

from agile development to agile delivery

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Agile development methodology took the IT world by storm when it first emerged nearly 10 years ago. It was a dream-come-true for developers who no longer had to spend weeks gathering project documentation, and instead could focus on what they liked best, writing code. However, most importantly, it held a big promise for business and IT executives who were tired of taking on huge projects only to see them fail, run over budget, miss deadlines and deliver little or no business results. Companies big and small began turning from waterfall and other traditional development methods to agile, hoping to improve business responsiveness, make their applications more adaptable to changing market conditions and enhance the quality of their IT systems.

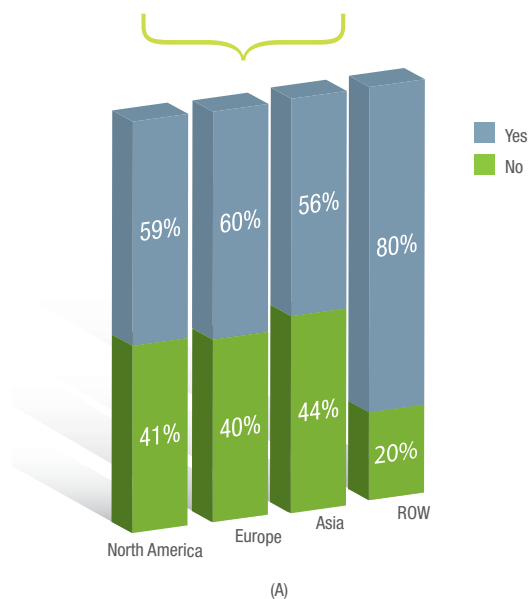
Nevertheless, the road to agile wasn't always easy. Some companies tried to switch all their major development projects to agile only to find out that their IT and QA organizations did not have the required skill set to support the new development methods. Others, concluding that faster development means that formal quality management processes are no longer needed, attempted to assign all QA functions to Research & Development (R&D) engineers, negatively impacting the quality of the finished product. Still others tried to force agile on large, globally distributed teams, without taking into consideration the high degree of communication and collaboration required to work in an agile environment.

Despite many challenges, agile is here to stay, and it is gaining popularity. Our survey and other industry studies indicate that over 60% of all companies have either already adopted agile methods or they are planning to do so in the near future. Companies of all sizes, across all verticals and geographies, are adopting agile for both new and existing projects to give a competitive edge to their business. (See Figure 8.)

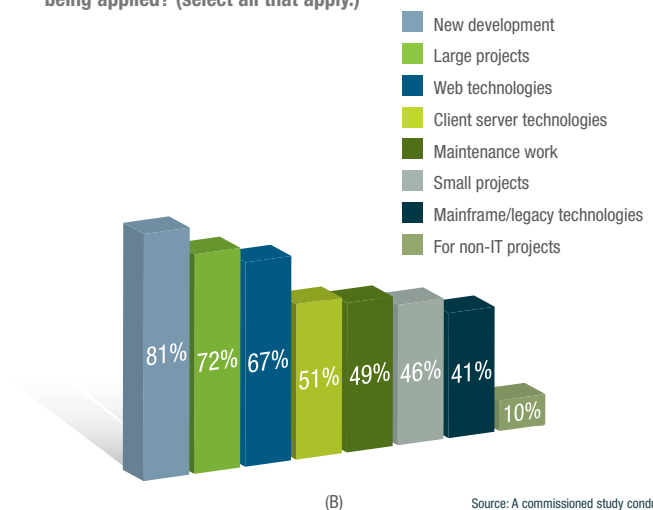
There is also a correlation between the types of IT projects that companies continue to invest in and the growing popularity of agile delivery methods. Most companies are focusing their IT investments on projects that generate immediate ROI, and agile is ideally suited to deliver functional applications fast and with predictable quality.

Q(A): Do you leverage agile development/delivery methods in your company's ALM?

