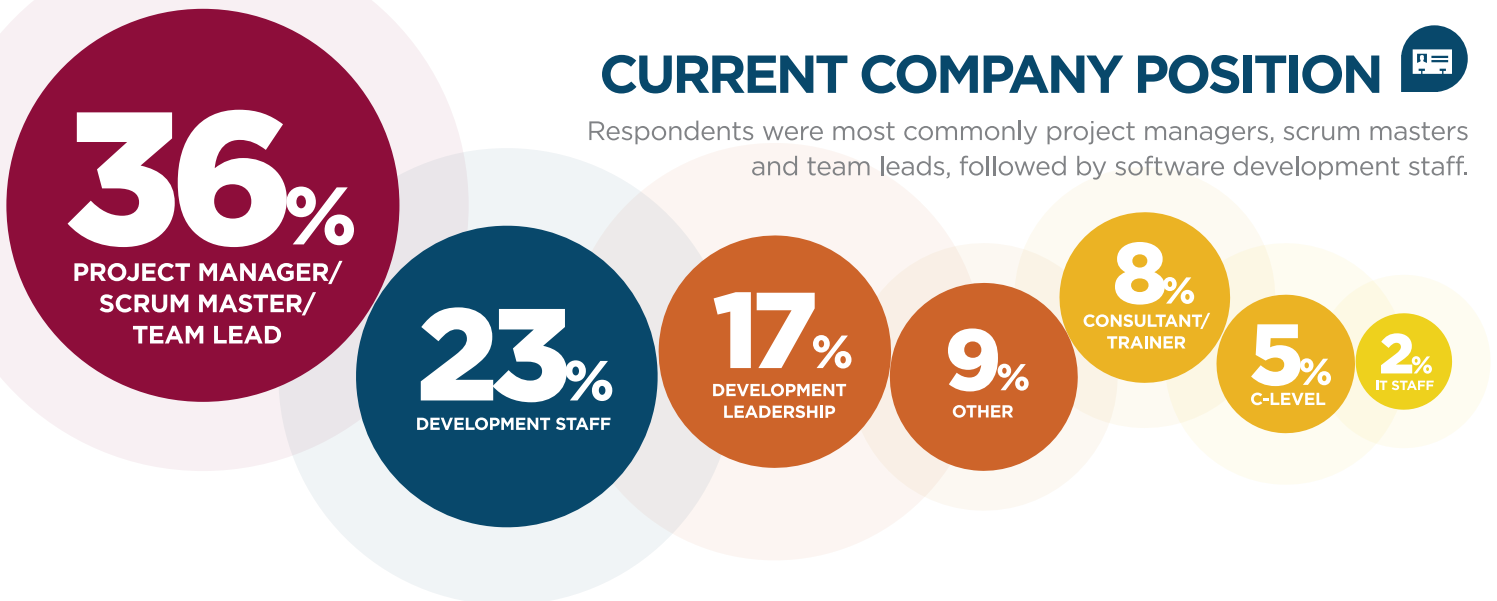
EXPERIENCE WITH AGILE DEVELOPMENT PRACTICES

About 90% of respondents say they are at least "knowledgeable" about agile software development techniques.

▲ **EXTREMELY** KNOWLEDGEABLE - - - - - - - - - - - - - - -
▲ **MODERATELY** KNOWLEDGEABLE - - - - - - - - - - - -
▲ **KNOWLEDGEABLE** - - - - - - - - - -
▲ **VERY LITTLE** KNOWLEDGE - - - - - - -

