

Agile Software Development With Offshore Teams – Can it Be Successful?

1. Is Agile Compatible With Offshore?

Software development using a variety of Agile methodologies has become increasingly well accepted over the past few years with the principles espoused in the ‘Agile Manifesto for Software Development’ being the guiding principles for these methodologies. Another trend that has become a major factor in the world of software development in recent years has been the increasing use of development resources and expertise located offshore, particularly in India, but also increasingly in Eastern Europe, Russia and China. However on the surface there would seem to be challenges in that some of the key values of the Agile Manifesto would seem to be difficult to adopt when working in an offshore environment. In particular, ‘Individuals and interactions over processes and tools’ and ‘Customer collaboration over contract negotiation’ imply an environment with close interactions between and within development teams, and between development teams and the customers for a particular project. This is reflected in the common wisdom that Agile development is most successful when development teams and customers are co-located. This however would mean lost opportunities for the adoption of Agile methodologies, and constrain Agile methodologies to being used in a subset of real world environments where no resources are located offshore.

2. Opportunities From Combining Agile Methods With Offshore Development

The ability to successfully use Agile methods within an offshore environment has significant advantages – all the advantages associated with Agile methods, together with the skills and resource advantages of going offshore. In addition, within global organisations it is not always the case the all resources working on a project, both the business and technical team members, will be located in one place. This white paper looks at real examples of large projects at global organisations where Agile projects have been successfully delivered using offshore resources. These projects were in the area of sales and marketing and have a number of common characteristics:

- Global customers
- Incomplete and rapidly changing business requirements
- Providing key business functionality (e.g. in the area of revenue generation)

XP was chosen as the Agile methodology for the projects described. Past projects that had not used Agile methodologies had failed because of an inability to meet customer needs or running late and over budget. This was primarily a consequence of an inability to respond to a highly dynamic business environment reflected in changing requirements. In the case of these sales and marketing projects this was driven by factors such as changing market demand for particular products, the need to penetrate new markets, and sudden changes in product pricing policies. The feedback from the business to these ‘pre-Agile’ project attempts could be summarised as ‘too little, too late!’

The projects to which the model and processes described below were applied included a supply chain application to speed up decision making around order

fulfilment by using custom algorithms, and an application to speed up the response to customer quote requests. Both these applications had a common denominator in that their business value would come from the ability to speed up critical business processes from taking weeks to days, and to enable the organisation to be faster and more responsive than the competition. These applications also had 3 other common characteristics:

- Although the high level requirements were clear (improve response time to external customers) detailed requirements and functionality were not clear. The business was having trouble to get clarity and agreement on these requirements and functionality. This stemmed from the global internal customer base for these applications with different requirements in different geographies, and the innovative new business processes being introduced
- Tight timelines for the deployment of working applications
- Tight budgets

After a couple of successful pilot offshore Agile projects, the decision was made to use an offshore technical team based in Russia for these projects. This decision was driven by four factors: the success of the pilots, availability of strong technically talented developers, close time zone proximity to the business team in the UK, and a very cost effective option for development. Clearly the last factor was important given the tight project budgets. The availability of strong technical talent in Russia was also important as at that time sourcing technically strong developers for Agile project work in the UK was proving a problem. Given the tight timelines for these projects it was critical to have a stable project team and to not incur issues with turnover and churn of project personnel. Building up a technical team in Russia addressed these issues.

3. How To Make The Combo Of Agile and Offshore Succeed – Real Life Examples and Best Practices

The ability to successfully use Agile methods within an offshore environment has significant advantages as discussed above. Adopting Agile methods in an offshore environment requires a number of processes and best practices to be put in place to ensure success. The model described below assumes a significant geographical and time zone separation between the customers of a project and the project's development team. Roles and key functions were as follows for successfully using 'remote XP':

- Customer: Writes stories, Prioritises Stories, Provides daily feedback, Accepts stories, A customer or customer surrogate working in the same time zone as TPM (see below)
- Technical Project Manager (TPM): Facilitates planning sessions and daily Scrum sessions, Ensures everyone is performing their role, Removes non-technical roadblocks that stop developers coding
- Developer: Writes automated tests, Develops code, Ensures 100% of tests pass every time that code is integrated
- Lead Developer (also know as an Enabler): A role introduced to enable 'remote XP' to succeed; Removes technical roadblocks, "Buck stops here" person for ensuring daily deployment, Process automation champion, Ensures standards adherence, Gives resource continuity, Provides application support for production systems

The model adopted for the projects covered in this white paper was to have the Customers and the TPM always co-located – if not at the same site, at least in the same or proximate time zones (ideally no more than +/- 2 hours). The Lead Developer and Developers were usually located together a number of time zones away from the Customers and the TPM. For the particular projects discussed in this white paper the Customers and TPM would be located in the UK and Western Europe (with a small number in US and Asia) together with the other resources located in Eastern Europe or Russia. Initial release planning sessions may have been done face to face if it was the first time the team worked together, usually within the UK. As well as giving a common framework for understanding the project this also greatly improved communication throughout the project. Every day the team met on the phone for at least 30 minutes together, with frequent exchanges throughout using instant messenger, telephone and email.

There are particular tools that are essential for enabling collaboration between the onshore and the offshore teams – good quality teleconferencing tools, instant messenger, email, desktop and applications sharing. However the best tool for ensuring collaboration in an Agile environment is the classic spreadsheet. All stories and tasks, iteration plans and release plans are held in spreadsheets that are shared rather than the usual card and flipchart. Essentially these tools and the processes used around them should make the onshore/offshore working environment operate as closely as possible to a co-located environment.

The commitment from the Customer to make the ‘remote XP’ model work is also essential and a key element here is the ability of the offshore team to have timely access to the Customer, usually via the tools listed above. Implicit in this is the key requirement that the Customer is bought into, and is actively supporting working in this offshore model. Otherwise these projects would have been doomed to failure.

4. The Business Benefits – The Bottom Line

All the projects covered in this white paper were delivered on or before the first commit date given to the customer with desired functionality delivered in 14 weeks or less. Also in the majority of cases the customer achieved the desired functionality with costs at <40% of original budgets assuming waterfall methodologies through the adoption of a ‘remote XP’ model. This is clearly a very compelling message for management under pressure to deliver to real business needs and to deliver within budget.

5. Key Learning For Future Successes

Some of the key learning’s obtained from these projects on how to make ‘Remote XP’ a success are:

- Clear partitioning and clear allocation of roles between onshore and offshore teams
- A ‘Lead Developer’ role within an offshore developer team is a critical role and a key interface between the onshore and offshore teams.
- Use appropriate tools and processes to make an onshore/offshore environment as close as possible to a co-located onshore environment
- Build and maintain trust between the onshore and offshore teams