

The 2015 State of Scrum Report

How the world is successfully
applying the most popular Agile
approach to projects

EXECUTIVE SUMMARY

In February 2015, Scrum Alliance® surveyed almost 5,000 people about their use of Scrum. The survey respondents make up a diverse group, representing 108 countries and more than 14 industries. They reflect a range of functional areas, including IT software development, product development, operations, human resources, executives, and sales and marketing. Most have a technology slant, with 44% working in software development and 33% in IT. And they're an Agile-savvy group, involved in an average of 4 Agile projects in the last 12 months.

From the survey results, we see that Scrum is becoming an increasingly popular and in-demand framework. In fact, nearly half the respondents report that Scrum is being used 50% or more of the time in their organizations, and 29% of respondents report it's used much more frequently than that.

The survey uncovered some interesting key findings...findings that not only reflect where Scrum is today but what we can anticipate it will look like tomorrow. These include who is practicing Scrum, how they are practicing it, success levels associated with Scrum, and plans for continuing to use it.

I. WHO IS PRACTICING SCRUM?

Scrum is reaching beyond IT.

Scrum crosses industries, functional areas, and regions around the world.

- Scrum practices are currently in place among 82% of respondents, and another 11% are piloting Scrum.
- IT and software development professionals continue to be the primary users of Scrum, followed by product development and operations professionals. However, other departments use it as well, including research and development, sales and marketing, finance/accounting, human resources, and more.



Functional areas represented:



II. WHY ARE THEY PRACTICING SCRUM?

Delight the customer, delight the business.

In the case of Scrum, what's good for the customer is also good for the business.

- Nearly half the respondents (49%) cite fulfilling customer needs as the highest business priority for Scrum projects. This reflects Scrum's focus on the customer.
- Meanwhile, the second-highest priority is all about the business — meeting budget, time, and scope constraints. This reflects Scrum's focus on delivering shippable increments on time and on budget.

Scrum improves the quality of work life.

- 87% agree that Scrum is improving the quality of work life for their teams.
- Interestingly, 71% also believe that using Scrum causes tension with other parts of the organization not using Scrum.

We expect some tension to be a perennial challenge, just as with any organizational change. After all, Scrum requires a shift in an organization's culture.

III. HOW ARE THEY PRACTICING SCRUM?

Scrum's core practices are largely followed.

Most respondents report that they adhere to core Scrum and standard recommendations for practicing Scrum in terms of using Scrum artifacts and activities and following the recommended roles and team size.

- The average team size is 7 people.
- Most Scrum teams (60%) follow 2-week sprints.
- 81% hold a team Scrum each day.
- 83% conduct sprint planning prior to each sprint.
- 90% use at least some Scrum artifacts, such as the product backlog, sprint backlog, and burn-down chart, with 56% reporting they use these artifacts extensively.
- 81% hold retrospective meetings.

But distributed teams are more prevalent than co-located teams.

- 33% of respondents report their Scrum teams are distributed, versus 26% whose teams are co-located.

And many organizations mix and match approaches and frameworks.

- 42% of respondents report using Scrum exclusively.
- Of those using a combination of practices, 63% practice Scrum alongside Waterfall.
- 43% combine Scrum with Kanban.
- 21% combine Scrum with Lean.



IV. IS SCRUM WORKING?

Scrum success is increasing.

- The overall success rate of projects delivered using Scrum is 62%.
- Teams of the recommended size for Scrum — 4 to 9 members — report the most frequent success, while smaller and larger teams both report less frequent success.

Some challenges remain.

- The most common challenge for respondents — at 52% — is identifying and measuring the success of Scrum projects.
- The second most common challenge — at 46% — is transitioning from a Waterfall-based method to Scrum practices.

V. ROLE OF CERTIFICATION

It's rarely required but commonly recommended.

- 81% of respondents believe certification has helped their Scrum practice.
- Nearly half of respondents' organizations recommend certification, though only 7% require it.
- 59% of ScrumMasters are certified.

It will be interesting to see whether certification will become a priority for organizations as they work to gain an edge over their competitors.

VI. VARIABLES THAT IMPACT SCRUM

The size of an organization impacts implementation and success.

As organizational size increases, some key measures change significantly:

- Sprints get longer, averaging 2.7 weeks for teams of 10+ members.
- The top challenge shifts from measuring Scrum success to transitioning from Waterfall to Scrum.

This may reflect resource constraints in smaller companies and, meanwhile, effort required to change the direction of large entities.

Geographic region matters.

Respondents globally report using Scrum 40%-49% of the time.

- Respondents from North America and Asia report practicing Scrum most often.
- Europe and Australia report the highest Scrum project success rates.
- Organizations in the Middle East and North Africa report the lowest Scrum project success rates.

Organizations may vary by region in their comfort with a flat organizational structure, potentially affecting the full implementation of Scrum.



High-level support is critical.

- Respondents report that senior management sponsorship and support is far and away the most important factor in adopting Scrum.
- Additionally, Scrum projects run through a project management office (PMO) have a 93% success rate.

VII. THE FUTURE OF SCRUM Scrum is expanding beyond software.

Scrum has expanded into a variety of departments within organizations.

- Respondents reveal the use of Scrum in non-IT projects run by operations, production, research and development, and sales and marketing.

The forecast for Scrum is positive.

- 95% of respondents say they plan to continue to use Scrum moving forward.
- Given that Scrum is expanding beyond software, we expect to see not only continued demand but in fact an intense surge in demand for skilled Scrum practitioners and experts.



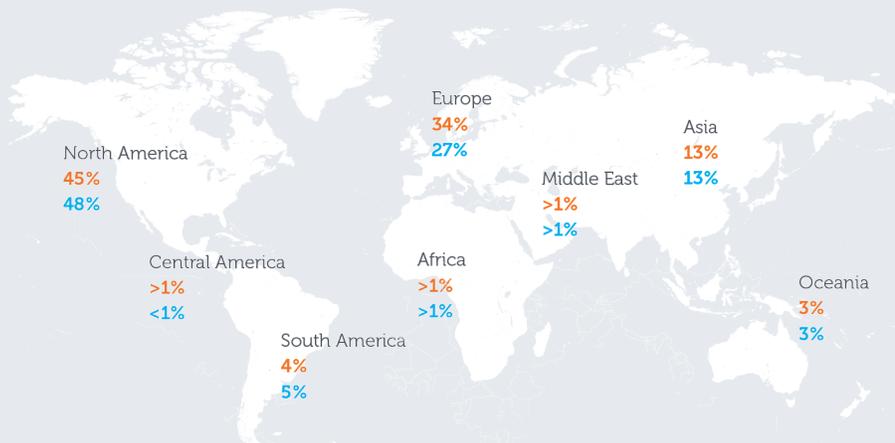
SURVEY RESULTS

SECTION ONE: SURVEY RESPONDENT PROFILE

1. Where are you located?

A total of 4,452 people across 108 countries responded to the survey. Three-fourths are from **North America** or **Europe**.

REGIONS REPRESENTED



The geographic distribution of respondents closely mirrors Scrum Alliance's global membership base.

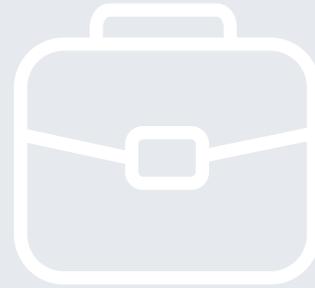
Representation in Scrum Alliance membership base
Representation in State of Scrum survey

TOP 5 COUNTRIES

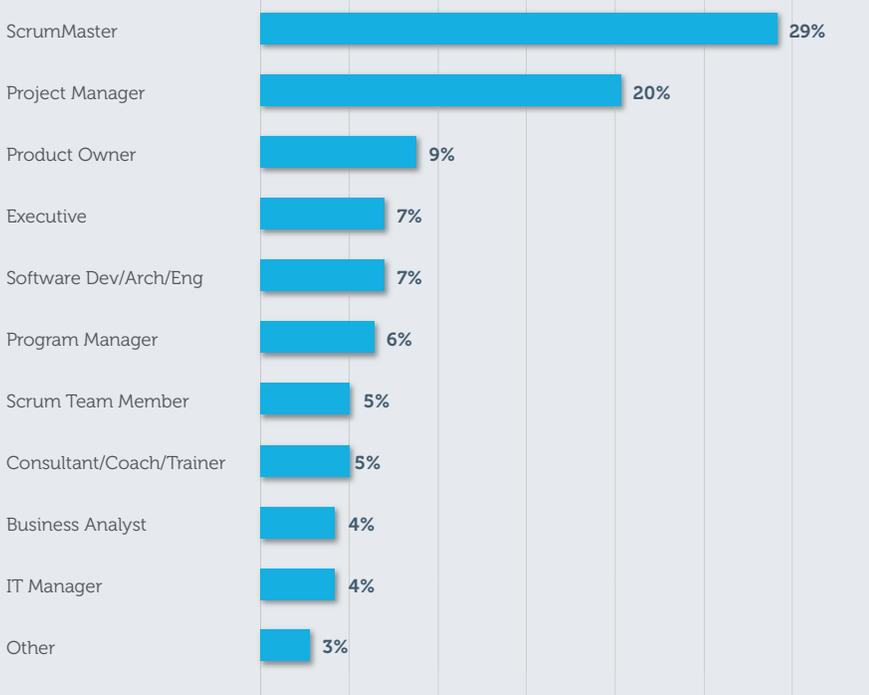


2. What is your role in your organization?

Respondents represent a diverse set of roles, with a preponderance of project managers and ScrumMasters.