40%

28%

20%

10%
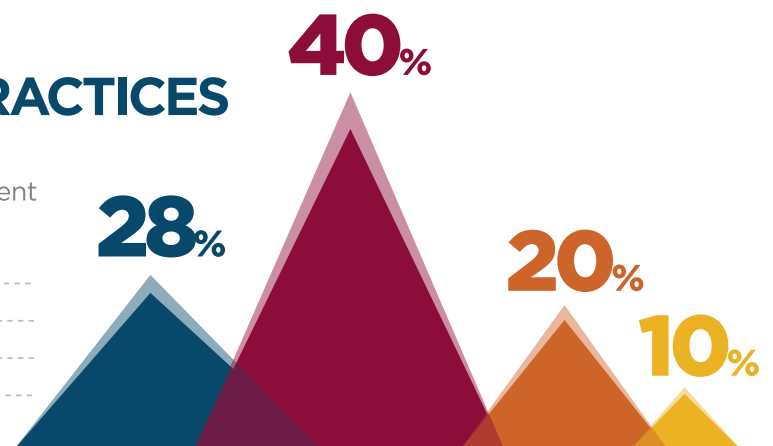
EXPERIENCE WITH AGILE DEVELOPMENT

PERSONAL EXPERIENCE

Agile is not just a fad. Eighteen percent of respondents have personally practiced agile for more than 5 years, and about one-third have taken agile with them to another employer. The number of respondents who have practiced agile for more than 2 years continues to grow - from less than half of the 2010 respondents to 55% in 2011.

26% < 1 Year
19% 1-2 Years
37% 2-5 Years
18% 5+ Years

COMPANY EXPERIENCE

HOW MANY?

More than 80% of respondents said their organizations have **adopted agile development practices within their software organizations.**

80% YES
15% NO
5% UNSURE

&

HOW LONG?

Nearly half of the respondents **work at companies** that have been **practicing agile for over 2 years,** compared to 40% in 2010.

14% < 1 Year
40% 1-2 Years
36% 2-5 Years
9% 5+ Years

NUMBER OF PROJECTS USING AGILE

60% of respondents said that up to **half** of their **company's projects are agile**.

39% 0-25% of projects
21% 26-50% of projects
12% 50-75% of projects
27% 76-100% of projects
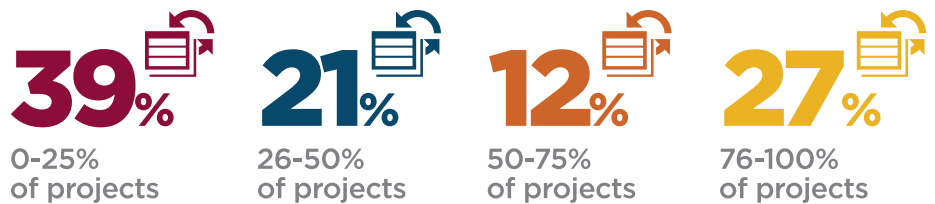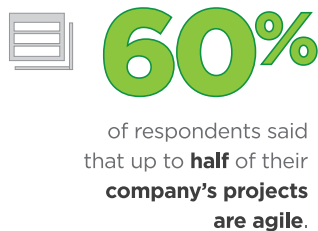
AGILE ADOPTION IN THE ENTERPRISE

AGILE ADOPTION

The **median size** of **development organizations was 100**, with ¼ **of respondents** coming from **organizations of more than 500**.

WHO DECIDES?

77%

Initial champions of agile methods are found in the **management layer 77%** of the time.

80%

of respondents said their **software organizations** had **adopted agile development practices**, and **80%** worked in their **company's software development or IT departments**.

65%

of respondents worked in companies with **distributed development teams**. Most had fewer than **5 distributed teams using agile**, with the **majority** having **2 or 3**.

HOW MANY TEAMS ADOPTED AGILE?

Two-thirds of respondents work at companies that **have adopted agile across 3 or more teams**.

Distributed Team(s)

- 18% Up to 1
- 35% 2-3
- 17% 4-5
- 15% 6-10
- 15% 11+

Team(s)

- 10% 1
- 20% 2-3
- 13% 3-5
- 58% 5+
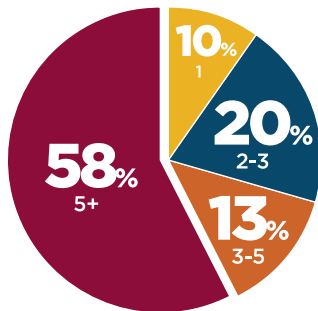
NUMBER OF COMPANY PROJECTS USING AGILE

Nearly **half of respondents** had between **2-5 agile projects**, and **one-third said** their **organization is running 11 or more**.

