Scottish Local Government Digital Partnership

Case Study

Agile in Orkney

Executive Summary

Orkney Islands Council have begun to implement Agile tools, methods and techniques across a number of projects to great success.   They have learned how to utilise the power of fast-paced, yet still highly controlled, project management techniques to greatly improve project efficiency, product quality and team cohesiveness.   They continue to learn by adopting, adapting and applying new Agile techniques, where appropriate, in the spirit of continual improvement and continued efficiency gains.

> "WHILE THE BENEFITS OF AGILE ARE MANIFOLD, FOR ME, THE MOST SIGNIFICANT IS THE IMPROVED FOCUS AND CLARITY THAT USE OF AGILE METHODS BRINGS. WE USE A TWO-WEEK SPRINT AND THE IMPROVED FOCUS ENABLES THE TEAM TO GET DONE, AND DELIVER, WHAT NEEDS TO BE DONE."
>
> Alex Rodwell, Senior Project Officer

Background

Within change projects being run in the council the top level PRINCE2 methodology was working well at a strategic and governance level.   However, project teams felt that it wasn't helping as much as it could at a product delivery level.

Due to the nature of the products they were developing and delivering they found that: waterfall planning methods were not accurate. The current plan showed an elapsed time "wish" not a real estimate of effort and there was lack of medium term visibility within the project.   As a result, the team recognised they were getting side tracked, suffering from a lack of focus and were faced with increasingly high levels of work in progress.

This was not due to any flaws within PRINCE2 or the waterfall methodology – it was due to using the wrong methodology to manage a complex, uncertain and unknown set of deliverables.   The team needed to change their approach and use an alternate methodology. They chose Agile.

Drivers

They initially focused on the aspects of Agile which would improve the following:

1. **Focus and clarity**: the use of a visual Kanban board supported by daily stand up meetings was seen as a means to keep the team focused on product delivery rather than unnecessary actions.
2. **Coordination:** Kanban boards can improve co-ordination of tasks, time, dependencies and plans across projects as all key elements would be displayed on a single board.

Results

1. **Focus and clarity:** clear visibility of current products and tasks and who is working on them;
2. **Team coordination:** daily meetings ensure everyone knows about each project;
3. **Productivity:** physical moving of tasks and early identification of issues;
4. **Stakeholder engagement:** ability to easily provide up-to-date information about progress and delivery and involve stakeholder in product development where relevant and appropriate;
5. **Product delivery:** product focused pulling through into each sprint encourages delivery;
6. **Product quality:** incremental and iterative versions delivered with QA process built-in;
7. **Team wellbeing:** resource managed better reducing pressure on individuals.

Agile Summary

There is genuinely a calmer, more supportive and focused atmosphere in the change team since the implementation of Agile. The adoption of Agile techniques and a move to being product focused rather than action focused have been a significant part in achieving this.

The focus and coordination in the team are the most important drivers which have affected productivity. This has been combined with a tangible increase in quality of products produced which has improved delivery immensely.

The team are moving into some areas where there will be significant requirements for effective stakeholder engagement and they believe Agile will help in this especially with the concept of fail fast and incremental delivery and feedback.

"HAVING BEEN INVOLVED IN PROJECT MANAGEMENT IN DIFFERENT WAYS THROUGHOUT MY CAREER I AM FAMILIAR WITH THE PRESSURES THAT CAN COME FROM FEELING OVERWHELMED BY WHAT NEEDS TO BE DONE TO COMPLETE A PROJECT. I HAVE FOUND THAT USING AGILE GIVES A MORE MANAGEABLE TIMELINE TO WORK TOWARDS AND HELPS THE TEAM FOCUS ON WHAT IS IMPORTANT AT THAT TIME. IT ALSO AVOIDS LAGS IN PRODUCTIVITY BY KEEPING THE MOMENTUM GOING."

Andrew Kemp, Project Officer

Agile Tools/Methodologies

Tool and techniques used:

Figure 1 Planning Poker Cards

- Scrumban
- Sprints
- Sprint meetings
- Sprint retrospective
- Product backlog
- Sprint backlog
- Kanban board
- Daily stand-up
- Scrum master
- Planning poker
- Approach improvement stories
- MoSCoW prioritisation.

Scrumban uses PRINCE2 for overall governance and stage management; it has particular strengths in helping control each stage and to help manage product delivery within each stage.

The team use 1-4 week sprints, although they have found 2 weeks to be the optimum figure; these help to focus the team on the product delivery. They use a highly visual Kanban board to provide a display of current project needs, priorities and decisions and have found daily standup meetings to be particularly beneficial to keeping the team focused and co-ordinated. The daily standup meetings are chaired by a scrum master which helps support project management throughout delivery.