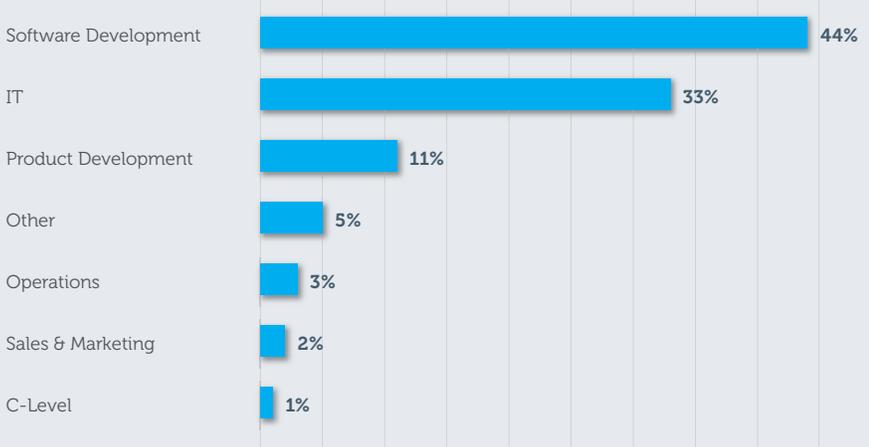
ROLES



3. Which area of your organization do you work within?

Most respondents work in a software development (44%) or IT (33%) function.

RESPONDENT BY FUNCTIONAL AREA

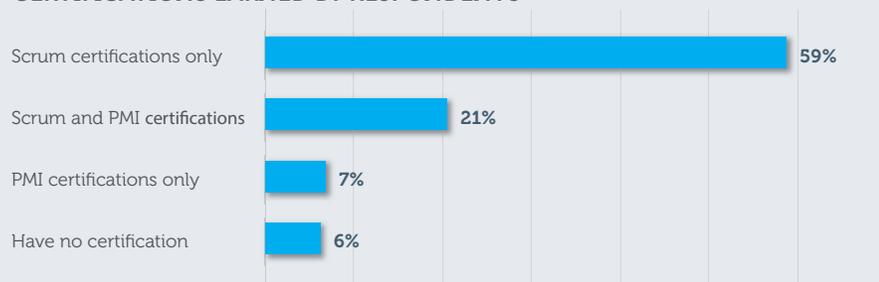


4. What certifications do you have?

(Multiple answers allowed)

Most respondents hold Scrum certifications, and most – at 59% – have earned Scrum certifications exclusively. Another 21% hold both Scrum and PMI certifications.

CERTIFICATIONS EARNED BY RESPONDENTS



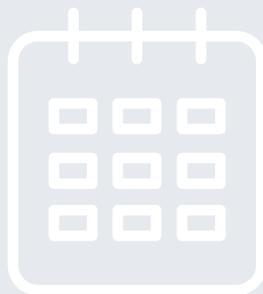
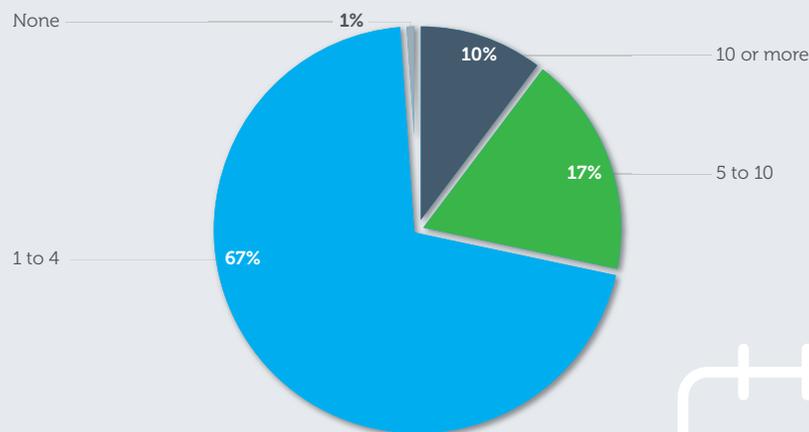
Other certifications included: Prince2 (2%), ITIL (1%), Lean/Six Sigma (1%), Other (7%)

The CSM® certification offered by Scrum Alliance represents three-fourths of earned Scrum certifications.

5. How many Agile projects have you worked on in the last 12 months?

On average, respondents have worked on 4 Agile projects in the last year.

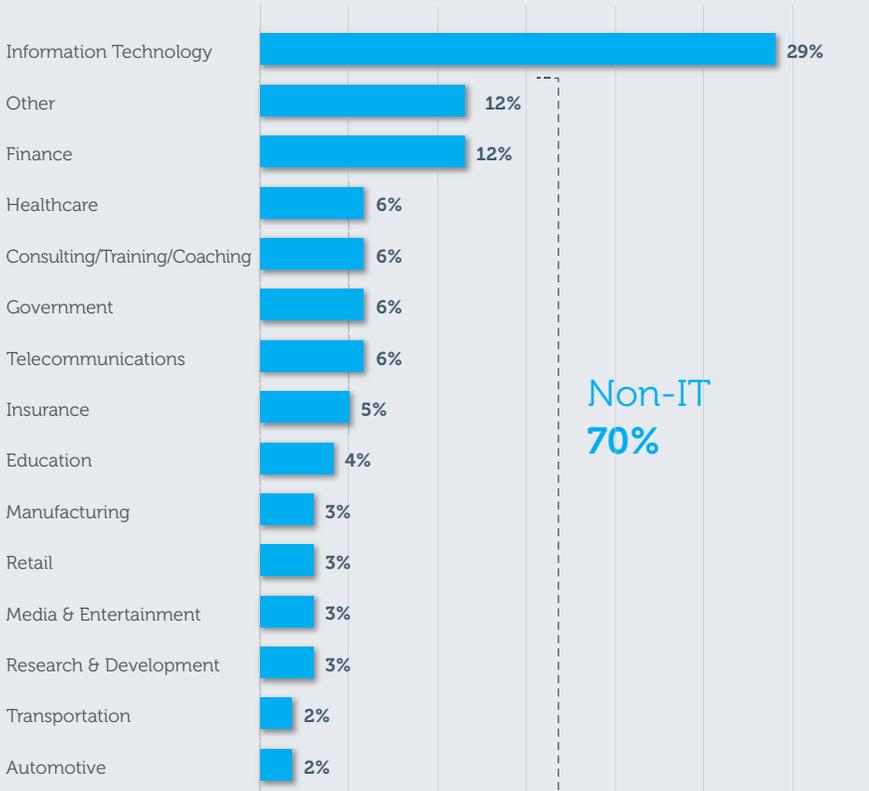
NUMBER OF AGILE PROJECTS PER RESPONDENT



6. In what industry are you employed?

Information technology is the leading single industry for survey respondents, named by nearly 3 in 10.

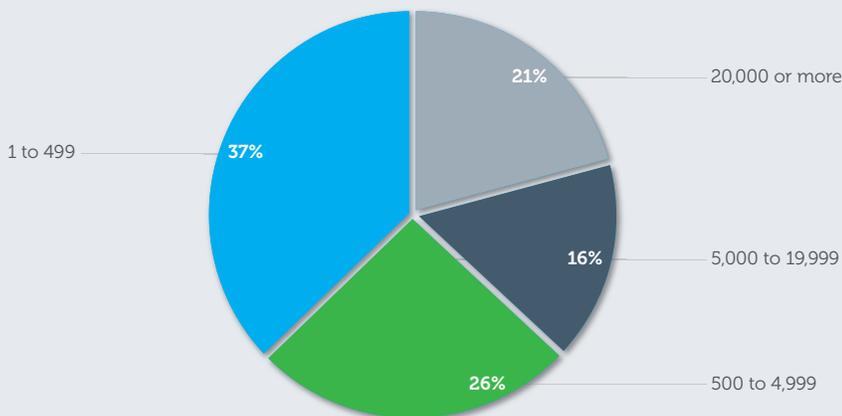
INDUSTRY



7. How many employees work at your organization?

Over 60% of respondents work at companies with fewer than 5,000 employees.

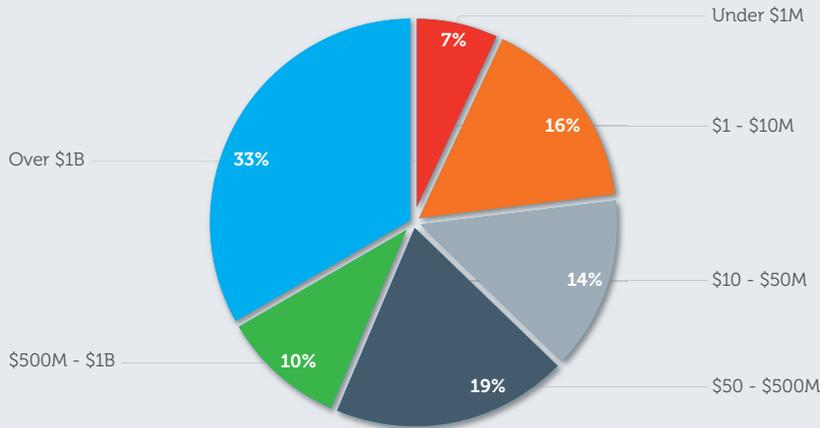
NUMBER OF EMPLOYEES



8. What is your organization's approximate annual revenue (in U.S. dollars)?

62% of respondents work for companies with revenues of \$50M+.

