UK Government Organization Succeeds with Large Scale Disciplined Agile Software Development

- IJI provides agile coaching expertise and innovative solutions to transform hundreds of projects

- Project lead-times, documentation overheads and time-to-value are slashed

- Levels of governance, compliance and predictability are maintained or increased

- Transformation conducted in a way that ensured productivity remained high throughout

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The Challenge

The organization had already made significant investments in increasing its levels of software development maturity and predictability through the use of CMMI and PRINCE2-based program and project management frameworks. It had also adopted an iterative software development approach based on the Unified Process. This had given the organization the foundation it needed in mature and professional practices to provide a manageable and predicable software development service to its customers.

The next challenge was set to significantly improve time-to-value and productivity through the adoption of agile principles and practices across the organization. The organization could not face or afford another costly business-transformation program, however, and neither could it afford to lose any of its hard-won levels of predictability, governance and control.
Development process challenges identified included:

- Too much overhead, in terms of prescriptive process and mandated documentation
- Unacceptable project lead times
- Excessive process engineering at the organization level
- Inflexible interpretation by project teams
- Lack of visibility of key project health and status indicators

The Solution

Whilst Scrum was favored as an agile approach, it alone would not be sufficient to enable the speed and responsiveness required whilst maintaining governance, control and visibility. IJI were chosen to lead the transformation because we were able to demonstrate that we understood the organization's business drivers, goals and constraints – and we proposed innovative and cost-effective solutions based on proven practices and technologies that exactly met the organization's needs.

A small IJI team set about creating a set of innovative solutions to enable radical improvements to be achieved across the development organization. The aim was to do this without a costly "root-and-branch" process replacement – and all the associated business change, disruption and re-skilling that this would require.

The key to success was implementing low-cost and simple solutions to:

- Agree transformation goals and outcomes
- Measure progress and benefits from the outset
- Separate compliance concerns from development team process
- Enable team self-organisation and empowerment
- Increase stakeholder collaboration and improve customer communications
- Provide visibility of project status, health and progress directly through the effective use of collaboration tools.
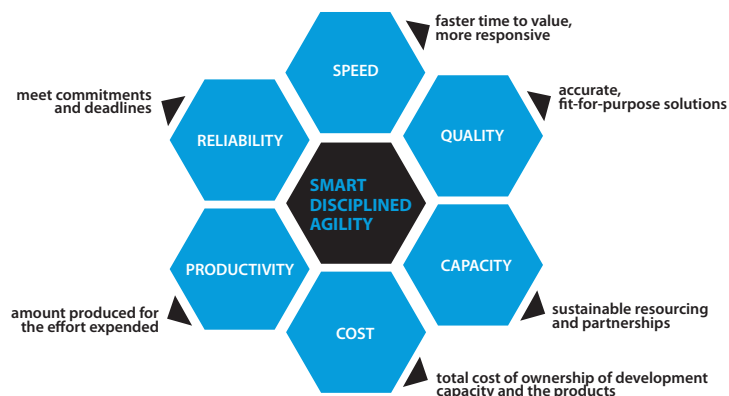
The business goal for the transformation was "to massively reduce time to value without compromising predictability, compliance, control or quality". A simple balanced-scorecard approach to measurement was devised to ensure that the solution did not achieve gains in any one key dimension by sacrificing any other key dimension, the dimensions being:

- **Speed** – faster time to value, more responsive
- **Quality** – accurate, fit-for-purpose solutions
- **Capacity** – sustainable resourcing and partnerships
- **Cost** – total cost of ownership of development capacity and the products
- **Productivity** – amount produced for the effort expended
- **Reliability** – meet commitments and deadlines

A lightweight approach to team communication and collaboration, and project planning, execution and tracking was devised using a templated-wiki based project dashboard and portal. This was powered "under-the-covers" by a simple checkbox-based progress quality assurance approach. These simple tools enabled development teams to move away from the previous prescriptive and heavyweight document-driven control processes, with its long lead times, high overheads and costly review-and-approval time-lags.

IJI supported the transformation with a team of agile coaches who worked closely with the organizations development staff to provide hands-on training and mentoring in the new agile approach supported by the wiki-based tools. Over time, as practitioners achieved self-sufficiency, the coaching reduced. Internal coaches were identified and trained in agile techniques and coaching skills, so they could continue the work of the IJI coaching team.

MEASURING SUCCESS

faster time to value, more responsive

SPEED

meet commitments and deadlines

RELIABILITY

QUALITY

accurate, fit-for-purpose solutions

SMART DISCIPLINED AGILITY

PRODUCTIVITY

CAPACITY

amount produced for the effort expended

COST

sustainable resourcing and partnerships

total cost of ownership of development capacity and the products

The Results

Levels of team empowerment, continuous self-improvement and stakeholder collaboration were increased without disrupting project delivery. This was achieved using tailored on-the-job enablement in Scrum-based agile team practices, through team workshops, coaching and facilitation.

The solution was piloted and benefits reported by the pilot project included:

- **Rapid task start-up** - took just three days to initiate basic information
- **Reduced management overheads** - focus more on leadership, less on bureaucracy
- **Easy stakeholder communication** - single 'portal' access for all information
- **Simple to maintain** - two to three hours per week to keep updated
- **Utilize essential controls of Unified Process** - without the weight and complexity of 'entire UP'.

Early adopter projects were CMMI SCAMPI C appraised to ensure that there was no loss of control, compliance or maturity. Quality assurance teams reported much greater visibility of process quality and project status through the project wikis, enabling them to appraise teams with minimum intrusion and disruption.

During the next year, the approach was adopted by more than 100 projects; approximately half of these being actively mentored by the enablement team and the other half independently adopting the approach. Consistent improvements were reported across all six measurement dimensions, with the most significant benefits being in productivity, capacity, speed and quality. Reported benefits included:

- "We successfully met each release milestone, delivered complex functionality early and have worked well with stake holders."
- "Encouraged the delivery of end to end benefit early and regularly … the customers were always happy as they were seeing regular deliveries of benefit."
- "A really smart way of ensuring the work lead knows where the project is by answering a few simple questions."

Conclusions

Agile development approaches can work in large software development organizations – the key to successful roll-out and transformation is active coaching, but always with a view to enabling self-sufficiency.

Agile software development is often feared by management, on the grounds that it is an excuse for not following any process, and that they will lose control and visibility. But when implemented thoughtfully, and with proper guidance from experienced professionals, it can actually increase levels of control, compliance and visibility.

Implementing change in large organizations can be disruptive and expensive, but it needn't be. Critical success factors are to:

- achieve revolutionary impact through evolutionary changes that are non-threatening, and;
- to deliver measurable incremental value to all key stakeholders, whilst minimizing productivity dips or time taken out for retraining.

IJI have since been retained to further enhance the organization's disciplined, agile development capability.

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IIJI is a global services company specializing in improving the performance of software development teams by removing barriers to the adoption of new practices. Through the provision of high calibre people, innovative practices, and proven solutions, we ensure that our customers achieve strong business/IT alignment, high performing teams, and projects that deliver.   **www.ivarjacobson.com**

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