Figure 8: Companies in all industries leverage agile methods across projects and technologies.



Q(B): Where in your organization is agile development being applied? (select all that apply.)



Source: A commissioned study conducted by Forrester Consulting on behalf of HP, April 2010. Base: 113 IT decision makers with insight into budgeted modernization activities currently using agile development approach.

Note: This article is an excerpt from Capgemini Group and HP's [2010-2011 World Quality Report](#).

Based on a survey of 30,000 IT professionals globally, the full report ([download here](#)) features trends and best practices in application development, testing, delivery and management.

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Best practices adopted by successful agile companies include:

1. Set realistic expectations

Agile can help significantly improve application quality, productivity and time-to-market, but it is not a cure-all remedy. Perhaps the most significant benefit of agile is that it provides a much more realistic measure of progress. Instead of gauging the effort, developers are measuring true progress, which brings them closer to the business and makes them more aligned with the stakeholders' expectations.

Survey respondents say that time-to-market is the greatest benefit that their organizations realized by adopting agile. Agile is helping IT teams deliver applications on time and within budget while minimizing rework due to its iterative and predictable nature, greater productivity and faster reaction to change.

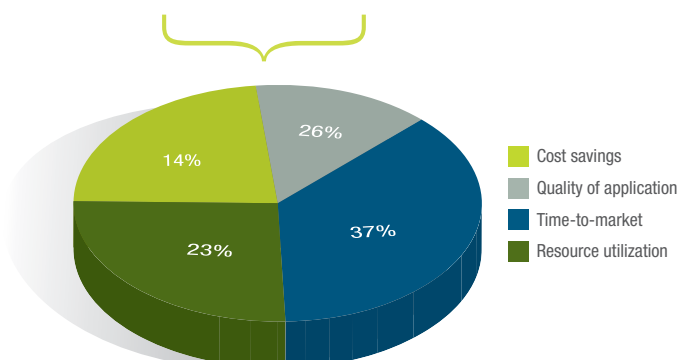
2. Do not ignore quality

Many companies claim that they are moving away from waterfall because they are discovering issues too late in the application development process when it is too costly to do anything about them. Unfortunately when they move to agile, they find themselves falling into the same routine – develop in fast sprints, but still test at the end of an iteration, or even after several iterations.

Quality should be part of every step of any agile development process. Each sprint should be composed of some amount of development and testing. This is the only way to identify issues and project risks earlier in the lifecycle. With the right approach, agile organizations can achieve significant improvements in quality. In fact, surveyed companies perceive quality improvements as the second biggest benefit of agile – behind only time-to-market advancement. (See Figure 9.)

Q: In which areas has your organization seen an improvement as a result of moving to an agile delivery method?

Figure 9: Agile yields significant improvements for IT organizations.



3. Find the right skill set

Agile brings development and testing functions closer together, but it does not automatically turn developers into good testers, or make testers more familiar with the development process. Organizations need to take a closer look at the skill set required by the QA team to effectively support agile methods.

Agile testers need to be more versatile than traditional testers. On the one hand, they must be more technical, more familiar with development practices, and comfortable with using non-traditional test automation tools to validate Graphical User Interface (GUI)-less applications. On the other hand, they need to be close to the business to understand the requirements, work with end-users throughout the project, react quickly to change and tie application quality directly to business value. Because agile teams are typically small (six to twelve people) or a collection of smaller teams (“scrum of scrums”), an agile tester can be compared to someone working in a small company where everyone wears multiple hats. With the right skill set and a strong understanding of all aspects of the business, development and testing, QA can truly make agile an effective and successful method for the company.