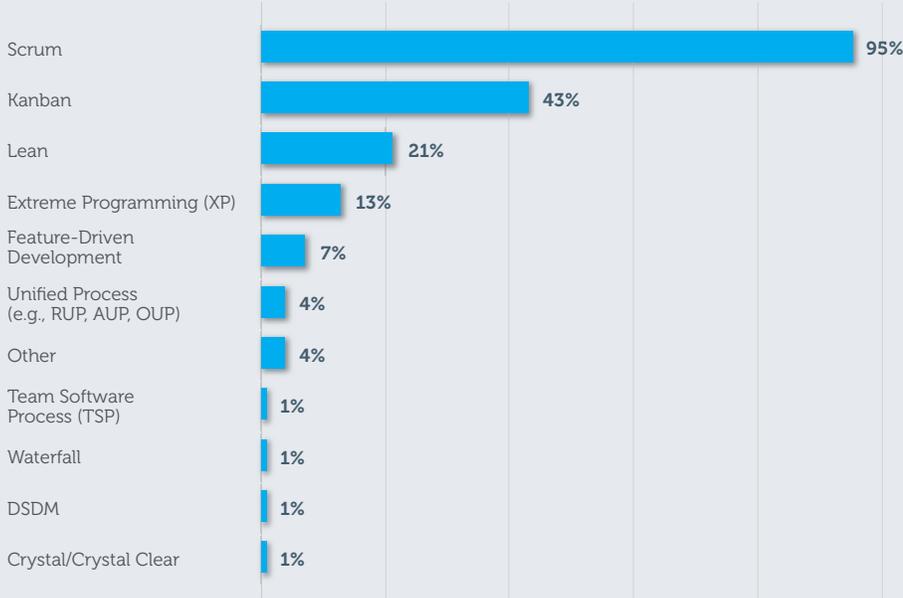
EMPLOYER'S ANNUAL REVENUES



9. What Agile approach is your organization using? (Multiple answers allowed)

Nearly all respondents — 95% — report that Scrum is used as their organization's Agile approach. The two other most common are Kanban and Lean, respectively.

AGILE PRACTICES



54% said they use Scrum in combination with other practices, while 42% reported exclusive use of Scrum.

SECTION TWO: SCRUM ADOPTION

10. How often is Scrum used in your organization?

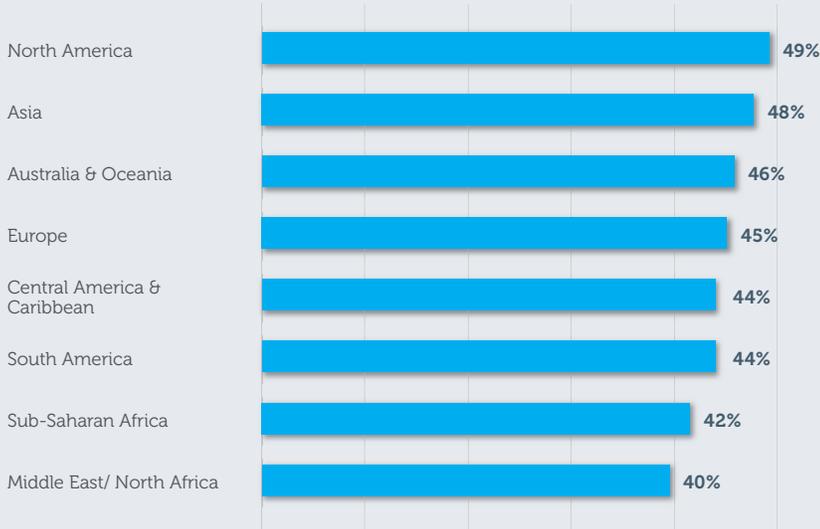
Nearly half of respondents reported that Scrum is being used 50% or more of the time. And close to a third report that Scrum is used even more frequently – 75% or more of the time.

HOW OFTEN SCRUM IS USED



Respondents from North America and Asia reported the highest average frequency of Scrum use – almost 50% of the time.

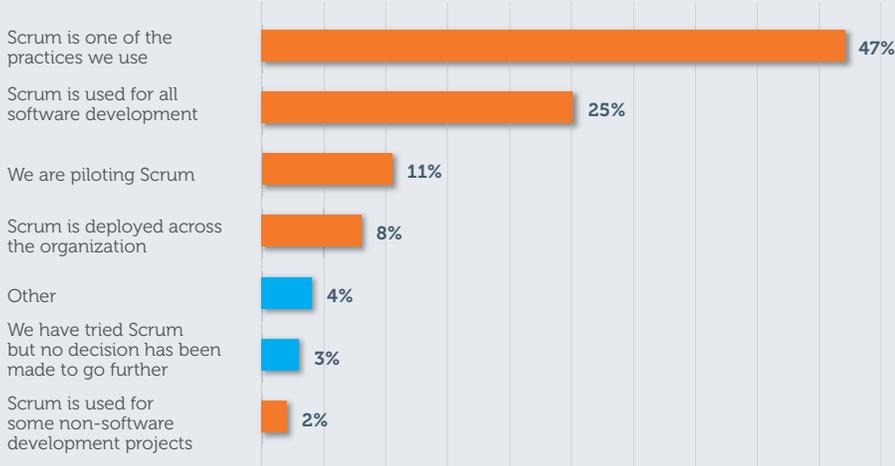
HOW OFTEN SCRUM IS USED BY REGION



11. How is Scrum applied in your organization?

Most respondents use Scrum practices, with 25% using Scrum for all software development.

HOW SCRUM IS APPLIED

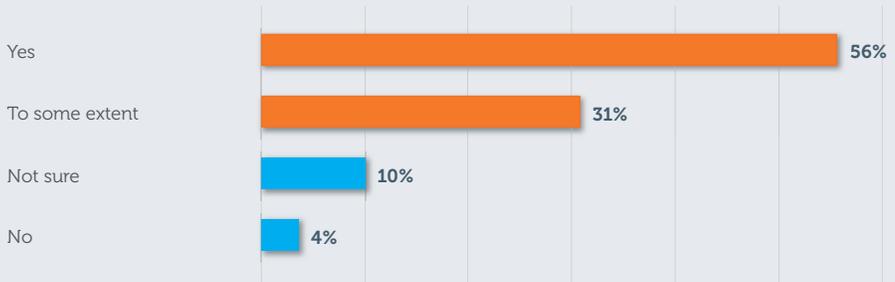


93% use Scrum in some form.

12. Has Scrum improved your team's quality of work life?

The answer is a clear "yes" — 87% of respondents reported that the quality of their team's work life improved with Scrum.

IMPROVEMENT IN QUALITY OF WORK LIFE

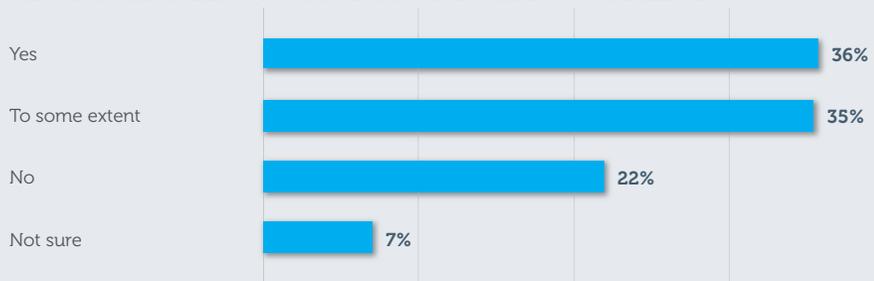


Positive
87%

13. Is there tension between the way Scrum teams are run and the way the rest of your organization is managed?

The majority of respondents see some level of tension between Scrum teams and the rest of the organization.

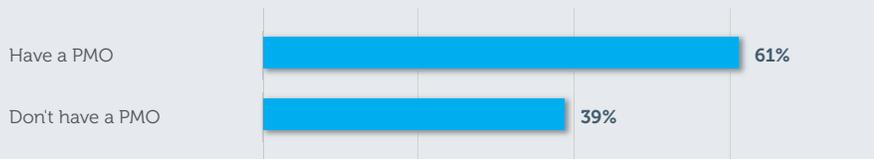
TENSION BETWEEN SCRUM TEAMS AND WIDER ORGANIZATION



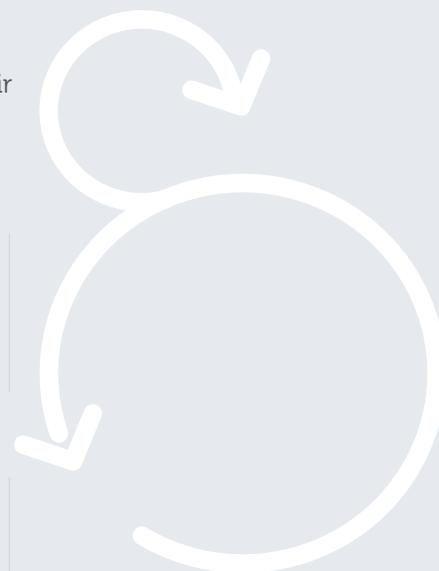
14. If your organization and/or department has a PMO (Project Management Office), are Scrum projects deployed and managed through it?

