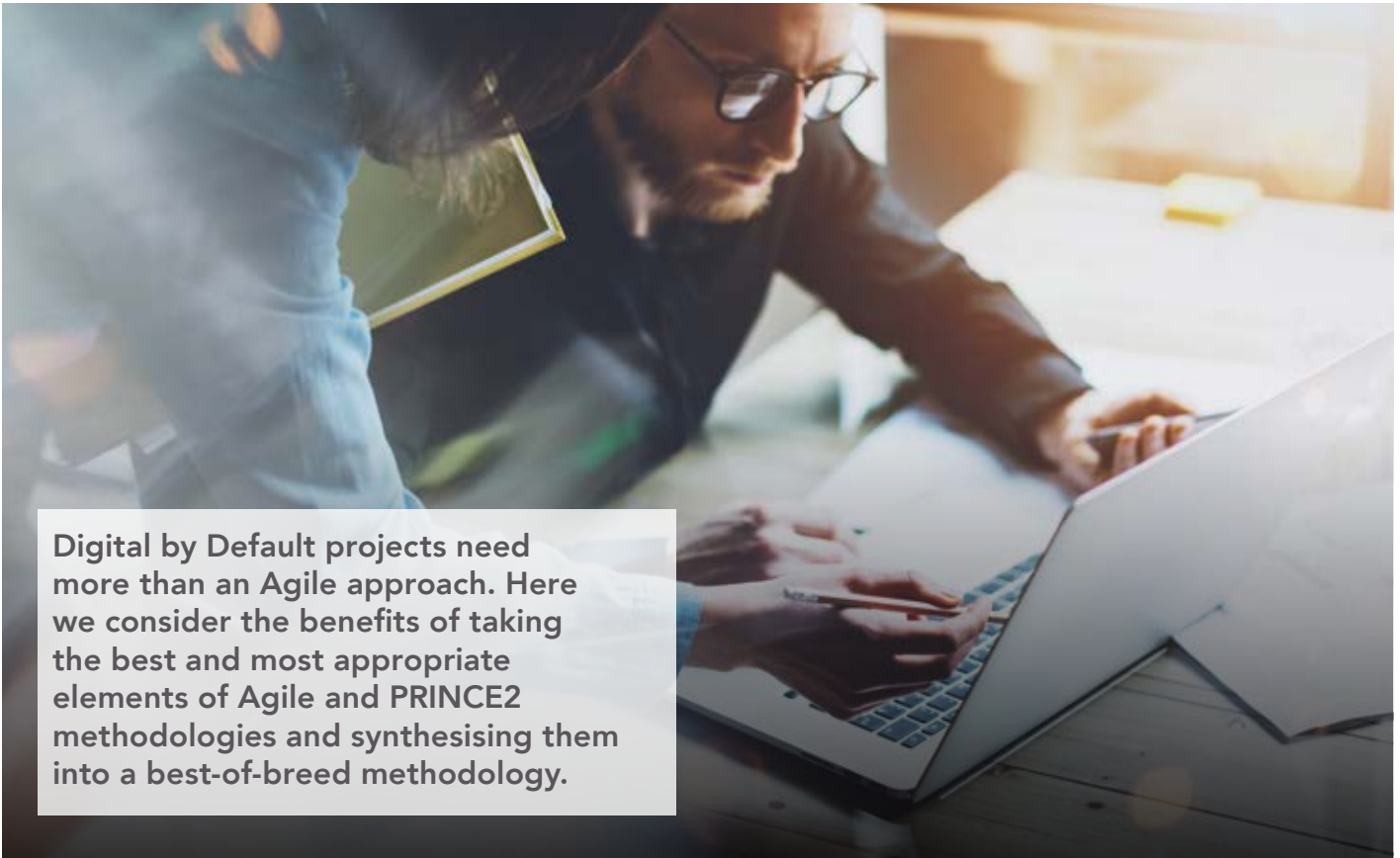# Is **Agile** enough?

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Digital by Default projects need more than an Agile approach. Here we consider the benefits of taking the best and most appropriate elements of Agile and PRINCE2 methodologies and synthesising them into a best-of-breed methodology.

INTRODUCTION

There are a number of accepted methodologies available when embarking on an IT-related implementation. Whether Waterfall, GDS's Digital by Default, Agile or any other delivery method, it is essential to determine the most appropriate option for a given situation at the early stage of a project. That way, you understand how best to achieve the required outcome from the outset.

WHY DOES GOVERNMENT SUPPORT AGILE?

