WHITE PAPER

Transitioning to Agile in an Agile Way:

Amplifying Traditional Approaches with Agile Technology

Abstract

Agile practitioners emphasize "individuals and interactions" over "processes and tools." Challenges in transitioning to an Agile enterprise dictate that without tools, the 'individuals' in charge of Agile ventures cannot effectively demonstrate value.

For the most part this is because traditional development tools do not have the seamless integration and key features essential to support an Agile development process.

The promise of Agile cannot be fully recognized without enabling technology that shortens delivery cycles and increases software development agility, project predictability, responsiveness to business change and overall development team productivity.

Executive Summary

Limitations in traditional software development methodologies have many organizations turning to, or experimenting with, Agile application development processes.

IT Project managers are being tasked with energizing and focusing their project teams to improve productivity and responsiveness to business change, provide quicker time to market and earlier return on investment, produce higher quality product, reduce costs and increase customer satisfaction. Known limitations in traditional software development methodologies have many organizations turning to, or experimenting with, Agile application development processes to address these challenges.

Forrester Research reveals, "more than half of enterprises that aren't already using Agile processes are interested in adopting them. But many of these shops are unclear about what Agile adoption really entails."[1] This leaves some organizations skeptical or confused about how – or if – their business should adapt Agile practices, while others wait to see how roadblocks to success are overcome by peer firms.
As Agile adoption is fast becoming mainstream and Agile projects are being recognized for their success, many organizations are still struggling with how to take advantage of Agile's full potential. Agile development enables rapid delivery of tangible and business-driven results to customers and realized benefits in productivity, quality and a measurable return on investment.

Implementing Agile practices comes with its own complexities. Managing an Agile process requires the ability to handle evolving business requirements, leverage difficult and slow technology and supervise a much higher degree of business interaction. An overriding challenge in transitioning to Agile is demonstrating adequate business value in early projects to drive further Agile adoption.

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Forrester Research

Highly successful Agile teams must take advantage of a new breed of Agile application deployment and management environment, which provides the flexibility to react to business change while supporting the rigor needed to manage incremental project approaches delivering high-quality working applications with concrete business value in very short delivery cycles.

Why Agile Pays

Why should we change now?

If traditional, waterfall-based processes have been successful for decades, it's natural to question why they should be abandoned now. The answer is "change velocity". In short, businesses are being forced to respond at a more rapid pace to keep up with today's changing landscape. Competitive forces increase the rate of speed even more as product cycles grow shorter and shorter while customers' and stakeholders' fists adamantly pound for more or different application requirements.

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Today many organizations face an IT application backlog and sense a misalignment between IT and the business that is fueled by the need to deliver new applications and change existing ones faster than ever before. The requirement for rapid development and change cannot be addressed by a waterfall development process where requirements are fixed up front and working solutions are delivered months or even years after the business input has been gathered. In the nineties, the Agile system of methods was conceived to address the challenges of turbulent business environments and increase an organization's ability to maneuver through them. Project teams attempting to go Agile seek to achieve the following goals:

- Promote rapid delivery of tangible results to customers through iterative application releases that allow the business to provide feedback resulting in business-driven feature prioritization;
- Increase IT and business alignment by focusing on only delivering the functionality necessary to meet business goals;
- Realize benefits in productivity, quality and return on investment; and
- Improve responsiveness to change.

The value proposition of an Agile process is delivering continuous business value faster and ensuring that that value lasts over time.

[1] Schabler, Carey with Leganza, Gene and D'Silva, David, The Truth About Agile Processes: Frank Answers to Frequently Asked Questions, August 29, 2007

How Agile works – methods and techniques

Agile methods are made up of processes, principles, people and tools. Basically, the Agile process is a handful of iterative, incremental development approaches based on lean manufacturing practices. Popular Agile approaches include XP (Extreme Programming), SCRUM, Feature Driven Development (FDD) and Dynamic Systems Development Method (DSDM), the more popular of which are XP and SCRUM.

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The cornerstone of all Agile approaches is an iterative and incremental flow of what looks like a "perpetual beta". Short iterations deliver new, fully implemented software functionality in tested, time-boxed increments every four to six weeks. Customers are considered part of the development team and are actively involved in driving application evolution. Development teams are empowered to execute on feedback given. With Agile processes, the customer and the team know exactly where they are at the close of each iteration resulting in more predictable project deliveries.

In Agile projects, change is expected and embraced. Features and business requirements are expected to change and the project team constantly inspects, prioritizes and adapts in order to present the customer with working versions of incremental functionality. This approach results in applications that meet business needs with a dramatic reduction in delivery effort.