PMOs are still popular: More than 60% of respondents reported that their organization includes a PMO. The majority of these, 57%, deploy and manage Scrum projects *through* their PMO.

PMO



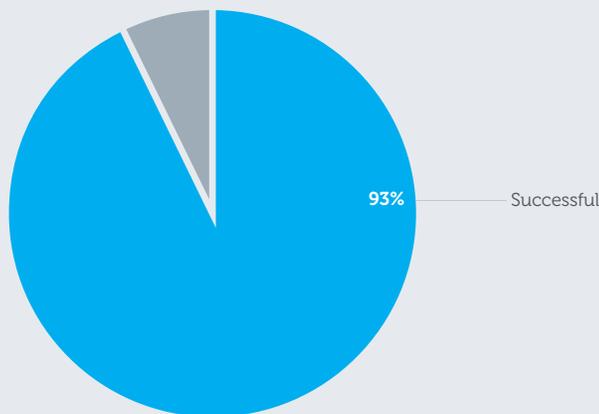
SCRUM PROJECTS DEPLOYED AND MANAGED...



15. If your Scrum projects were deployed and managed through a PMO, how effective and successful were they?

Scrum projects are reported to be highly successful when managed through a PMO.

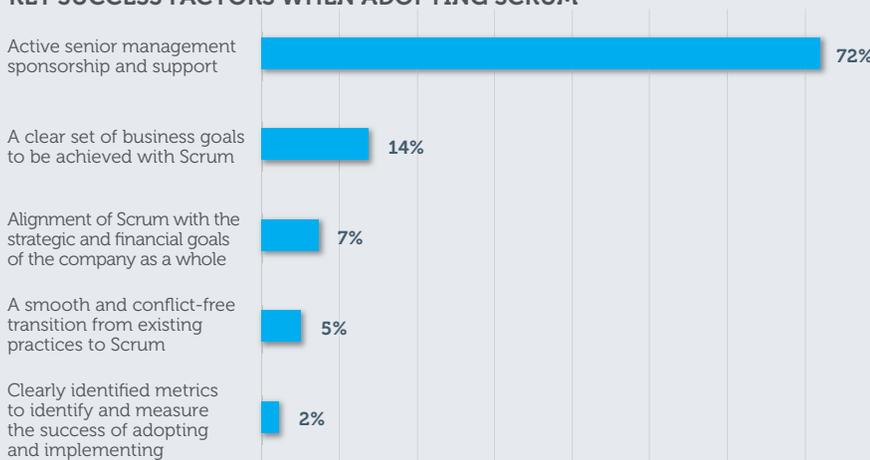
SUCCESS OF SCRUM PROJECTS



16. When your organization was adopting Scrum, which of the following were important?

Senior management support outweighs other factors by at least 5 times when organizations are considering the adoption of Scrum.

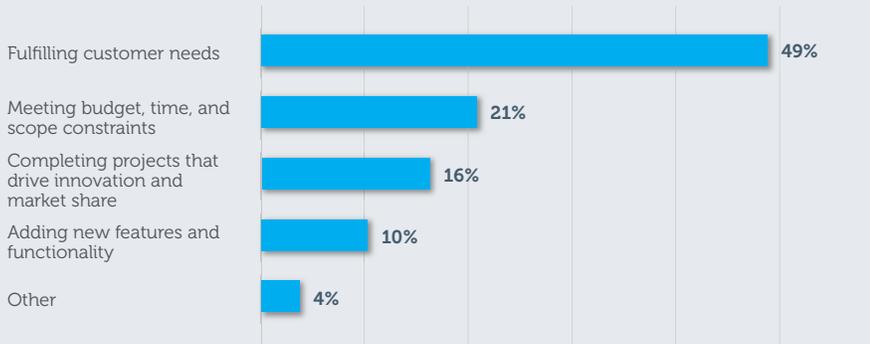
KEY SUCCESS FACTORS WHEN ADOPTING SCRUM



17. What is the highest business priority for Scrum projects?

Respondents cite fulfilling customer needs as the highest business priority. Similarly, they believe their executives consider delivering business value to the customer to be the most important aspect of Scrum-based projects.

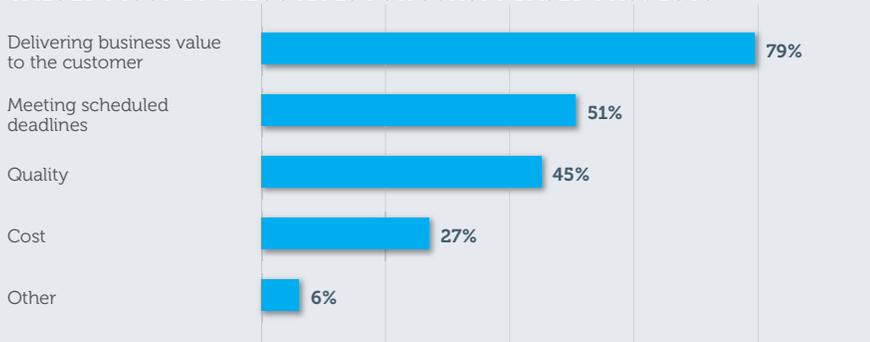
HIGHEST BUSINESS PRIORITY FOR SCRUM



18. Which area would you say is valued most by your organization's executives for delivery of Scrum-based projects?

(Multiple answers allowed)

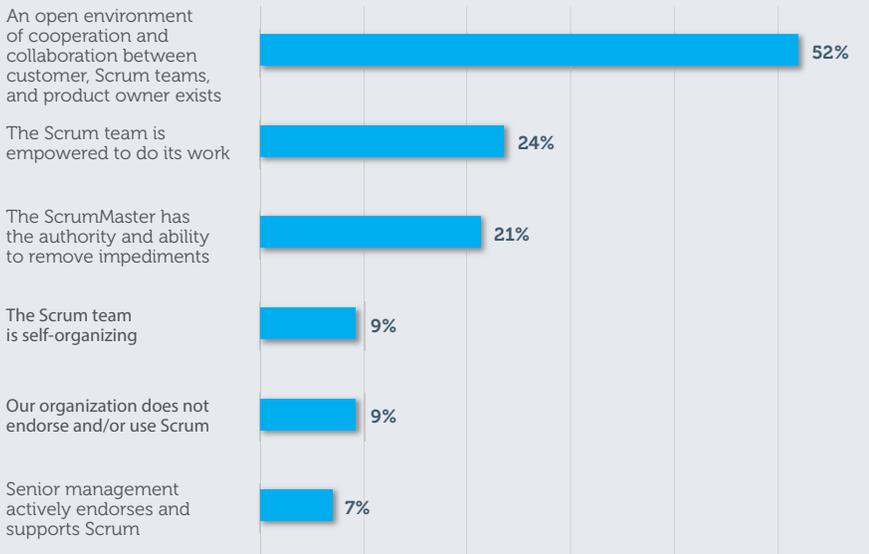
VALUED MOST BY EXECUTIVES FOR SCRUM-BASED PROJECTS



19. How would you describe the culture of your organization in terms of facilitating Scrum? *(Multiple answers allowed)*

More than half the respondents (52%) reported that their Scrum teams have an open and collaborative environment. However, though senior management support is considered critical in Scrum adoption, only 7% of respondents reported that as visible in their organizations.

ORGANIZATIONAL CULTURE

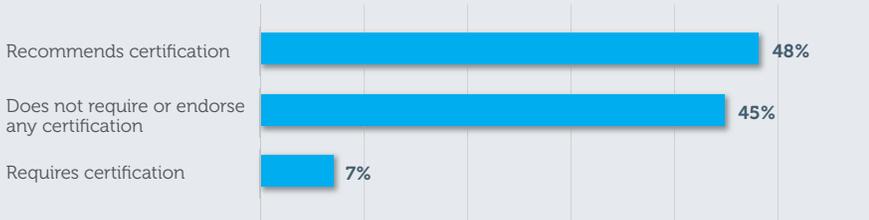


ScrumMasters reported higher levels of Scrum team empowerment, at 27%, and higher levels of authority to remove impediments, at 26%, than did other team members.

20. Does your organization require Scrum or other project management certification?

Almost half of organizations *recommend* certification, but fewer than 10% *require* any certifications.