Project (s)

- 7% Up to 1
- 43% 2-5
- 18% 6-10
- 33% 11+
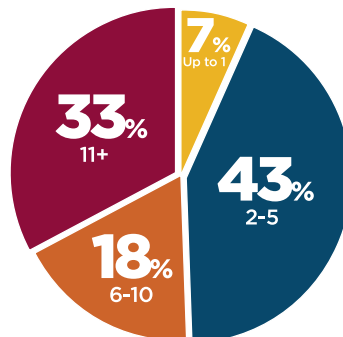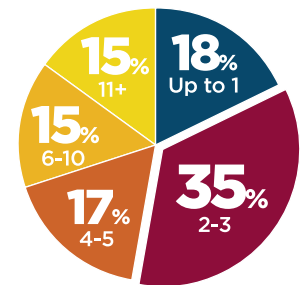
NUMBER OF DISTRIBUTED TEAMS USING AGILE

65%

Fully **two-thirds (65%) said** they had distributed **team members working** on agile projects.

70%

About **70%** had **fewer than 5** distributed teams using agile.

AGILE METHODS & PRACTICES

AGILE METHODOLOGY USED

Scrum or Scrum variants continue to make up more than two-thirds of the methodologies being used, while Kanban has entered the scene this year as a meager player. The only category that saw growth this year was Custom Hybrids (9% up from 5%).

Pie chart values: 52%, 14%, 9%, 8%, 3%, 3%, 2%, 2%, 2%, 2%, 1%, 1%, 1%

- Scrum
- Scrum/XP Hybrid
- Custom Hybrid
- Don't Know
- Kanban
- Scrumban
- Feature-Driven Development
- Extreme Programming XP
- Lean
- Other
- Agile Unified Process (AgileUP)
- Agile Modeling
- Dynamic Systems Development Method
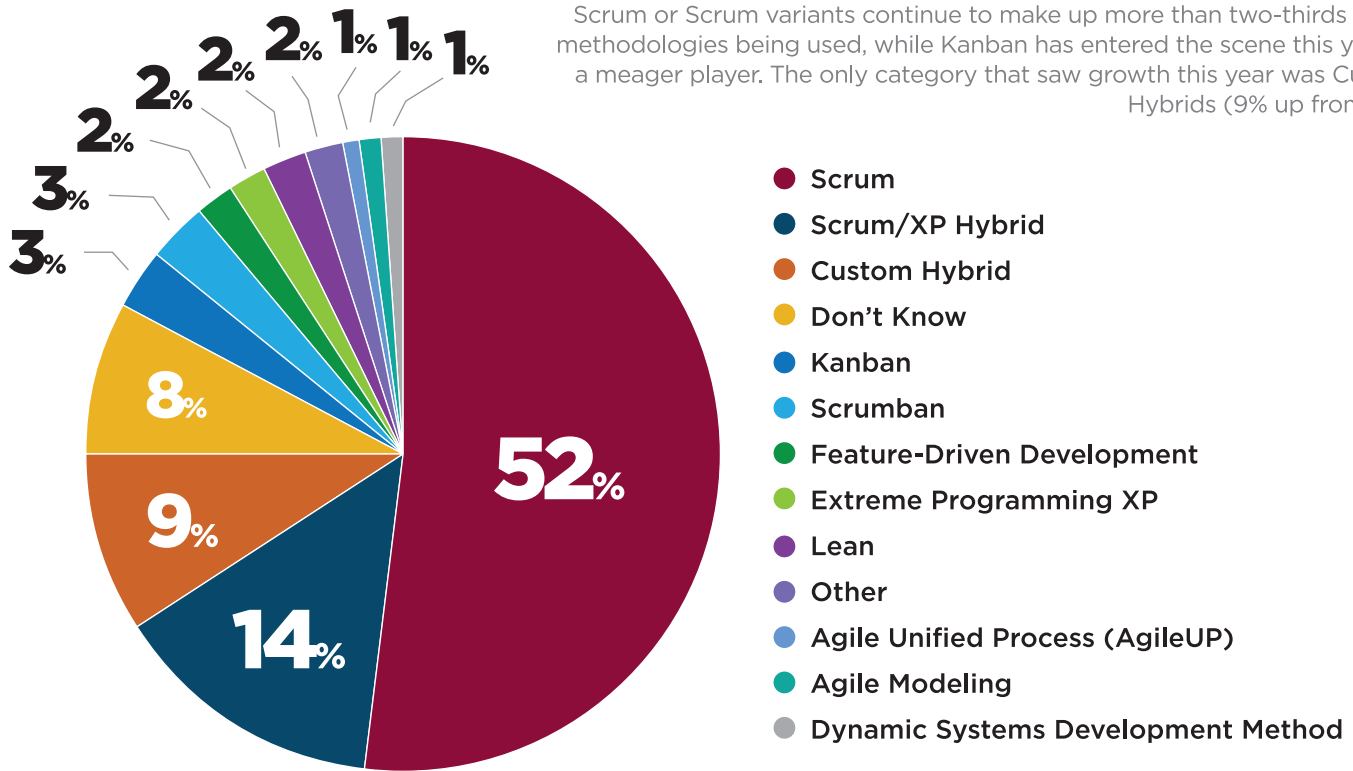
AGILE TECHNIQUES EMPLOYED