Fixed time boxes and evolving requirements of an Agile approach rapidly deliver working software that the customer can see and use. Agile development emphasizes constructing the right product for the customer as opposed to the more traditional, "big-bang" approach of delivering a successful IT project that is discovered to have late-breaking surprises – not what was expected, necessary or hoped for by the business.

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Calculating the value of an Agile project

Every day businesses ask their IT departments for enterprise software solutions with an expectation of measurable value. Tracking a particular software solution's target value can be done by mapping Time/Value extracted from the daily work put into the project.

If one were to map application release versions built using a traditional waterfall model and measure each release to business fit, it would become evident that as time passes the value of the application decreases. This is due to three key elements of traditional development:

- Requirements are fixed in advance and are difficult to change during the coding and test phases of the project;
- The business typically changes during the development process making some of the delivered requirements non-valuable or out-and-out wrong; and
- Once the new application is delivered, it is costly and time-consuming to make modifications that result in subsequent deliveries and prevent the ability to catch up with business requirements.

The effects of business change challenge the traditional waterfall development model, resulting in applications that provide decreased business value with each subsequent release. With traditional development, IT teams cannot possibly catch up with the bombardment of changing requirements. Delivery times extend further and further out with each new release. It isn't unusual that by the second release, the time gap is not recoverable and the business is unable to recognize any new value in the software. After 5 – 7 years of this dysfunctional pattern of software deployment, the Business must reject the minimal acceptable value of the application and replace it with something completely new, or risk losing their competitive advantage.

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Conversely, Agile projects tend to have a higher adoption rate than traditional projects because end-users are provided a working application on a regular basis. From these incremental application deliveries the Business can provide direct feedback and focus on only those requirements that add business value to the project.

Agile methods result in an improved dynamic between IT and the business where the business has confidence in IT's .

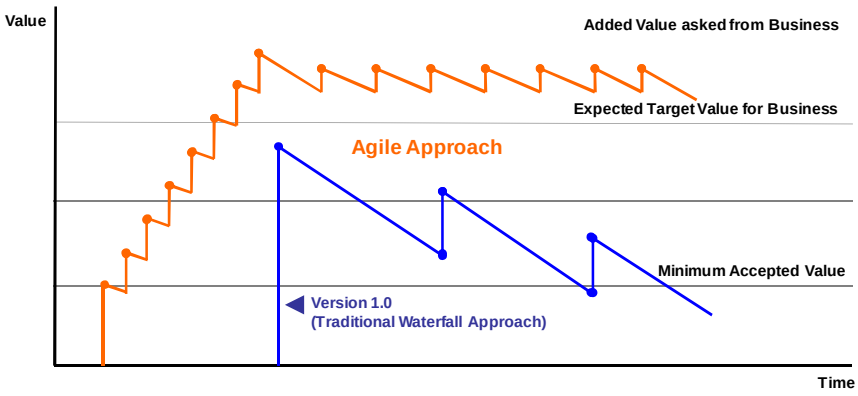

Diagram A: In a traditional waterfall model, software value decreases as time passes. Conversely, with an Agile approach, IT quickly delivers new functionality on time and with significant value. Computing this in terms of daily value provides the total benefit of ownership for the application.

With an Agile approach, IT regularly receives new requirements that align with what end-users wish to see, enabling quicker response to business change and producing functionality that has early and measurable value-add. With this improved dynamic between Business and IT established, business has the confidence and IT support necessary to drive high value business innovation, resulting in increased application functionality and business value that exceeds the original business expected target value.

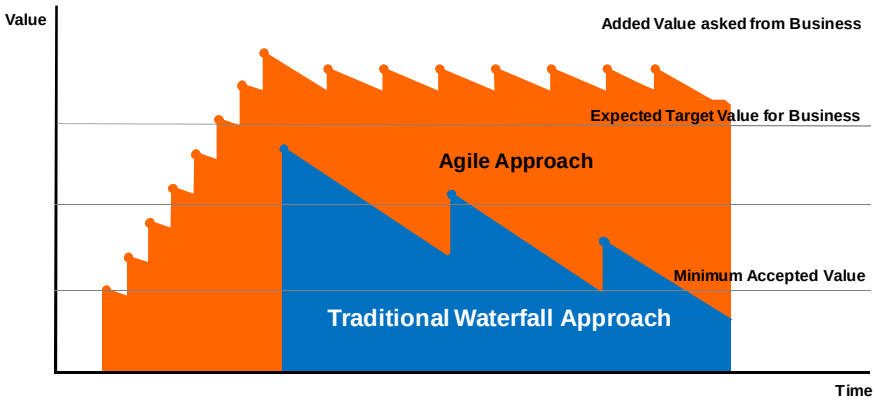

Diagram B: Total amount of value provided by a traditional waterfall project vs. an agile project.