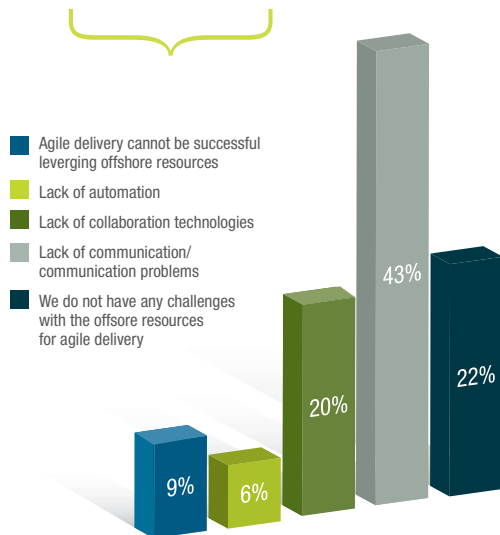
4. Emphasize communication

Some agile “purists” may say that companies cannot have agile when they have distributed teams. In contrast, the survey results confirm that the reality of today’s business is distributed teams, and many of them are successfully adopting agile methods. Nearly half (46%) of all respondents leverage offshore resources in their agile delivery. These results clearly indicate that it is possible to be distributed and be agile. The key is to stay connected. The two biggest challenges when working on agile projects with outsourced partners are poor communication and lack of mutually accepted collaboration technologies. (See Figure 10.) It is our experience that in offshore situations, companies must emphasize the management of cultural and language differences since they often directly contribute to communication problems.

Through proper work planning, team structure, central asset repositories and open communication, distributed teams can achieve agile success.

Q: What is the biggest challenge working with offshore resources for agile delivery?

Figure 10: The biggest challenge when working with outsourced partners is lack of communication and lack of collaboration technologies.



5. Achieve speed through automation

Agile thrives on efficiency. Agile delivery teams need to make their processes as efficient as possible, and this means increasing the leverage of automation frameworks and test optimization techniques such as risk-based testing and orthogonal arrays. Developing and managing requirements, generating test data, storing project assets, building and running tests – all tasks that are run routinely – cannot stay manual without slowing down the process and creating unnecessary burden on the teams. Technologies and techniques that are considered “nice to haves” in the traditional application lifecycle have become necessary enablers of agile success.

Traditionally, test automation in an agile environment was difficult due to lack of application UI. Most available automation tools required a GUI to start building test components and scripts. However, the emergence of the new generation of test automation solutions allows testers to begin automating much earlier in the process, without the need for the UI to be completed. This significantly improves the speed, quality and consistency of agile testing and contributes directly to higher application quality.

6. Organizations may need to find their own, unique form of agile

Agile can be more complicated than traditional development methods, and the complexity is not only about writing code and testing at a faster pace. Agile changes the very way IT interacts with the business. Adopting agile means finding the balance between speed and quality, responsiveness and predictability, embracing change and economies of scale, minimal documentation and accurate reporting.

Many organizations find success in taking the best of traditional methodologies and applying them to their agile projects, creating a unique hybrid model that works for them. Perhaps some testers are more used to gathering requirements than user stories, or specific project teams need more granular reporting to satisfy regulatory compliance. Companies can find an agile method that’s right for them. The main principles of agile – building in small iterations, hands-on communication with the stakeholders, rigorous testing and receptiveness to change – are going to continue to work, even if teams add elements from other methods. The end result will be higher quality applications and greater business value.

For the testing organization, agile represents both an opportunity and a challenge. The majority of surveyed organizations (67%) are not currently using agile-specific testing methods to support agile application delivery, which suggests that the role of the agile tester is still not well defined. For years, testers have been trying to ensure that application quality be considered earlier in the lifecycle. With agile, QA can help make it happen by providing the right skill set, including technical knowledge of the development process and strong business process expertise.

Agile is requiring teams to work with a greater degree of collaboration. It collapses the silos making the entire team feel ownership of the product. Testers no longer have the back-seat role where they are forced to wait until the application is delivered to them. They are actively engaged from beginning to end. Agile is a different way of working. It requires a new level of competency and commitment from the QA organization, because it is not agile development, but rather agile delivery that ultimately makes projects successful.