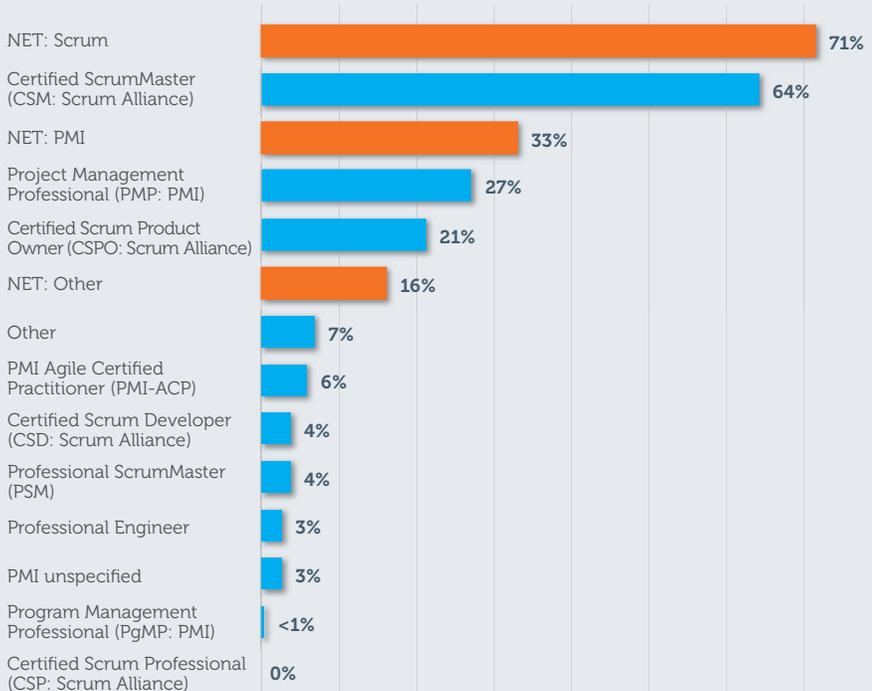
OUR ORGANIZATION ...



21. Which certification(s) does your organization require? (Multiple answers allowed)

If requirements are in place, Scrum Alliance certifications are the primary type required (71%), specifically Scrum Alliance's CSM® and CSPO®. One-third expect PMI certification. Other required certifications are CMMI, ITIL, and Prince2.

CERTIFICATIONS REQUIRED

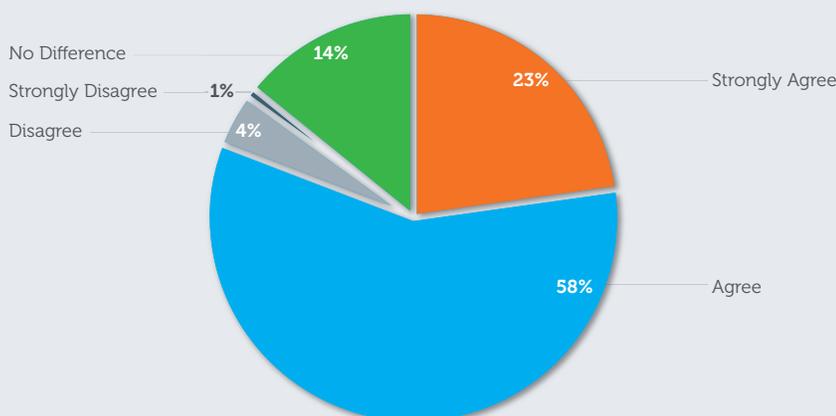


Base: Organization requires certification, N=273

22. Has obtaining certification improved the process and practices of Scrum?

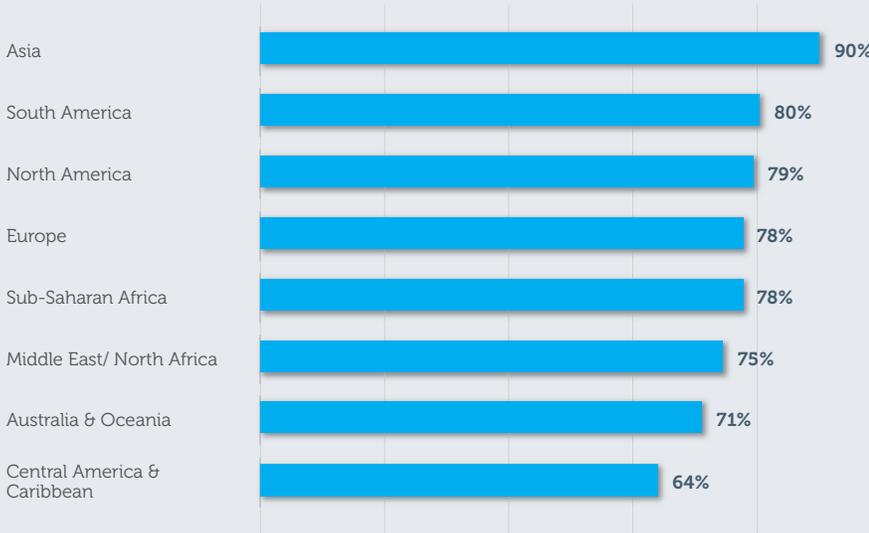
Respondents consider certification useful: 81% strongly agree/agree that it has enhanced their practice of Scrum.

CERTIFICATION IMPROVES SCRUM PRACTICES



Looking globally, respondents from all regions reported that certification improved their Scrum practices. Agreement was particularly strong, at 90%, in Asia.

AGREE OR STRONGLY AGREE



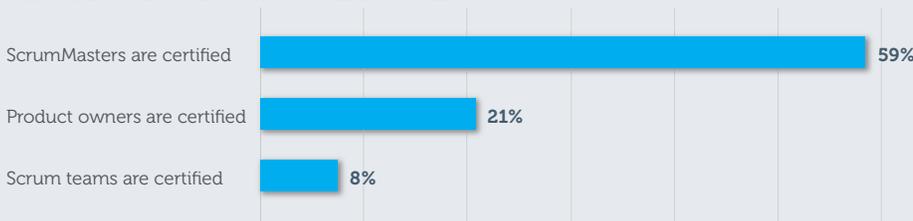
23. Does your organization seek training and coaching?

(Multiple answers allowed)

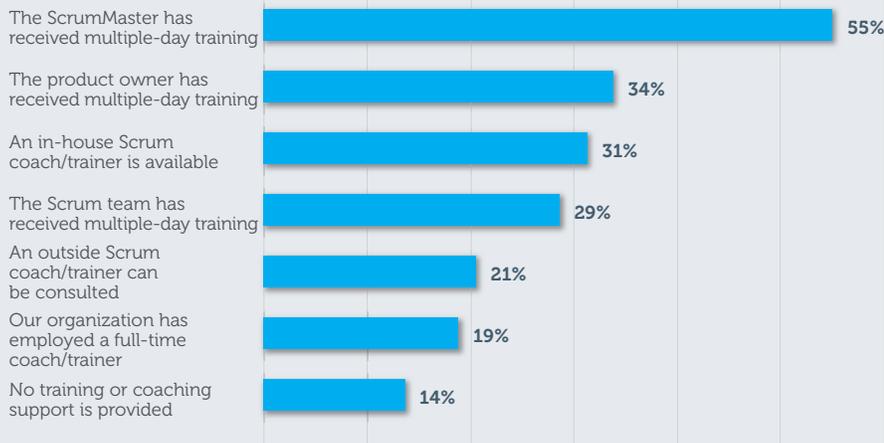
Almost 60% of ScrumMasters received multiple-day training and became certified.

- One-fifth of product owners are certified and one-third have completed multiday training.
- Not quite 1 in 10 team members are certified, though 3 in 10 have received multiple days of training.
- Only 14% of respondents report no available support for training or coaching. There is more opportunity for additional training or coaching in house (31%) than via external sources (21%).

CERTIFICATION BY SCRUM TEAM ROLE



SCRUM TEAM TRAINING

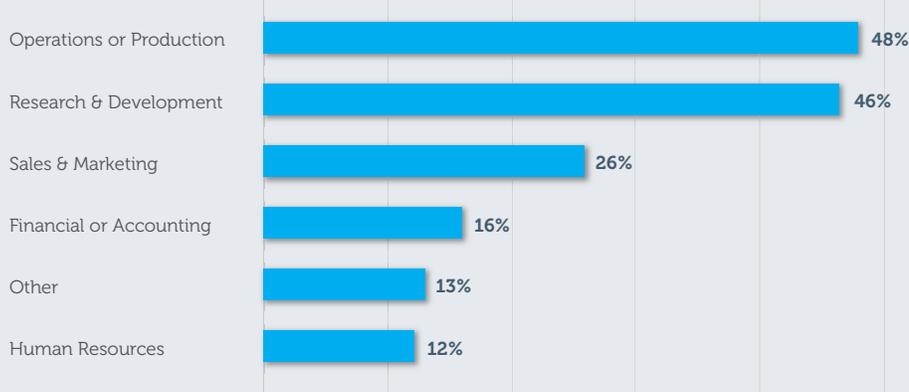


24. Outside of IT, which departmental areas run Scrum projects?

(Multiple answers allowed)

Operations, production, and research & development are the primary non-IT areas using Scrum for projects.