Product and sprint backlogs are used throughout the sprint cycles to help track requirements and the team can quickly agree to changes and track these within the sprint cycle using the Kanban board; backlogs are also managed in an Agile way so these can be changed at any time if required. To assist in decision making, ideation and fast estimating tools such as Planning Poker are used where the team are able to provide quick, almost instinctive, estimates as to the feasibility of each product or activity.

At the end of each sprint cycle, a comprehensive sprint review and sprint retrospective are completed to help capture lessons learned in the form of approach improvement stories. These are used to feed into the next sprint cycle to foster a culture of continual improvement.

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Implementation

System Development Projects

Agile was initially implemented within the system development team; there were two key projects where Agile techniques were considered:

1. HR and financial systems development

    a. HR | Electronic payslips, absence management, leave management,

    b. Finance | budgeting (setting and monitoring), employee expenses and purchase to pay

System development projects had traditionally used a waterfall PRINCE2 based methodology with MS Project utilised for the production of schedules.   Although the team were doing good work there were some challenges evident with the Waterfall method and they wanted to smooth out some elements within the project planning.

Figure 2 Project Team Kanban Board

In an attempt to resolve this, the team conducted a four week pre-Christmas "sprint"; they did not realise this was an Agile approach at the time yet were very pleased with the success this brought to the project.

The success of the pre-Christmas sprint combined with the "discovery" of Agile as a concept made Alex Rodwell, Senior Project Officer, consider putting together an Agile project management proposal.   After many hours of personal research, the proposal was finalised and delivered to the HR and finance system development project team in March 2017.   The proposal, which included limited Agile training, was approved and Agile methods were adopted by the project team from that point forward.

Immediately, the team started daily stand-up meetings, set themselves a 4-week sprint and populated the sprint backlog to focus priorities for the upcoming month; this was launched at the beginning of the month to fit in with current project highlighting cycles.

Figure 3 Kanban Board Close-up

From this point on the team progressively used Agile to improve their approach populating a Kanban board to help visualisation and prioritisation of work which had been previously put together as part of the proposal.

Change Team Projects

Alex moved from system development to the change team and took the "Agile" approaches with him and implemented them there. Familiar with the success of the system development projects and given the experience Alex had to back this up it did not take long to get the team round to this way of working (maybe 4-6 weeks).

This was more complicated than systems development as the change team supports the change programme which is made up of a portfolio of projects. Agile, however, is still very effective in this environment.   The development since then has been incremental and Agile has been used to learn and further develop Agile techniques as well as improving delivery focus, speed and quality. This is ongoing to this day as the team continually learn and improve their approach to cope with both projects and portfolios.
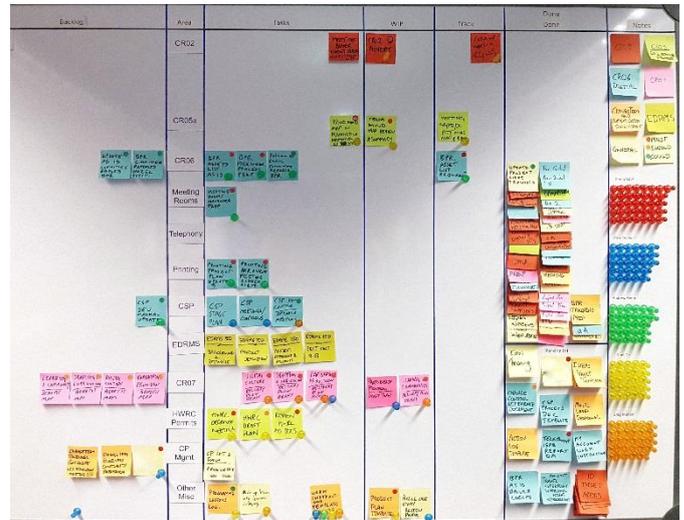
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Future Developments

The team are keen to explore the options of using software to provide electronic boards (such as Trello and MS Planner to support the physical Kanban boards); whilst none of these have been implemented to date – they will be and their effectiveness evaluated.

Since being used for the projects mentioned above, Agile techniques are being successfully applied to:

- management of the "Customer Service Platform" systems development project through the implementation of Firmstep; a Customer Relationship Management and workflows tool

Momentum for Agile is growing within Orkney Islands Council as more staff are beginning to see the benefits of using the flexibility and focus of Agile for speedy development without diminishing the governance needs of a PRINCE2 waterfall approach.

Fail Fast and Prototyping

Prototyping was implemented almost without realising it as part of the financial systems development where an aspect of budget setting was not working effectively. Rather than battling away to make it work the team changed focus to budget monitoring; this allowed the team to implement budget monitoring for the new financial year (17/18). The team were able to implement something that made a significant improvement without being delayed by focusing on something despite it not working.