Agile has been trending globally over the past few years in both private sector and public sector. UK government had a history of problematic large projects, running over budget and out of time and hitting the front pages – so it's no surprise that back in 2010 the newly-elected government wanted to take action. Sir Ian Magee's well known report for the Institute for Government *"System Error: Fixing the Flaws in Government"* published in March 2011, set out the case for Agile as a key element of the cure.

According to the latest Project Management Benchmark Report from Arras, 24% of UK-based practitioners say they are using Agile concepts in their day-to-day activities, yet only 3.6% say all programmes and projects undertaken in their organisation use Agile. Only 50% believe their organisations have made the required philosophical shift to support its use. We suspect that in hierarchical and complex public sector organisations, the numbers can be even lower.

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YET ONLY...

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of all programmes and projects undertaken in their organisation use Agile

50%

believe their organisations have made the required philosophical shift to support the use of Agile

WHY AGILE?

An Agile-based project tends to deliver frequent releases and less management overhead. It is a collaborative method that is responsive to change. This, in turn, enables you to be more agile and flexible in response to customer and stakeholder needs.

The Agile approach researches requirements and focuses on producing working software within a short timeframe, allowing organisations to realise the benefits of products and, potentially, an earlier return on investment while products are being developed and improved. This is supported by frequent deliveries in short time spans, increasingly aligned to priorities. Fundamentally, change is welcomed and not treated as a hindrance to software projects, which is often the case in more traditional approaches. This allowance for change offers the flexibility to arrive at a viable product through close collaboration while providing transparency and control over expenditure.

The downside

Traditional approaches to complex IT projects sought to fix the scope precisely first, then fix the plan and price to fit that scope. The contrast with Agile is that, put simply, it fixes the budget, then varies the scope to fit within that budget.

Unfortunately, this simple goal is often not realised. So the first thing that can go wrong is that stakeholders who have been told "unlike traditional projects, Agile welcomes change" interpret that to mean "Agile will enable me to squeeze a quart into a pint pot".

This isn't true of course, Agile isn't magic; it's just a better way. But given the way that Agile is trending, it's easy for projects to start with inflated expectations, which can often lead to disappointment.

The second big challenge for government is the "Product Owner". This is a key role in the Agile delivery team - and it is a role performed by one single member of the customer staff. The Product Owner:

- Needs time to be involved in the project for at least a few hours every week.
- Needs to be "empowered" to decide "what the system should do and how".

It's this second aspect that can be so difficult for the public sector. It represents a massive culture clash between government and Agile. Many government organisations are large, and have lots of stakeholders, both internal and external (e.g. other suppliers). These organisations are inherently the opposite of Agile. Each set of stakeholders has their own opinions and responsibilities. So often, the reality is that there are several stakeholders who the Product Owner must consult in order to decide what the system should do and how.

More than that, differing stakeholder requirements sometimes conflict, so the Product Owner needs to act as facilitator to bring them together to reach agreement. All of this puts too much pressure on rapid agile timescales and inevitably leads to disappointing overruns.

And on top of that, GDS Agile method focusses on putting the user needs at the heart of the method. That doesn't go down well in top-down government organisations either – since it means that ideas about needs, which come from senior management, can be challenged by discovering conflicting user needs.

Large organisations, with complex IT estates and multiple departments lead to a lot of dependencies to manage on projects. This, in turn, creates risks and Agile is only a development method, it's not a project management method, so it doesn't offer anything to help with dependencies and risks.

In reality Agile, even though it was invented back in the mid-90s, is still relatively immature. And it's often failed in both government and private sector, for the reasons above – with the result that it gets thrown out. In short Agile is developing a bad reputation in some quarters.

Hence we saw the need for Agile+.

ANALOGY:

If you have a budget for a Mini then agile will not get you a Rolls Royce. Sorry: you will still end up with a Mini. But, done right, Agile will get you a nice shiny Mini, with a well-tuned engine and the optimal set of trim options for your requirements – which is a whole lot better than getting a sub-standard Mini, that also features an elaborate towing attachment that you realised too late in the project won't work for your very large caravan.

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BEYOND AGILE

Agile projects are rightly implemented with a focus on user experience. While that is critical, it is important to keep in mind the IT environment in which they are operating. Fundamentally, user experience and IT need to work in tandem, not in silos. One of the biggest barriers for organisations implementing Agile has been the lack of wider governance and control that can put projects and budgets at risk. This is where PRINCE2 comes in.