Core agile tenets currently in use are* Daily Standup, Iteration Planning and Unit Testing. Most notable is the increasing use of Kanban (24%). *Respondents were able to select multiple options.

A	Daily Standup	N	Story Mapping
B	Iteration Planning	O	Digital Taskboard
C	Unit Testing	P	Pair Programming
D	Release Planning	Q	Collective Code Ownership
E	Burndown	R	Automated Acceptance Testing
F	Retrospectives	S	Kanban
G	Continuous Integration	T	Onsite Customer
H	Automated Builds	U	Continuous Deployment
I	Velocity	V	Analog Taskboard
J	Coding Standards	W	Agile Games
K	Refactoring	X	Cycle Time
L	Test-Driven Development TDD	Y	Behavior-Driven Development BDD
M	Open workarea		

Bar chart:
A 78%
B 74%
C 70%
D 65%
E 64%
F 64%
G 54%
H 53%
I 52%
J 51%
K 48%
L 38%
M 38%
N 35%
O 32%
P 30%
Q 28%
R 25%
S 24%
T 24%
U 24%
V 22%
W 15%
X 12%
Y 9%

LEADING CAUSES OF FAILED AGILE PROJECTS

Most respondents said none of their agile projects would be considered unsuccessful (16%). Of those with failed agile projects, most said it was due to either a lack of experience with agile methods (11%) or not understanding the broader organizational change required (11%).

None of our agile projects failed	16%
Don't know	13%
Lack of experience with agile methods	11%
lack of understanding of broader org change required	11%
Company philosophy or culture at odds with agile values	9%
External pressure for waterfall	8%
New to agile; haven't completed a project	7%
Lack of mutual trust between business and development	6%
Lack of cultural transition	6%
Insufficient training	5%
Unwillingness of team	5%
Lack of management support	5%

BARRIERS TO FURTHER AGILE ADOPTION

For over half of respondents, the inability to change their organization's culture was the biggest problem. Budget constraints had the lowest impact on further adoption (14%).