Going Agile makes sense, not just from a methodology perspective but from a business value return. With Agile methods in place, applications tend to age slower than in a waterfall approach because business value is delivered more quickly and supports continuous change, resulting in applications which have a much higher return on business value.

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Common Project Management Challenges in Applying Agile

In general, people don't feel comfortable with change. Not at first anyway. This is true for organizations too, and especially so for IT organizations. A change in approach, in organizational setup or culture creates suspicion among the ranks. In this way Agile development has its skeptics, challenging project managers to rethink their traditional software development approaches. As successful Agile adoptions are increasing and sharing best practices, this scrutiny is being quelled. For those who still fear an Agile approach, it's worth a look at the facts.

Dispelling the myths

Myth 1: Agile development is unplanned, uncontrolled and therefore unpredictable

An Agile approach reconciles changing business requirements … which too often miss their mark in delivering what the customer actually needs.

Agile practitioners trade the familiar Gantt chart for a more feature-driven prediction plan. This explains why an Agile method has the occasional – and undeserved – reputation of radical developers running uncontrolled with no direction, creating solutions without formal process. This view is a misnomer and ignores the true value of an Agile approach's continuous, incremental planning process that takes place on a daily basis between project managers, developers, customers and stakeholders.

An Agile approach reconciles changing business requirements that challenge the more traditional project plans which too often miss their mark in delivering what the customer actually needs. With Agile, customers are not running amok with changing requirements throughout the project cycle. Rather, the Agile team expects and adapts to changes in plan and incrementally addresses new requirements along the course of the project as they occur by negotiating with business owners and adjusting priorities. Thus, Agile development teams are constantly planning and reprioritizing as they go, hand-in-hand with their customer, meeting changing business requirements and delivering on time and within budget.

Myth 2: Agile development can't possibly scale or produce much

One of the more popular Agile variants, SCRUM is scalable from single to large and multiple interrelated projects across an organization.

Because Agile development breaks up large projects into smaller ones, it is thought to be too lightweight for larger teams handling complex applications . In general, Agile methodologies cannot be faulted for the risks that are associated with increasing scale and complexity in software engineering. Agile practices intentionally approach projects in smaller chunks – smaller projects, smaller cross-functional teams, smaller time boxes – in order to minimize risk and drive early value. SCRUM, an Agile method, is often applied in organizations where large development efforts are a factor. SCRUM is scalable from single to large and multiple interrelated projects across an organization.

Distrusting the process

It is not a myth that adopting Agile is hard work. Agile methods can be difficult to implement, and it takes a skillful project manager who understands Agile's empirical process to be successful. Agile project managers must be able to effectively handle both customer-facing and team interaction, have the energy and skill needed to constantly reprioritize deliverables and modify the project plan, be able to remove barriers to progress and ensure that everything proceeds smoothly through change.

Ultimately, convincing the project team is key. Building a team that can actually work together within an Agile philosophy framework is crucial. Agile is not a forced religion, but if everyone isn't on board, it won't work. The team cannot be successful if they're mixing old approaches with new. Going Agile means letting go of the "big bang" mentality to embrace continuous change. Trusting in Agile means understanding that smaller iterations deliver better business alignment and that valuable functionality can be developed in short, fixed amounts of time.

An old impediment to a modern approach

Trusting in Agile means understanding that smaller iterations deliver better business alignment and that valuable functionality can be developed in short, fixed amounts of time.

Adopting Agile does not however promise to work miracles. Trying to go Agile with traditional, "clunky" development technology continuously hampers Agile initiatives. Though Agile purists emphasize "individuals and interactions" over "processes and tools", running Agile projects using traditional development technology can result in projects that cannot meet the requirements of rapid iterative development. This limits customer interaction and results in projects that deliver more traditional results – an uphill battle!

Often internal opposition to change – a desire to stick with old development techniques and tools – impedes the delivery of Agile's promise. Thus, IT organizations must evaluate their development techniques and tools and adjust in order to deliver on the promise of Agile. Effectively, they need a modern development capability that supports the Agile method.

Optimizing an Agile Approach

The ability to respond to change is tied directly to the ability to manage change.

A project manager's success in making Agile truly agile from its inception is hinged on not only adopting an Agile method, but also combining it with an application delivery and management environment that will quickly optimize and support their Agile processes. Organizations should look for the following capabilities:

Driving value from existing application and technology investments

It is imperative that new Agile applications leverage existing application and technology investments. An Agile delivery environment will make it very easy to catalog and reuse existing legacy application services and code.