More recently this principle is being applied to analysis where the team only plan so far. If it is not taking them where they need to go - they stop and adjust rather than, inefficiently, completing the full flawed analysis. This is very much about taking an incremental approach and effectively considering the planning horizon; the planning horizon is such an important concept when working in an Agile manner.

"I FIND SEVERAL ASPECTS OF AGILE VERY USEFUL COMPARED TO MORE RIGID PROJECT METHODOLOGIES

1. THE KANBAN BOARD: SO USEFUL FOR TRACKING PROGRESS OF DIFFERENT ASPECTS OF THE PROJECT. IT GIVES A CLEAR INDICATION OF WHAT NEEDS TO BE DONE, WHAT IS PROGRESSING AND ALSO WHAT ISN'T. THE SCRUMS AND SPRINT REVIEWS ARE USEFUL TO GATHER TOGETHER WHAT HAS HAPPENED AND WHAT IS GOING TO HAPPEN, AND THIS GIVES FOCUS. THIS ALSO MEANS THAT ANY ISSUES ARE RAISED EARLY AND STEPS CAN BE TAKEN TO RESOLVE. WE ARE ASKED TO GIVE MONTHLY HIGHLIGHT REPORTS AND THE KANBAN BOARD JUST ABOUT WRITES IT FOR US!

2. WHEN THE PROJECT HAS MANY UNCERTAINTIES IT IS EASIER TO RESPOND AND ADAPT TO THESE. THE SHORT TERM PLAN IS DETAILED BUT THE PROJECT PLAN IS MORE SUMMARISED

3. IT DOES HAVE A GOOD TEAM BUILDING ETHOS AS THE SCRUMS ALLOW ALL TEAM MEMBERS TO CONTRIBUTE.

WORD OF WARNING: YOU HAVE TO WORK AT IT! THIS ISN'T A SILVER BULLET THAT WILL GUARANTEE DELIVERY ON TIME AND WITHIN BUDGET."

David Aim, Financial Systems Manager

Biggest Challenges

1. **The Agile team cannot shut themselves away**: pure scrum does not easily fit as people have day jobs and cannot always be available; SCRUMBAN is a really good approach to handle the dual roles of many of the project team;

2. **Creating a corporate understanding of Agile:** training is definitely required to assist with this and you should only use Agile on small projects initially before moving to a wider implementation. Using Agile techniques, almost by stealth, within current projects is possible and can help the teams grow in familiarity and confidence.

3. **Agile estimating:** can be a difficult challenge. It is something the Orkney team are continually working to improve. Estimating tools such as planning poker can work well and the team are considering moving away from estimates in terms of effort to the Agile technique of story points.

Recommendations/Lessons Learned

1. **Agile techniques work well where there is ambiguity, complexity and / or uncertainty**: yet, they are not suited for every project. Only use Agile where appropriate and remember it can be a matter of "how much Agile" to use and not an all-or-nothing dilemma.

2. **Use Agile to learn Agile:** use the Agile tools to reflect upon what works best for you – give it a go and learn from the experience, almost prototyping Agile itself. The retrospectives are a particularly valuable tool to assist with this learning.

3. **Use the Kanban board realistically:** don't make each "sticky" on the Kanban board too large (in terms of effort) – consider a maximum of 3 days effort per note on the board.

4. **Agile still needs planning:** Agile does not mean no planning – just a different form of planning.

"AGILE MAKES LARGE PROJECTS MANAGEABLE AND LESS OVERWHELMING. YOU WORK OUT WHAT YOU CAN DO WITHIN 2 WEEKS, FOCUS AND GET IT DONE. IF PRIORITIES CHANGE THAT IS FINE, ONE TASK IS SWAPPED OUT FOR ANOTHER, SO IT REDUCES STRESS. AT THE END OF THE SPRINT YOU HAVE ACHIEVED! WE CONSIDER WHAT HAS GONE WELL (OR OTHERWISE), APPLY IT TO THE NEXT SPRINT AND START AGAIN. IT IS A GREAT WAY OF WORKING"

Gael, Project Officer

Participant Details

Alex Rodwell, Senior Project Officer - Orkney Islands Council

Supporting Documentation

1. The Agile Manifesto http://Agilemanifesto.org/
2. Development that pays (software focused but very useful and applicable)
   - https://www.developmentthatpays.com/
   - https://www.youtube.com/channel/UCVHTu50vmvVA0OtkGBJlGPw
3. The Scrum Guide https://www.scrum.org/resources/scrum-guide
4. Prince2 Agile https://www.axelos.com/best-practice-solutions/prince2-Agile
5. Agile PM (APM) https://www.apm.org.uk/resources/find-a-resource/Agile-project-management/