



Growing High Performance Agile Teams

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Introduction

Organisations adopt Agile and Lean software development methodologies for many reasons, but one of the most important is to gain or maintain their competitive advantage in software delivery, and to be able to get valuable features into the hands of users sooner.

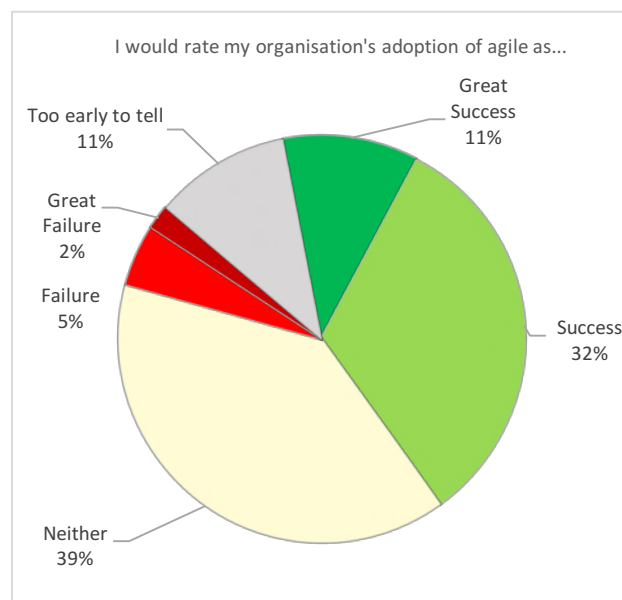
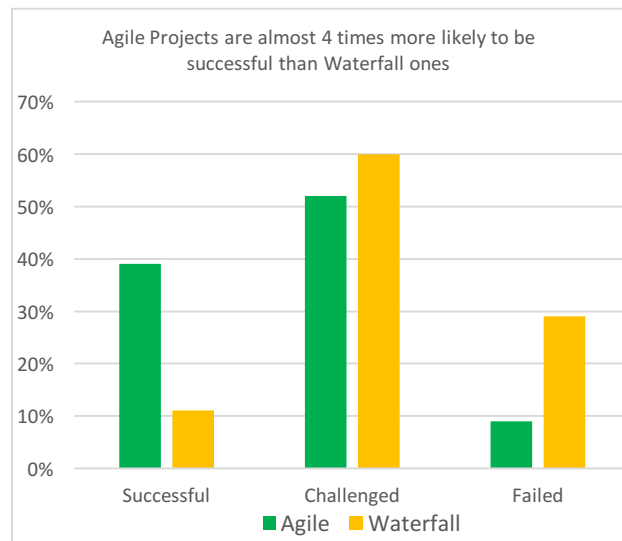
Over recent years, Agile has indeed proved itself to be a significant improvement over Waterfall. The Standish Group's 2015 CHAOS report, studying over 10,000 projects, found that Agile projects are almost 4 times as likely to succeed as Waterfall ones, and 3 times less likely to fail outright.

But despite these impressive figures, many organisations are not satisfied with how agile has worked for them. According to the 2014 Agile Adoption Survey, only 44% of organisations considered their adoption of agile a success, and only about one organisation in ten considered their agile adoption to be a great success.

Why do so many organisations feel that Agile has not delivered on its promises?

For most organisations introducing Agile, the initial focus is squarely on Agile project management processes and practices such as those recommended by the Scrum methodology. Indeed, with a minimum of training, it is not hard to organize a large group of developers into Scrum teams and to name a few Scrum Masters. Likewise, it is not hard to break the delivery calendar into three-week periods and call these sprints, and write requirements as user stories.

However, this is not where the real benefits of Agile lie, and simply following the process tends to produce mediocre results.




Teams that choose to excel can do much more. The 2015 State of DevOps Survey found that high-performing IT organisations deploy 30 times faster, have 60 times fewer failures, and recover 168 times faster than low performing ones. But high performing teams in these organisations do much more than just follow the Scrum process. These teams leverage a powerful cocktail of collaboration and communication, a safe and open culture, and solid technical and automation practices, to produce results that are orders of magnitude better than your average, garden-variety agile team. In the rest of this paper, you will see some of the things that go into the mix.