Running on a development environment that supports rapid change

A key tenet of Agile is the ability to rapidly respond to changing business requirements. Thus, the development environment must support this by helping identify the impact of change and automating as much of the change process as possible across the Agile project.

Deploying and managing new applications

A major impediment to Agile projects is the ability to deliver running applications at the end of each iteration. This is due to the complexity in most traditional development environments when it comes time to deploy a working application. An Agile delivery environment will make it easy to manage the deployment of your working application versions at the end of each iteration.

Responding to change through Agile project management

The ability to respond to change is tied directly to the ability to manage change. The various project management tools employed must be tuned for Agile methods. It's important to consider both the ability to capture and manage new requirements from end-users, and management tools to assist with prioritizing each project iteration against the total project plan.

The ability for an Agile team to successfully build as they go with their customer is maximized by an Agile deployment and management capability that supports shortened iteration cycles, lowers risk in deployment and improves quality with less testing and integration. In short, a meaningful and really agile delivery capability simplifies a lot of the processes necessary for quickly delivering new features into the hands of users.

Putting the Big 'A' In Agile:

OutSystems' All-in-One Agile Platform

OutSystems ' All in One Agile Platform is a purpose-built application delivery and management platform that directly supports the Agile methodology.

OutSystems ' All in One Agile Platform is a purpose-built application delivery and management platform that directly supports the Agile methodology. With fully integrated end-to-end application life cycle support, OutSystems simplifies the processes necessary in integrating, assembling, deploying, managing and changing web business applications to meet the needs of Agile development processes. OutSystems' Agile Platform streamlines many of the complex, time-consuming development tasks associated with traditional development, resulting in dramatically shortened iteration cycles or 'sprints'. OutSystems' projects typically have sprint durations of one to two weeks vs. four to six, with each sprint consistently delivering a working application. Making rapid delivery possible is a key platform capability – one-click deployment. The platform provides development teams the ability to configure deployment targets then, through one simple click, deploys the working application.

The Agile Platform provides a highly intuitive visual modeling and assembly environment that makes it easy to leverage existing legacy applications while assembling new composite web business solutions. In addition, the platform supports change management by visually

highlighting the impact of change and differences while letting each developer work in their own development "sand box".

OutSystems ' All in One Agile Platform's ability to continuously integrate and align provides a rapid change environment that can scale to meet the needs of any sized project.

The ability to continuously integrate and align provides a rapid change environment that can scale to meet the needs on any project size. To further support the management of change, the Agile Platform provides built-in management capabilities tuned for Agile projects. First, the platform includes embedded change technology (ECT). ECT gives end-users the ability to capture new requirements directly from the running application. New requirements are merged directly with Agile Management Tools to help IT organizations negotiate future sprint features and manage the overall project. All applications built using the Agile Platform can be managed and have their actual performance monitored from a window level down to embedded legacy services. The inherent visibility of the Agile Platform's management capabilities helps drive Agile success through user involvement and business alignment.

Conclusion

Businesses are undergoing more transformation than ever and need IT to operate in a more responsive manner. Compared to other methods of development, applying Agile principles and practices offers many essential business benefits in handling the demands of change. However, enterprises still face unique challenges in Agile adoption and are unable to realize early benefits in transition. Going Agile with existing, traditional technology impedes the true agility that an Agile method has to offer. OutSystems believes that in order to deliver applications that meet evolving business objectives, an Agile approach to project organization and control is necessary.

Equipping your Agile team with more flexible and agile technology will propel your project, your people and your business in building a successful Agile application delivery.

The OutSystems' 'All-in-One' Agile Platform inherently handles legacy integration, rapid assembly and deployment of working web business applications, and process and change management from an integrated platform. It's true that "individuals" and "interactions" are in large part the key to success in an Agile venture. However, equipping your Agile team with more flexible and agile technology like OutSystems' 'All-in-One' Agile Platform will propel your project, your people and your business in building a successful Agile application delivery and management capability.

For more information

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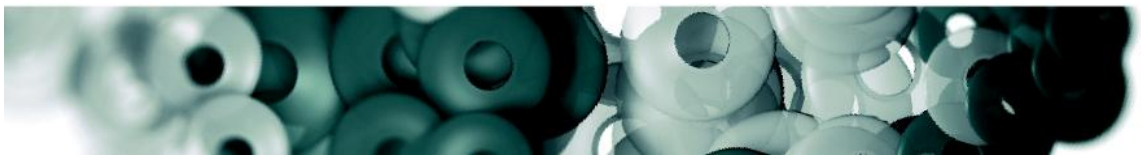

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