Where appropriate, and in line with specific requirements and desired outcomes of a particular project, Agile+ brings together the best elements of Agile and PRINCE2 to manage and govern. It combines the flexibility and responsiveness of Agile with the clearly defined, specific framework presented by PRINCE2.

PRINCE2 methodologies seek to minimise risk where possible, contain budget and take into account any dependencies of working with other suppliers or internal teams and any integration challenges presented by an organisation's existing technologies.

Together, PRINCE2 and Agile, in the form of Agile+, take into account the context of the project: the impact on and by the IT environment, from data storage to networks and all back-end systems. Essentially PRINCE2 provides a structured and controlled approach to Agile delivery.

Agile+ is a project delivery method that utilises a synthesis of Agile and PRINCE2 to manage and govern projects. This approach builds on core Agile development principles and benefits to prioritise and mitigate risks of non-digital project dependencies and address the total project lifecycle. This combination of PRINCE2 and Agile has come to be known as Agile Project Management – or as we call it, Agile+.

By synthesising PRINCE2 and Agile in this way, you can better mitigate and manage risks while ensuring integration.

WE ARE AGILE+

Toplevel employs a flexible customer-led approach to the delivery of Digital by Default services that aims to deliver solutions that are appropriate to public sector requirements. Our flexible approach is based on 20 years' experience and provides customers a choice of methodologies. Here we are focusing on Agile+…

Customer led

Our Agile+ approach delivers a solution that is designed from a customer's perspective, be that an internal staff user, or a member of the public using an externally facing system. It puts the customer first by researching their needs and focuses on producing working software within a short timeframe. This is followed by frequent deliveries, increasingly aligned to customer needs, and flexible enough to respond to change.

Usability and accessibility are considered throughout all phases including testing. As part of this work, reference is made to the Government Digital Service (GDS) design principles and accessibility guidance. Agile+ helps practitioners apply Agile methods to PRINCE2 in the most effective way to produce a perfect blend of best practices.

Quality assured delivery

All Toplevel project managers and some of our senior developers, as well as the technical manager, are certified Scrum Masters, trained to be able to undertake the Scrum Master role in Scrum sprints. Additionally, all of our project managers are PRINCE2 Practitioners.

Where customer staff involved in the project are unfamiliar with Agile, we can deliver an informal hour-long overview of the process and what will be expected of them. We are accustomed to working with staff that are new to Agile.

Agile+ project management

Toplevel has huge experience in delivering Agile, Agile+ or Waterfall project methodologies and will review the most appropriate option at the early stage of a project to understand what the best fit is for a given customer. We believe that Agile+ is a proven methodology using a synthesis of Agile and PRINCE2 to manage and govern projects and offers our customers the best of Agile combined with the best of PRINCE2, but we are flexible and will adapt to individual customer preferences.

We have used this methodology many times before to successfully deliver solutions for clients; it is a collaborative method that is responsive to change. This means that we are perfectly positioned to respond to feedback coming from stakeholders and can use it to benefit the development project.
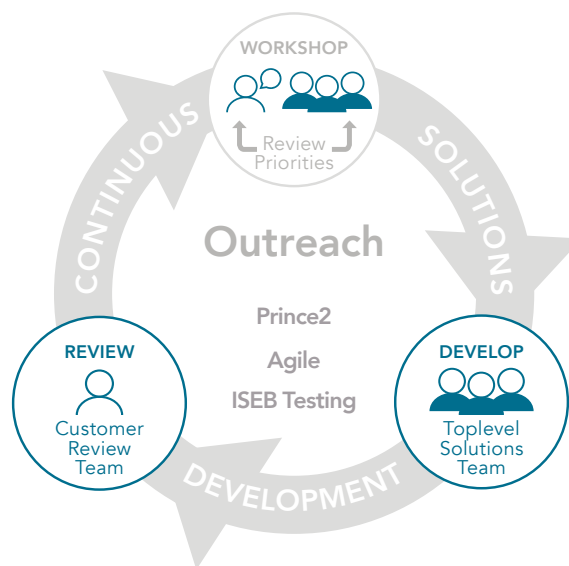
Our Agile+ project methodology has three distinct phases, which are:

- Discovery – including project initiation and requirements validation.
- Main implementation – which includes UAT and usability testing.
- Final assurance and preparation for go-live.

Within each phase, and especially during implementation, we work with one to four week sprint cycles with an opportunity for our customers to review and input at the end of each cycle.

For larger projects there is a long implementation phase, and it's important to use milestones to break this up into manageable chunks that can be used to confirm progress and ensure final deliverables are on time and on budget. PRINCE2 project plans and highlight reports confirming progress and identifying risks and issues are essential tools to keep work on track.