The stages of growing high performance teams

Teams that adopt Agile practices successfully, and that reap the full benefits of the practices, typically go through a number of phases or levels as their understanding evolves and their experience builds. These levels are outlined here:

Team Belt Level	At this level we see a lot of...	And we see improvements in	
		Fewer Defects	Improved Throughput
Black	Leadership, Aligned Autonomy, Continuous Improvement	90% or better	+200% or better
Red	Continuous Delivery and DevOps	75%	+100%
Brown	More Effective Test Automation	50%	+50%
Blue	BDD Collaboration	30%	+25%
Green	Focus on learning new BDD practices	20%	-5%
Orange	Proficient Agile Project Management practices	10%	10%
Yellow	Focus on ceremonies and process	0%	5%
White	Command and control, blame-game, waterfall	0	Baseline



These levels are about team maturity and shared understanding, rather than about individual skill levels. While having highly skilled individuals on a team is desirable, the effective skill and maturity of a team in any area is not the sum of the skills of the individuals. Maturity has as much to do with fostering a shared understanding, a common alignment around clear business goals and a culture of psychological safety as it does with individual skill levels.

White Belt Teams

White belt teams work in organisations that use traditional waterfall approaches, and where hierarchical, command-and-control management style are the norm.

Yellow Belt teams

Yellow Belt teams have just started their Agile adoption journey. They will typically have completed some formal Agile or Scrum training. At this level, teams generally focus on the processes and ceremonies that they have learnt, but don't have enough experience to know how to adapt the processes to specific circumstances or problems. As a result, they tend to apply the rules that they have learnt somewhat rigidly.

Orange Belt teams

Orange Belt teams have become comfortable with Agile processes and project management techniques. They are collaborating and communicating more effectively, and this yields benefits in terms of throughput and risk mitigation.


So far, Orange Belt teams have focused their attention on processes and ceremonies rather than team skills and technical practices. Releases are time-boxed. Unit testing is not done systematically, and acceptance testing is mostly manual.

At this level teams start to reach the limits of what can be achieved through agile processes and project management practices. To progress further, teams need to improve in other areas.

Green Belt teams

"To go faster you must slow down" - John Brunner

Green Belt is a transitional phase. At this level, teams have realised that to progress further in their Agile practices, they need to invest in improving their maturity in more advanced techniques. Teams at this level benefit from adopting stronger collaboration and communication practices such as Behaviour Driven



Development, and better technical practices such as Test Driven Development and Continuous Integration/Delivery.

Any change in the way a team works is disruptive: that is why change is hard. When teams learn any of these new practices, they should expect their productivity to drop a little (or even quite a bit!). This is normal, and is offset by the gains in productivity further down the track.

Blue Belt teams

“A little learning is a dangerous thing” – Alexander Pope

Blue Belt teams are able to apply the new principles they have learnt in the real world. They will start to discover and define requirements more collaboratively using Behaviour Driven Development, and may be releasing more regularly and improving their test coverage in terms and unit and automated acceptance tests. And all of these practices will yield tangible benefits.

However, teams at this level are still very much focused on following the rules and procedures they have learnt. At this level, teams will often ask for cookbooks or formula to tell them what they should do in particular circumstances. They still lack the experience and deeper understanding that they need to be able to innovate, adapt, and be truly effective.

Brown Belt teams

“I fear not the man who has practiced 10,000 kicks once, but I fear the man who has practiced one kick 10,000 times.” – Bruce Lee

Brown Belt teams really start to feel the benefits of high performance agile practices. Teams do a great job at discovering requirements collaboratively, and quality is built into the development process through technical practices such as Test Driven Development and Automated Acceptance Testing. They are now comfortable enough with the practices to be able to look beyond the rules and recommendations they have learnt, and have a good idea of when they can bend or break the rules. They can start to adapt the practices, and how they apply them, based on differing circumstances or contexts.

Brown Belt teams communicate more efficiently. They have a common language and a common understanding that helps them leave some things that are now well understood unstated. This helps them reason about business problems at a higher level, and start to provide more innovative solutions.

Another thing you notice about a Brown Belt team or above is their increasing level of engagement and empathy, both for other team members and for the client. They genuinely care about doing a good job, and will actively look for better ways to deliver.



Red Belt teams

*“Theirs not is to make reply, Theirs not is to reason why” – (with apologies to)
Alfred, Lord Tennyson*

Red Belt teams not only deliver high quality features quickly, they can use their understanding of the business goals to question the form and even the validity of the features that the business ask for. Red Belt teams excel at delivering innovative and imaginative solutions.