DEPARTMENTS OTHER THAN IT USING SCRUM

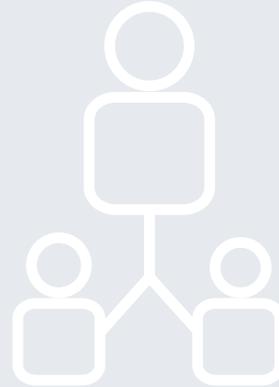
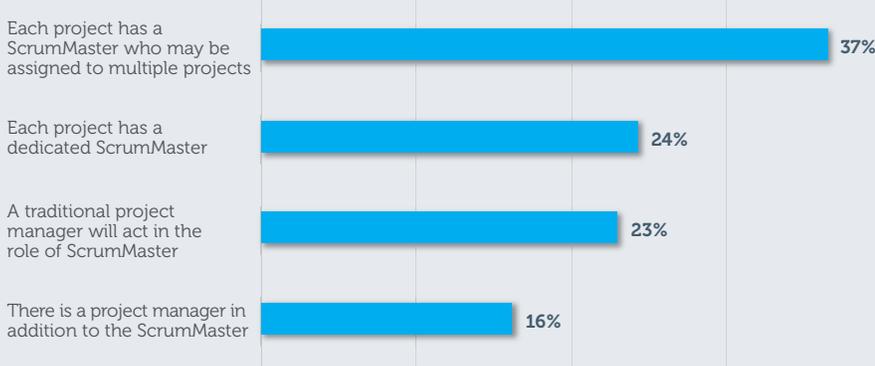


SECTION THREE: SCRUM ROLES & PRACTICES

25. How would you describe the role of the ScrumMaster on your projects?

ScrumMasters are more often assigned to multiple projects than to one specific project. Rarely is a traditional project manager used in conjunction with a ScrumMaster.

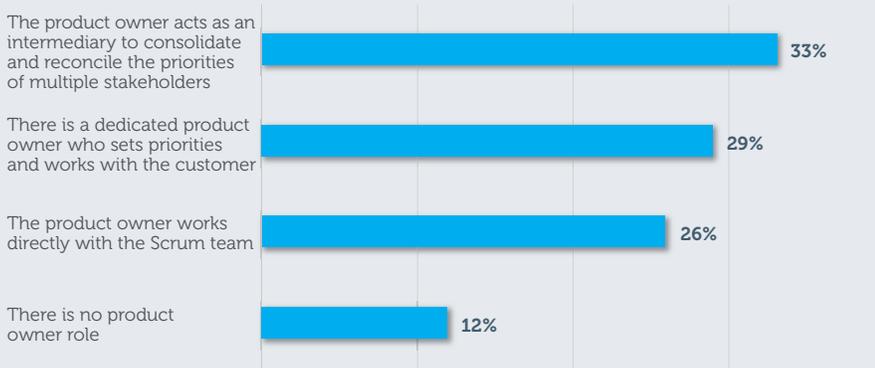
STATE OF THE SCRUMMASTER ROLE



26. How would you describe the role of the product owner on your projects?

The product owner role is the most stable role across organizations. For 29% of respondents, there is a dedicated product owner.

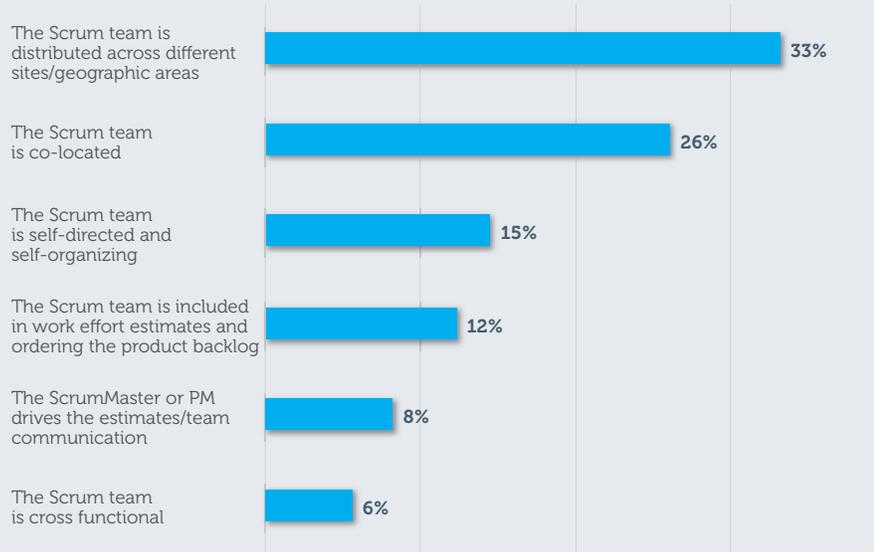
STATE OF THE PRODUCT OWNER



27. How would you describe your Scrum team's communications and organization?

The Scrum team is somewhat more likely to be distributed (33%) than co-located (26%). In neither case is the Scrum team likely to be cross functional.

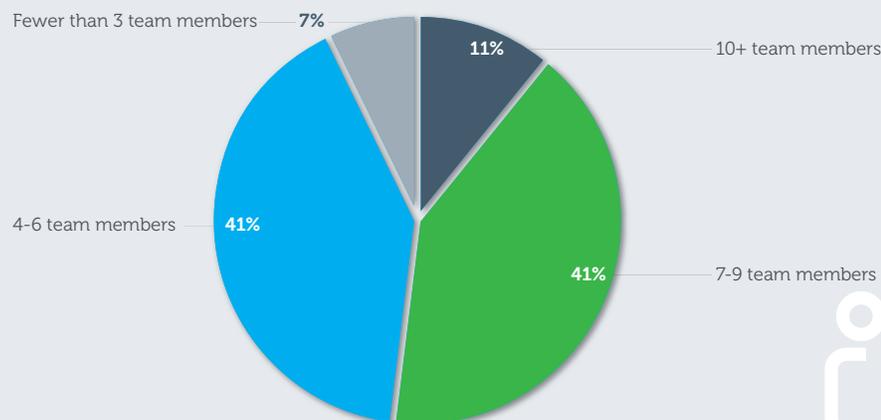
STATE OF THE SCRUM TEAM



28. How many people are typically on the Scrum team?

Scrum teams average 7 members, within the recommended size range. Respondents in IT/software development reported an average team size of 6.6 members.

TEAM SIZE AVERAGE: 7 MEMBERS



In Scrum, it is a general recommendation that teams total 7 members, plus or minus 2.

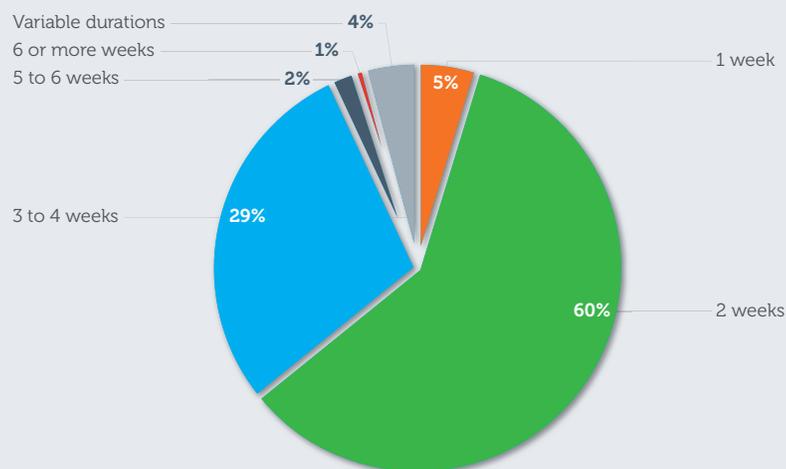


29. How long do your Sprints typically run?

A 2-week sprint is the most common cadence, falling within recommended sprint lengths.

SPRINT LENGTH

Average: 2.4 weeks



Team size seems to have an impact on the actual sprint duration. Smaller teams, of 3 or fewer, are most likely to sprint for 2 weeks.

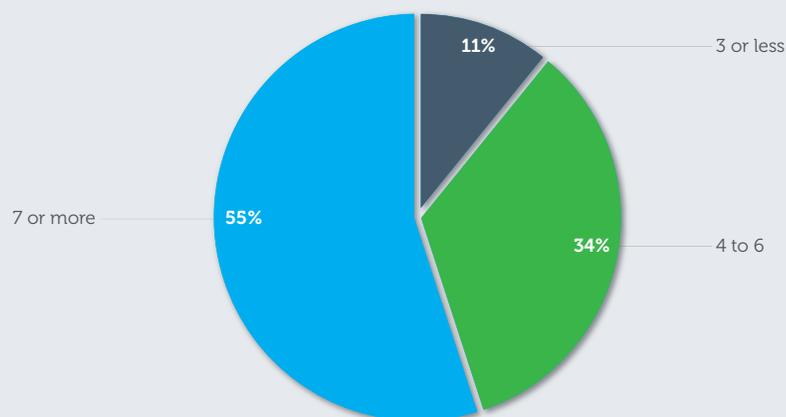
Larger Scrum teams, with 4–9 members, reported slightly longer sprints, averaging 2.4 weeks. Teams with 10+ members reported an average sprint duration of 2.7 weeks.

30. How many sprints typically make up a Scrum project?

More than half of respondents, 55%, run 7 or more sprints per project.

NUMBER OF SPRINTS

Average: 6.8

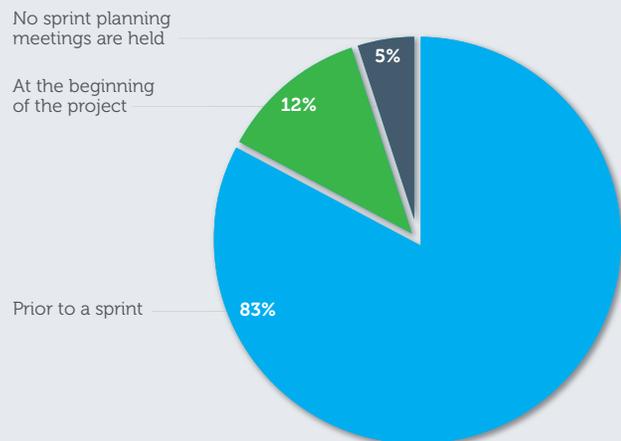


Respondents in product development tend to have more sprints, an average 7.2, followed by IT/software development with an average of 6.9 sprints, followed by operations at 5.7 sprints.