Ability to change organizational culture	52%
Availability of personnel with right skills	40%
General resistance to change	39%
Management support	34%
Project complexity	30%
Confidence in ability to scale	27%
Customer collaboration	26%
Perceived time to transition	14%
Budget constraints	14%
None	12%

GREATEST CONCERNS ABOUT ADOPTING AGILE

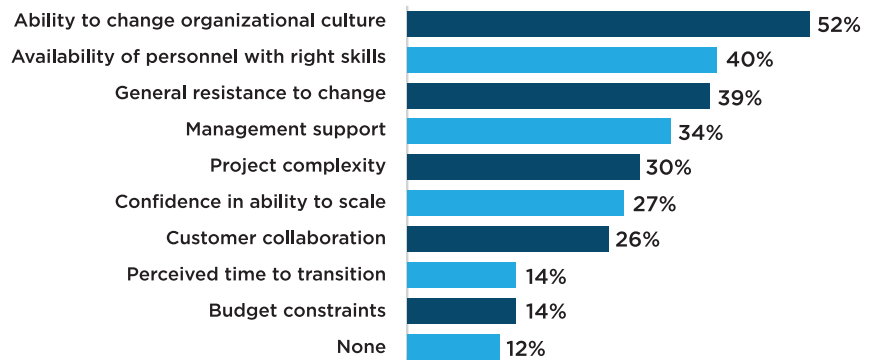The most common concerns listed by respondents when they were considering deploying agile were a loss of management control (33%), lack of upfront planning (33%) or management opposition (32%).

*Respondents were able to select multiple options.

Lack of up-front planning	33%
Loss of management control	33%
Management opposition	32%
Lack of documentation	30%
Lack of predictability	28%
Lack of engineering discipline	25%
Dev team opposed to change	23%
Quality of engineering talent	16%
Reduced software quality	15%
Regulatory compliance	14%
Inability to scale	14%
No concerns	14%
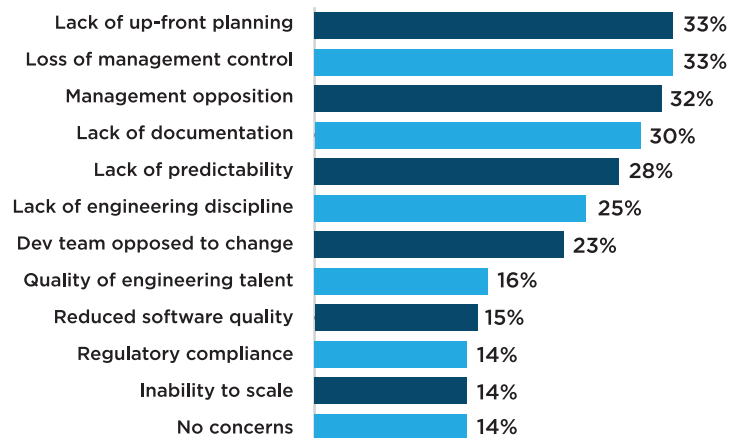
FUTURE AGILE IMPLEMENTATIONS

Only 8% said they do not plan to implement agile methods on future projects.

59% YES   **33%** DON'T KNOW   **8%** NO

REASONS FOR ADOPTING AGILE

The top 3 reasons* respondents cited for adopting agile were to **accelerate time to market, increase productivity,** and to more easily **manage changing priorities**:

*Respondents were able to select multiple options.