Red Belt teams work well in a scaled agile environment. They are both autonomous and efficient, and have a deep understanding of the broader business goals they are trying to achieve.

On the technical front, quality is well and truly built into the development pipeline for a Red Belt team. Continuous Delivery and DevOps now become a real possibility, and Red Belt teams can release on demand through a streamlined automated pipeline.

Red Belt teams are likely to be cross-functional and autonomous, with a strong culture of trust, shared responsibility and psychological safety – the freedom to experiment and make mistakes without fear of retribution or blame.

Black Belt Teams

“Learn the rules like a pro, so you can break them like an artist.” – Pablo Picasso

Black Belt teams are masters of their art. They have accumulated such a wealth of collective experience that they intuitively just know how to deliver a particular outcome. Their experience with working and communicating with each other, combined with their technical mastery, make delivery smooth and fluid.

Black Belt teams can easily apply their business and technical understanding to help plan and prioritise features and capabilities at a portfolio level. These teams move from a role of “IT service provider” to one of “business partner”, actively seeking out the most direct path to delivering business value.

Many teams stop their investment in learning and self-improvement around the Orange level. This is a mistake, because while there are some benefits to be had at this level, they are typically not enough to allow organisations to gain a competitive edge.

Teams often find that there is a sweet spot between Blue and Brown, where the combination of aligned vision and strong team collaboration with solid technical

practices leads to a significant jump in both quality, throughput and user satisfaction.

Nine steps in growing team maturity

“The more you build quality into systems – through automation & shorter cycle times – the more you increase throughput & stability.”

Organisations can grow high performance teams by focusing on three main areas:

- **Building a Shared Understanding** of what features need to be delivered, and why;
- **Streamlining the delivery** of business value;
- **Ensuring High Quality and Fast Feedback** throughout the process;

Some examples of the activities at different stages of maturity can be seen here:

	Novice (Green-Blue)	Competent (Brown-Red)	Master (Black)
Building a Shared Understanding	Collaboratively defined user stories with well-defined acceptance criteria	Features illustrated by rules and examples and prioritized by ROI	Business value hypotheses
Streamlining delivery	Acceptance criteria guide development with some automated tests	BDD-style Test Driven Development	Continuous Delivery and DevOps
High Quality and Fast Feedback	Testers participate in requirements discovery	Automated acceptance testing and exploratory testing throughout the process	Collaborative acceptance testing and production monitoring



Where to from here?

For more information about growing high performance Agile teams, talk to John Ferguson Smart.

John Ferguson Smart

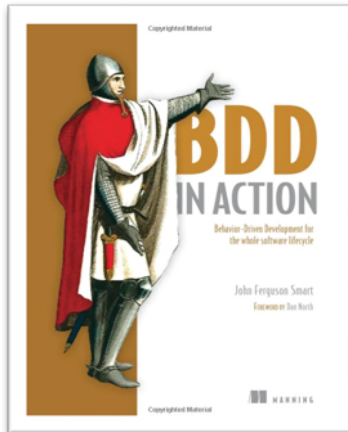
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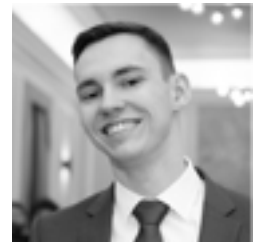
About the authors

John Ferguson Smart is an international speaker, consultant, author, and a well-regarded expert in areas such as BDD, TDD, test automation, software craftsmanship and team collaboration. John helps organisations and teams around



the world deliver better software sooner through more effective collaboration and communication techniques, and through better technical practices. John is author of *BDD in Action*, *Jenkins: The Definitive Guide* and *Java Power Tools*. John also leads development on the innovative Serenity BDD test automation library.

Jan Molak is a full-stack developer and coach who spent last 12 years building and shipping software ranging from best-selling, award-winning AAA video games through high-traffic websites and web apps to search engines, complex event processing and financial systems. Jan's main focus is on helping organisations deliver valuable, high-quality software frequently and reliably through implementing effective engineering practices. A prolific contributor to the open-source community, Jan is the author of the Jenkins Build Monitor helping thousands of companies worldwide keep their builds green and the delivery process smooth.





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