31. When does your team hold sprint planning meetings?

The majority of respondents, 83%, conduct sprint planning prior to the sprint itself.

SPRINT PLANNING MEETINGS

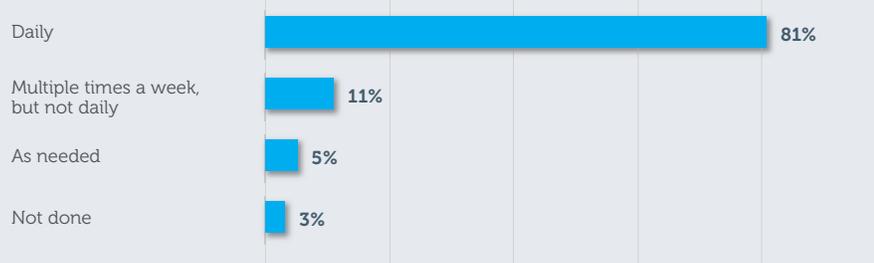


Smaller teams of 3 or fewer are less likely to hold sprint planning prior to a sprint and reported doing this just 55% of the time. That's compared to teams of 4-9 members, which plan prior to a sprint 85% of the time, and teams of 10+, which plan prior to a sprint 82% of the time.

32. Does your team hold Scrum meetings daily?

Over 80% of respondents report holding Scrum meetings each day.

SCRUM MEETINGS

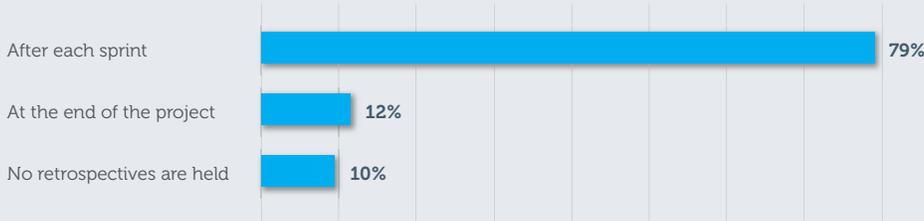


Respondents fulfilling ScrumMaster roles reported a higher incidence of daily Scrum meetings, at 92%, while respondents in operations reported a lower incidence of daily Scrum meetings, at 50%.

33. When does your team hold retrospectives?

Post-sprint retrospectives are the most common, according to 79% of respondents.

RETROSPECTIVES

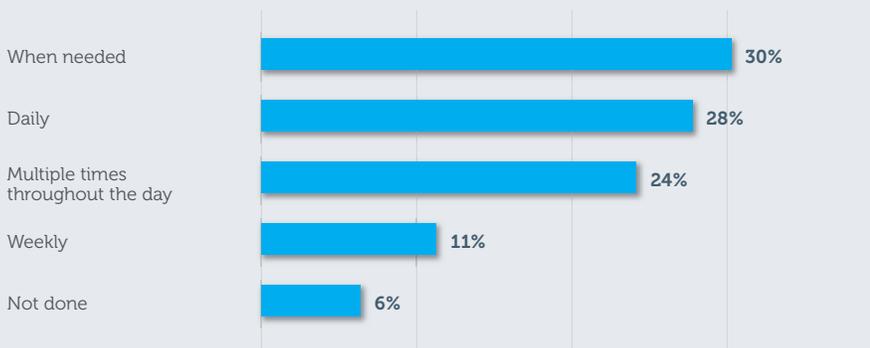


Respondents holding ScrumMaster roles reported a higher overall incidence of retrospective meetings, at 88%, while respondents in operations reported a lower incidence of retrospectives, at 57%.

34. How often does your team engage in testing and continuous integration/build?

The vast majority of respondents, 94%, are doing some level of testing and continuous integration/build.

TESTING AND CONTINUOUS INTEGRATION/BUILD



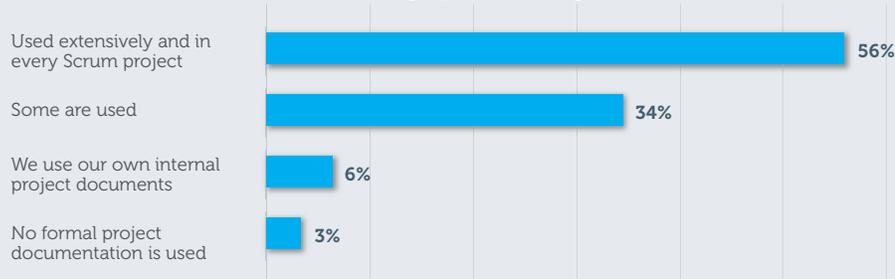
Those in ScrumMaster roles reported a higher incidence (32%) of daily testing and continuous integration/build.

Though Scrum does not define software engineering practices, it is usually used in conjunction with XP, which recommends that testing and continuous integration/build be done as frequently as feasible.

35. How often are Scrum artifacts, such as the product backlog and the sprint backlog used?

Ninety percent of respondents use at least some Scrum artifacts, with 56% reporting that they use Scrum artifacts extensively.

SCRUM ARTIFACTS (Product backlog, sprint backlog, etc.)



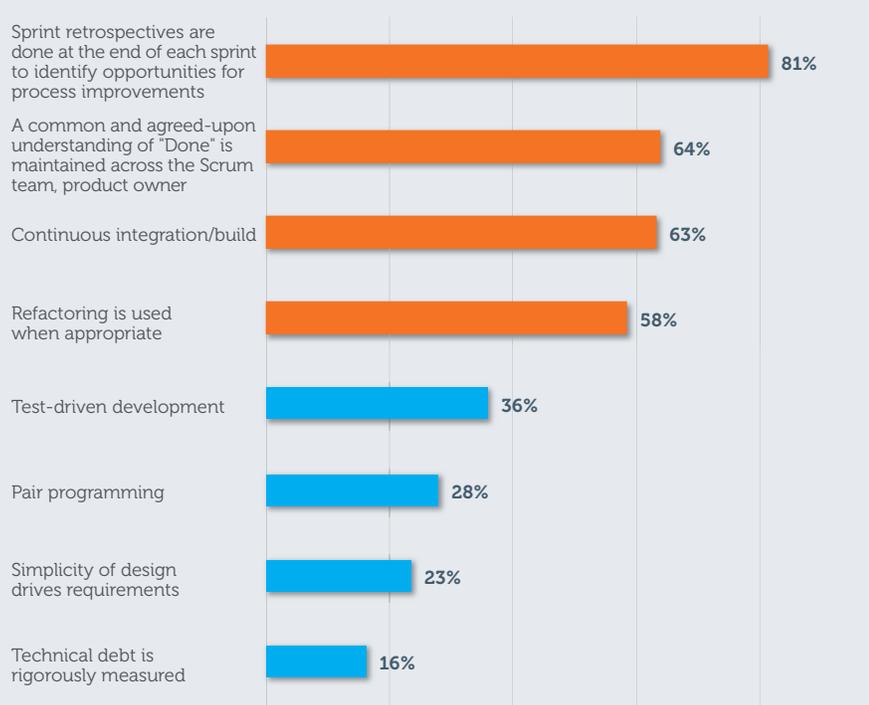
Those in ScrumMaster roles reported a higher extensive use of artifacts, at 64%, while those in operations reported a lower use of extensive use of Scrum artifacts, at 36%.

36. Which of the following do you use in your Scrum projects and processes?

(Multiple answers allowed)

The majority of respondents hold retrospectives, share a common understanding of "Done," and engage in continuous integration/build and refactoring. Fewer than half reported the use of test-driven development, pair programming, simplicity of design driving requirements, or rigorous measuring of technical debt.

USED IN SCRUM PROJECTS AND PROCESSES

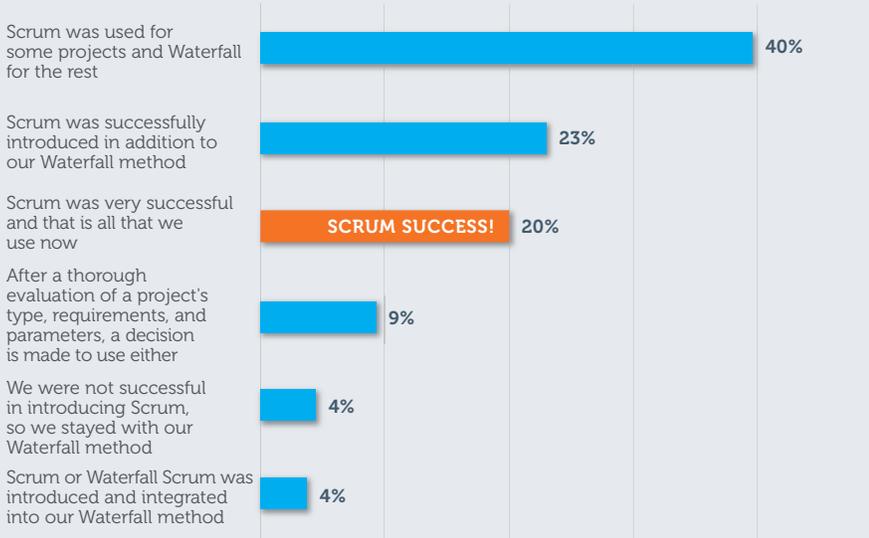


37. If your organization has an existing Waterfall method in place, what was your experience when Scrum was introduced?

Opinions about the success rate of Scrum vary widely depending on the respondent's role, organization size, and other variables. Overall, 20% of respondents reported that Scrum has been very successful at their organization and that it is all they now use.