5%

Additionally, an increasing focus on customer requirements and market needs were common factors leading to agile adoption.
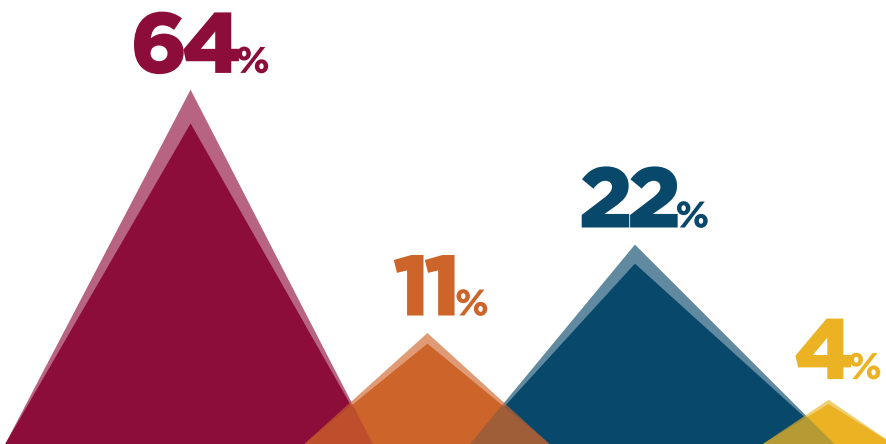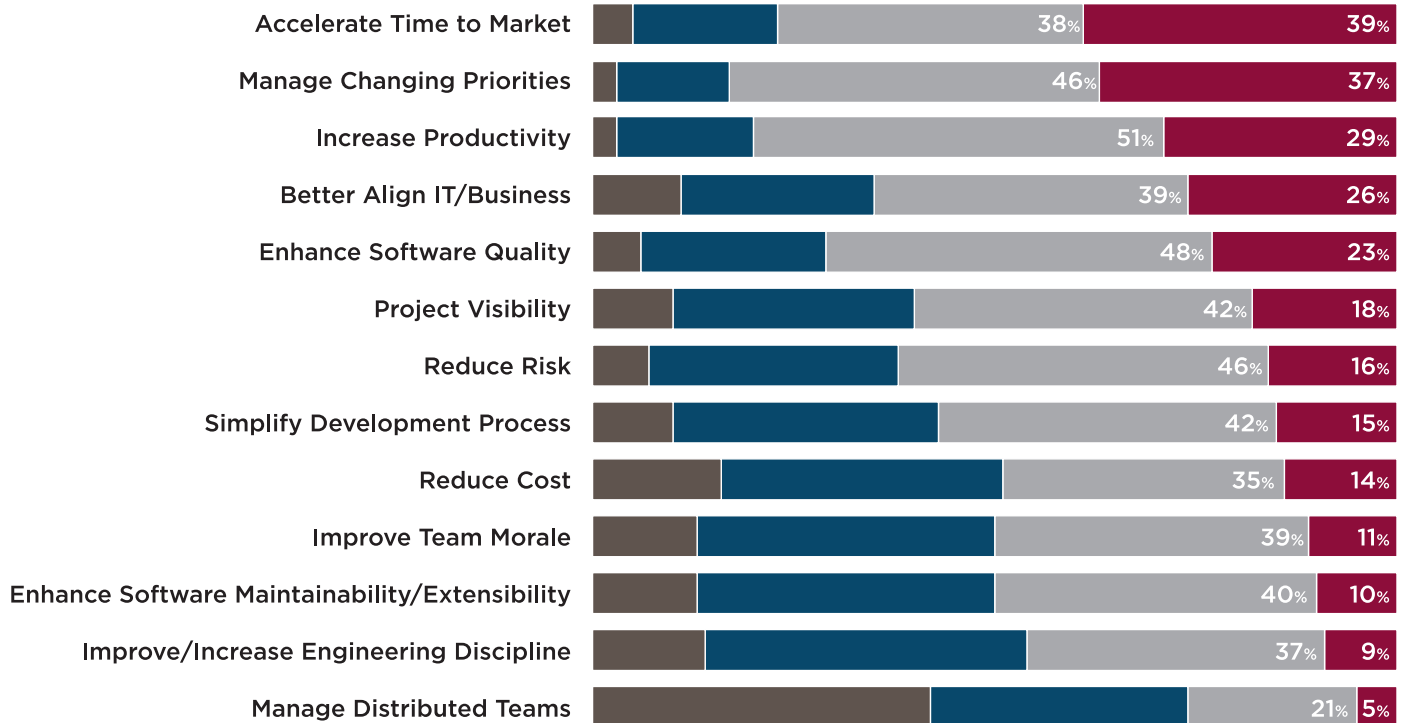
● Not Important at All ● Somewhat Important ● Very Important ● Highest Important

Reason	Very Important	Highest Important
Accelerate Time to Market	38%	39%
Manage Changing Priorities	46%	37%
Increase Productivity	51%	29%
Better Align IT/Business	39%	26%
Enhance Software Quality	48%	23%
Project Visibility	42%	18%
Reduce Risk	46%	16%
Simplify Development Process	42%	15%
Reduce Cost	35%	14%
Improve Team Morale	39%	11%
Enhance Software Maintainability/Extensibility	40%	10%
Improve/Increase Engineering Discipline	37%	9%
Manage Distributed Teams	21%	5%