A further benefit of milestones is that the GDS method: Discovery, Alpha, Beta, Live readily maps onto the Agile+ approach, since completion of each of these stages can be made into milestones.

Agile+ also helps manage the less visible deliverables. Whilst the focus on user experience introduced by agile digital methods is a huge benefit, it is still the case that much of the work in configuring and developing our customer projects is "under the hood". For example, work to tune up the performance, data migration or data integration do not have a visibly evolving user interface. So these aspects of a project do not lend themselves to agile but they still need managing and quality testing to ensure they are delivered on time.

BACKLOG AND SPRINT CYCLE

A key concept of the Agile method of any delivery is the backlog. The backlog is the prioritised list of requirements for the project. In some circumstances Discovery may be very short, perhaps just one or two workshops to validate an existing requirements list and produce a prioritised backlog. Other projects need to begin with a Discovery phase, during which we will jointly work with our customers to refine and agree the details of the initial backlog.

Following that, we work in sprint cycles of typically two weeks each at the end of which we conduct a review and workshop with the customer. This can include:

- Delivery of a revised version of the system, containing additional configuration items. This will already have been tested by Toplevel's experienced QA test staff and the customer who will then have the opportunity to carry out UAT as the system is configured and to feed back to Toplevel on the new configuration.
- Jointly working with the customer Product Owner to re-prioritise the remaining backlog items, thus keeping the backlog under continuous joint review.
- Keeping the backlog under joint review allows for the prioritisation of items to change during the project. For example it may be realised that some lower priority (optional) items are preferred to others that were originally higher priority and so requirements may be flexibly changed by joint agreement.

Joined-up approach

Toplevel's Agile+ method is inherently test-driven and Toplevel assigns staff to each project whose main function is quality control and who are ISEB trained testing specialists. This ensures a quality deliverable for our customers.

Because our development and testing functions operate in a joined-up way, we can offer a number of distinct advantages to benefit the quality of the end deliverable. Testing and development are carried out throughout the project, leading to iterative improvement from the very start, even at the initial requirements-gathering stage.

We work closely with customers in order to ensure that business specifications generated contain the appropriate level of detail to allow test requirements to be defined clearly.

Any design features that could negatively impact the project can be mitigated by testers reviewing development specifications. This ensures tests can be considered and planned from the outset. Consequently it is clear, when testing a delivery, exactly which features will be delivered and how they are expected to behave.

Non-functional considerations are built into the testing practice. This ensures that while functional areas are developed, (such as minor enhancements to the standard product) testing also considers non-functional testing aspects, such as the usability and responsiveness of the system. This approach ensures we deliver quality testing during each iteration of the solution's configuration and development.

Acceptance criteria are set in conjunction with customers and are used to ensure all testing complies with requirements, so that the production environment does not have any critical or high issues. These definitions will be agreed and defined in the test plan at the outset. We test all of our customer solutions through our in-house OWASP-aware teams. We also commission penetration testing and security reporting on behalf of our customers using different CLAS and CHECK approved security firms where projects demand this.

Testing outputs feed into the implementation and hand-over phases. For example, implementation plans are used when setting up test environments to prove roll-out. This allows feedback from these experiences to be added into the live implementation plan before they are used. Features are not signed off as being fully delivered until the current iteration's testing is successfully completed. This is achieved by testers working together with the developers, to ensure a stable, usable product is delivered at the end of each iteration.

Implicit to the testing undertaken, key elements of our approach include the following:

- Release roll-out plans are used and tested when implementing changes into any test areas.
- Test environments used are separated from 'live'.
- All testing is undertaken in the UK by UK nationals.

CONCLUSION

Yes, sometimes Agile is enough. Sometimes a Waterfall methodology provides all that is required in the delivery of a project. More often than not, however, when it comes to business-critical digital projects in the public sector, it is wise to turn to something stronger and more resilient.

Here at Toplevel, we believe that Agile+ not only brings together the best of two proven methodologies – Agile and PRINCE2, but also makes the most of the key skills of testing and development, combining them to deliver powerful, government-strength technology solutions with the user in mind.

About Equiniti Toplevel

Toplevel provides end-to-end digital and case management solutions that allow Public Sector organisations and individual case-workers to interact more easily with other departments and the citizens they serve.

We improve customer experience and help staff to do their jobs quicker and better by replacing paper, telephone and face-to-face services with more efficient digital alternatives

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