Scrum finds a foothold in organizations with an existing Waterfall method in place, according to 63% of respondents.

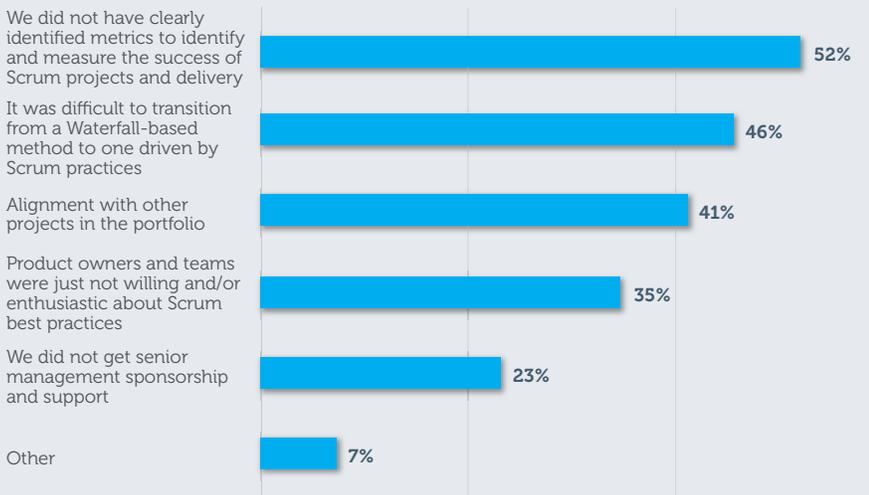
ORGANIZATIONS WITH EXISTING WATERFALL METHOD



38. What were some of the challenges faced by your organization in achieving its goals with Scrum? (Multiple answers allowed)

The biggest struggles are measuring Scrum success and transitioning from Waterfall to Scrum.

KEY CHALLENGES



Smaller organizations find it challenging to find metrics to measure success.

CHALLENGES

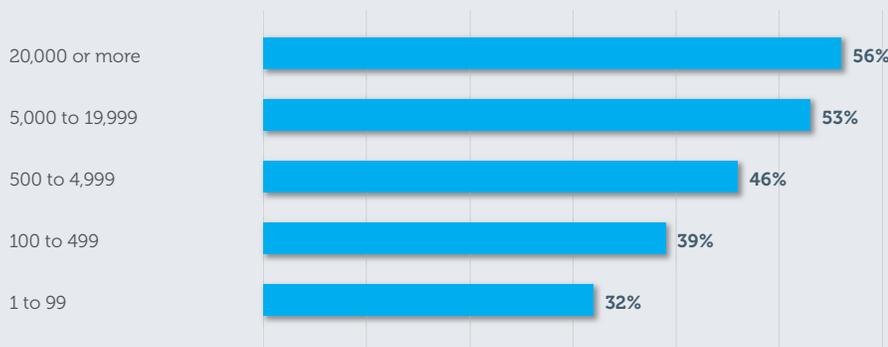
We did not have clearly identified metrics to identify and measure the success of Scrum projects and delivery.



Larger organizations are more concerned about how to handle the transition from Waterfall to Scrum.

CHALLENGES

It was difficult to transition from a Waterfall-based method to one driven by Scrum practices.



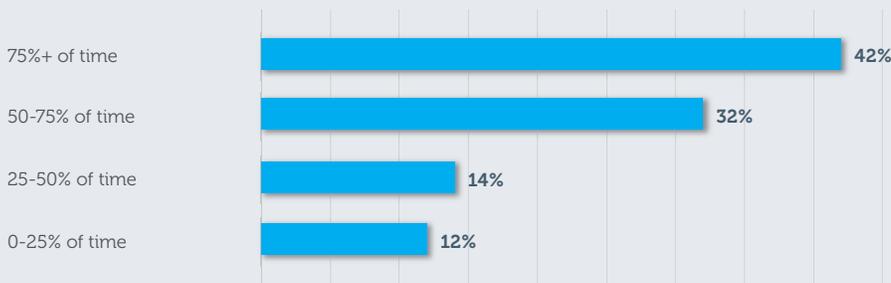
Larger organizations are also the most concerned about how to align Scrum projects with others in their portfolios.

39. Considering all the projects in your organization that were managed using Scrum, what percent of the time would you estimate they were delivered successfully?

Scrum was successfully used more than half the time, according to 74% of respondents.

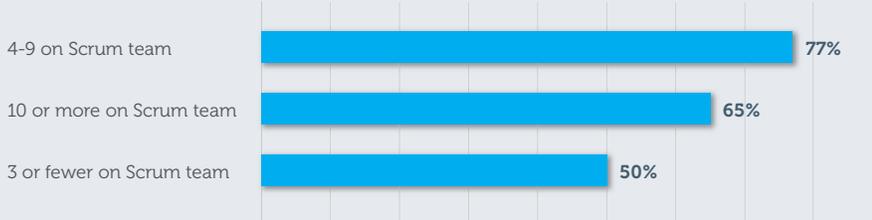
AMOUNT OF TIME SCRUM IS SUCCESSFUL

Average success rate: 62% of the time



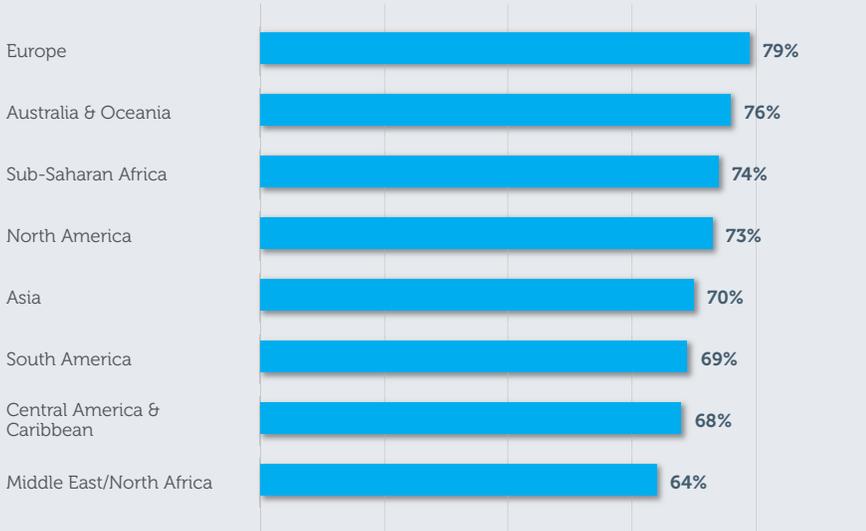
About three-fourths of teams realize success with Scrum 50% or more of the time. Teams of recommended size (4–9 members) reported more frequent success, while smaller teams (1–3 members) and larger teams (10 or more members) reported less frequent success.

AMOUNT OF TIME SCRUM IS SUCCESSFUL BY TEAM SIZE



Respondents in Europe report the highest rate of success with Scrum; 79% of European respondents say Scrum is successful in their organizations 50% of the time or more.

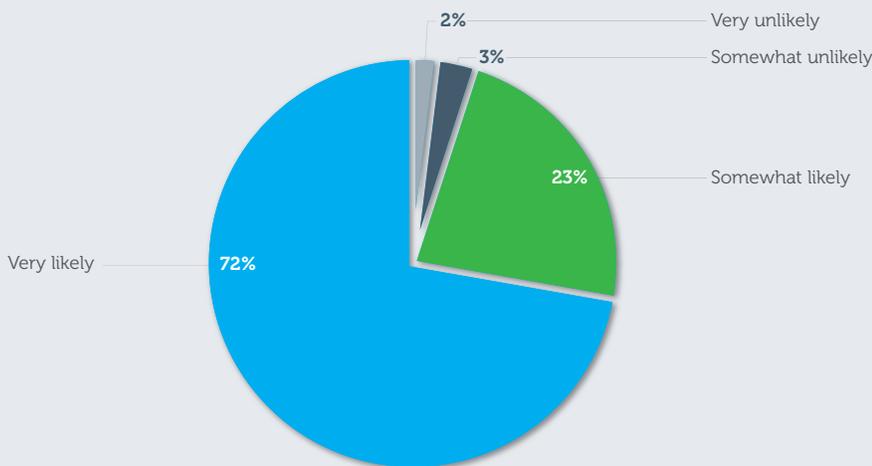
SCRUM IS SUCCESSFUL 50% OF THE TIME OR MORE, BY REGION



40. Do you think your organization is likely to use Scrum further?

The outlook for Scrum is highly favorable. Virtually all consider it likely that their organization will use Scrum in the future.

WILL USE SCRUM FURTHER



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