64%
11%
22%
4%

▲ **FASTER** TIME TO COMPLETION
▲ **SAME** TIME TO COMPLETION
▲ **NOT YET** COMPLETED AN AGILE PROJECT
▲ **SLOWER** TIME TO COMPLETION

REASONS FOR ADOPTING AGILE

75% of respondents felt that agile projects were the same or faster to completion than previous non-agile ones. More of this year's respondents said they haven't yet completed a project. Fewer respondents this year said agile projects were 'slower' to completion.

BENEFITS OBTAINED FROM IMPLEMENTING AGILE

Prior to adoption, respondents said **productivity** and **time to market** ranked as their top reasons to adopt agile. But experienced agile users said actual benefits were primarily **project visibility (77%)** and the ability to **manage changing priorities (84%)**. [see Reasons for Adopting Agile on prior page]

There continues to be an increasing percentage of respondents who do not know the benefits of agile, or have not realized substantial benefits, especially in the areas of managing distributed teams and cost reduction.

● Don't Know ● Got Worse ● No Benefit ● Got Better

Benefit	Got Better	No Benefit
Ability to manage changing priorities	84%	6%
Improved project visibility	77%	5%
Increased productivity	75%	11%
Improved team morale	72%	13%
Faster time-to-market	71%	15%
Better alignment between IT & Business Objectives	68%	17%
Enhanced software quality	68%	17%
Simplify development process	68%	16%
Reduce risk	65%	19%
Improved/increased engineering discipline	62%	21%
Enhanced software maintainability/extensibility	60%	23%
Reduce cost	49%	28%
Manage distributed teams	41%	35%

84% of respondents said implementing agile improved their ability to manage changing priorities.

77% said agile improved their project visibility to some degree.

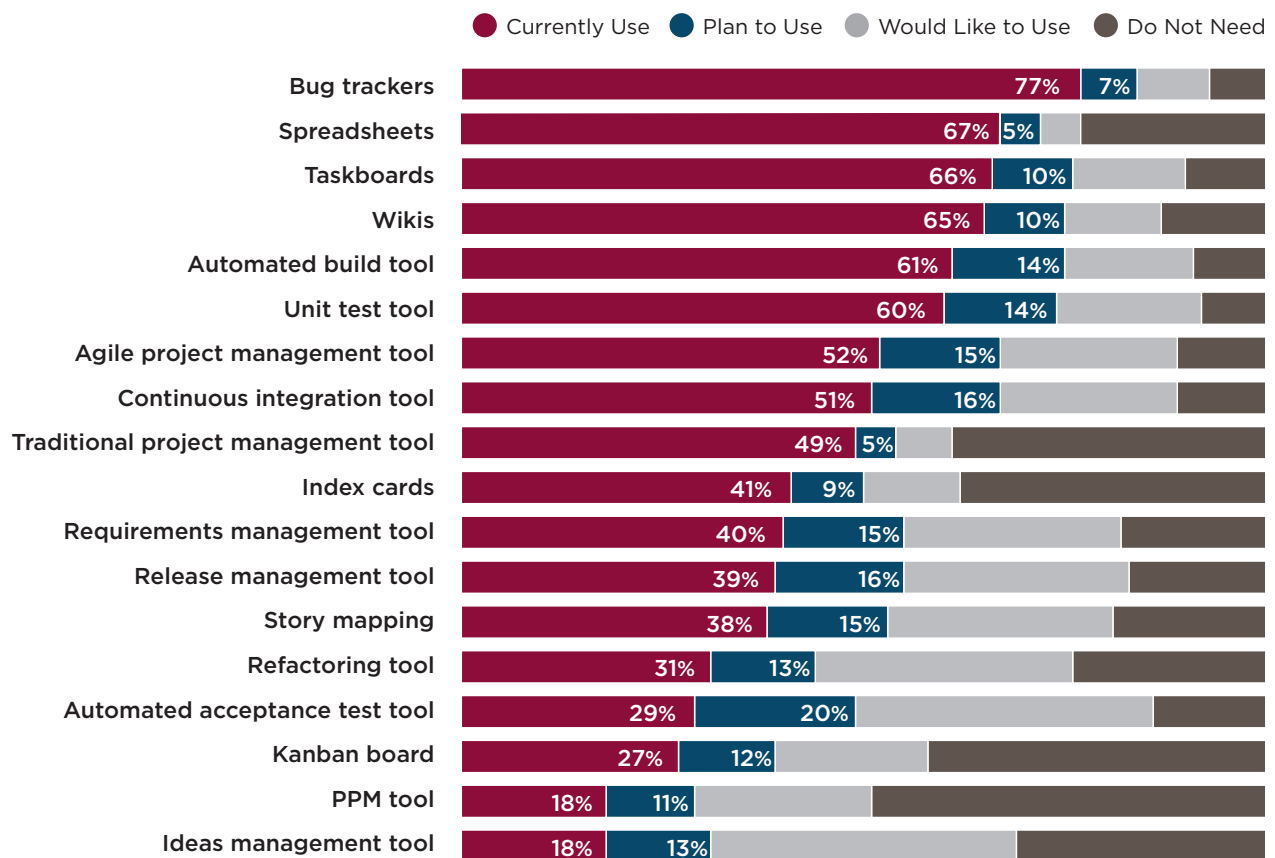**¾** of respondents said that at least half their agile projects were successful.

OUTSOURCED DEVELOPMENT PROJECTS

The number of projects being outsourced has risen slightly. When we look at those who do outsource, 77% are currently using agile methods on those projects (or plan to in the future). Thirty-one percent said they do now and will continue to do so, while 17% of those not doing it say they plan to in the future.

TOOLS

AGILE TOOL USES & PREFERENCES

Respondents currently use a variety of agile tools; the most common were bug trackers (77%), spreadsheets (67%), taskboards (66%) and wikis (65%). Interestingly, the tool **least** used today (17%) is also the **most desired** (38%) tool of the future – Ideas Management Tool. Realistically, however, respondents plan to implement Automated Acceptance (20%), Release Management (16%), and Continuous Integration (16%) tools.

● Currently Use   ● Plan to Use   ● Would Like to Use   ● Do Not Need

Tool	Currently Use	Plan to Use
Bug trackers	77%	7%
Spreadsheets	67%	5%
Taskboards	66%	10%
Wikis	65%	10%
Automated build tool	61%	14%
Unit test tool	60%	14%
Agile project management tool	52%	15%
Continuous integration tool	51%	16%
Traditional project management tool	49%	5%
Index cards	41%	9%
Requirements management tool	40%	15%
Release management tool	39%	16%
Story mapping	38%	15%
Refactoring tool	31%	13%
Automated acceptance test tool	29%	20%
Kanban board	27%	12%
PPM tool	18%	11%
Ideas management tool	18%	13%

ITERATION LENGTH

57% of most respondents had iterations of two weeks or less.

11% 1-7 Days

46% 8-14 Days

29% 15-21 Days

14% 22-30 Days

SPECIFIC AGILE TOOLS USED

The most common software tools used continue to be standard office productivity tools such as Excel (61%), followed by specialized tools like VersionOne (37%), Microsoft Project (36%) and JIRA (35%). NOTE: Previously vendors "X" and "Y" requested not to be identified in State of Agile Surveys. Respondents were able to select multiple options.

Tool	Percentage
Excel	61%
VersionOne	37%
Microsoft Project	36%
JIRA/Greenhopper	35%
In-House/Homegrown	22%
Google Docs	22%
Microsoft TFS	20%
HP Quality Center	19%
Vendor Y	16%
Bugzilla	14%
IBM Rational Team Concert	14%
IBM ClearCase	9%
Vendor X	5%
Pivotal Tracker	5%
Mingle	4%
XPlanner	3%
LeanKit	2%
Target Process	2%
CA Agile Vision	1%