Just Right Governance for Agile Projects

Overcoming the challenges of managing Agile development in the enterprise.
MANAGEMENT SUMMARY

TRANSITIONING AGILE TO ENTERPRISE PROJECTS

CIOs have a difficult job with the requirement to deliver value to their business when the competition to supply services is fiercer than ever, and with the additional pressure of outsourcers and cloud providers knocking on the door offering alternative services. The Agile revolution, or possibly evolution, that has brought methodologies like Scrum into the mainstream of software development, can pose another burden if dealt with in the wrong way. The typical enterprise development landscape now includes a range of different work processes from traditional waterfall to Agile development methodologies and practices. These different approaches may be mixed within the same project, resulting in interface issues between the teams. The interface problem also occurs for senior managers who need to obtain a single view of all projects. For CIOs the mounting complexity might seem insurmountable, but there is a way forward.

The introduction of Agile development practices is the first step to righting a difficult situation because Agile processes bring the business and IT into closer alignment. Short iterations of development activity create a feedback loop that allows the business to steer the project. This replaces the traditional waterfall model where requirements are thrown over the wall with no customer involvement until user validation occurs at the end of the project. So Agile development should be part of the solution, not the problem. The way forward is to provide tooling that supports Agile development practices as unobtrusively as possible, and at the same time provide the type of information necessary at the project-management office level, such as timesheet data, budget burn-down, and project progress metrics.

Maintaining sufficient governance of projects is made possible through applying portfolio-management tools and techniques to IT services. This IT portfolio management approach can help IT organizations to minimize risk, maximize ROI, and assist an organization in selecting the right blend and balance of IT investments. The right portfolio-management framework will also help to prioritize and manage the use of scarce corporate resources against organizational need.

CA Technologies offers a solution to address portfolio management for Agile IT. The new CA Agile Vision solution, which was built leveraging Salesforce.com’s Force.com platform, is a lightweight Agile planning solution that primarily supports the Scrum methodology. It offers the essential features necessary for managing an Agile development project, particularly one with distributed teams, without the clutter of little-used features. Of particular value to CIOs is the integration of CA Agile Vision Enterprise Edition with CA Clarity PPM because this solves the problem of managing a range of different types of projects, from waterfall to Agile, while still providing a comparable understanding across project methodologies.

Just-right governance means maintaining sufficient visibility over all projects, from waterfall to Agile, without interfering with how those projects operate. CIOs can allow project managers to choose the style of work most suited to the needs of the project and the business, and at the same time have available the project metrics needed for good project governance.
A VISION FOR AGILE DEVELOPMENT

DELIVERING WHAT THE CUSTOMER WANTS

The advantage of an Agile development approach is that the emphasis is on business need. There is little benefit to the business from a project with a tremendous technical success if the end product is of little relevance to the business needs and ends up as shelf-ware. In an Agile development project the team is guided by the product owner to deliver real business value. To accomplish this, it is necessary for developers to engage with the business in face-to-face communication throughout the project lifecycle. Product managers or business analysts take on the role of product owners and participate in Sprint planning sessions, helping steer the project toward maximum customer value. The initial requirements-gathering stage is kept focused on the known features, and requirements are allowed to evolve through the lifecycle. End of Sprint reviews provide feedback to inform all parties of the direction to take, and guide the customer in defining new or refining previous requirements.

An Agile project delivers incrementally to the business at regular expected heart-beats and this provides real visibility and value. If it is cut short at any point a traditional project will have delivered zero value to the business whereas an Agile project will have delivered parts of the project that can operate successfully. For example, in one case a website-search capability was built but the reporting that would go with it was not. The product could still be delivered with the search feature and still deliver value.

ADAPTING TO CHANGE

Change happens for numerous reasons and a successful business anticipates change and is prepared to address it. Change can also represent new business opportunities, and being adaptable in an ever-changing market can make the difference between surviving or thriving. Agile development practices are ideal for allowing a high degree of flexibility, such as evolving a project during its lifetime, particularly in the early stages of a product when there is less certainty about business needs. Agile development is also better suited to deliver to the market more quickly, for example by focusing a first release on the 20% functionality that will be used 80% of the time (Pareto principle).

General Eisenhower said: "In preparing for battle, I have always found that plans are useless but planning is indispensable". This is as true in IT as in war. Plans are guides that help us at any given point, but as the situation changes, plans need to be revised. Associated with plans are estimates. However, estimates need to be made independently of plans. Estimates are to be as objective as possible with no consideration of constraints such as how much effort will it take to produce a feature irrespective of, say, what skills are available.Plans are then introduced to consider the constraints using the objective estimates, such as reducing scope to fit in the estimated effort within the delivery schedule. Estimates and plans that are produced simultaneously are neither good estimates nor good plans. First produce good estimates, then fit the plans around them. There is also a danger that a plan presented to senior management is taken as a commitment. It is therefore important to introduce a cultural change in the organization so that project stakeholders are alerted that plans will be revised continually, based on business needs and market conditions that will ultimately provide increased company revenue.
CA Agile Vision is a cloud-based service built on Salesforce.com’s Force.com platform. Salesforce.com is a significant cloud player with proven performance and security records to demonstrate to users. It also has a well-established application exchange called App Exchange, which has an active community of users offering their solutions and supports a third-party ecosystem where vendors showcase their products for the platform. CA Agile Vision is built on the force.com platform, and going forward CA Technologies plans to introduce new PPM product features to the platform, to benefit not only developers, but also IT executives and the project-management office.

CA Agile Vision is designed to support most agile methods, but specifically the Scrum methodology, the most popular Agile methodology that is focused on project planning and management. It has a highly intuitive user interface stripped of complexity, which is easy to drive. The all-important Agile project whiteboard has an electronic equivalent (see Figure 1). The sticky cards that represent tasks can be dragged across the board and their status changes accordingly. Cards can be updated by Agile team members to reflect hours worked and remaining. The virtual wall is essential for distributed teams so that they can share a common view of the project and gather round it for daily Scrum and Agile retrospectives irrespective of location.

The tool has a facility for creating user stories and estimating points for each, based on the effort required to deliver the user story. The progress of the project is tracked by velocity and burn-down charts that are automatically displayed based on task completion. The rows of the virtual wall can display tasks by user stories or by team members working on the tasks. The guiding principle behind Agile Vision’s design is to provide the essentials for team management yet prevent the tool from becoming a burden.
AGILE DEVELOPMENT CHALLENGES

CIO IS UNDER PRESSURE

Agile software development is now entering the mainstream as organizations see the benefits of responding more quickly to customer needs and delivering projects faster to market. What this means in terms of adoption is a spectrum that includes organizations transitioning some projects to Agile, organizations planning to do so, organizations with some projects already running Agile, and organizations which have completely transitioned to Agile practices across the board. Typically, though, in most enterprises, a mix of Agile and non-Agile projects will be the case, for the reason that projects differ in their needs, team members have differing levels of training and skills, and some areas of activity have a greater resistance to change.

For the CIO this scenario with a mixed software-development environment, as new work practices are adopted, only increases the demands of a job that is already quite stressful. But CIOs are also under greater pressure than ever to increase innovation and agility, with in-house departments competing with outsourcers and now with cloud providers as well. These CIOs must articulate the value the IT portfolio provides, build and deploy services much more rapidly, and better understand and deliver on the rapidly changing needs of their business customers.

The challenge for CIOs is therefore to support the transition to Agile practices, gaining the benefits that an Agile methodology can deliver, while also being able to govern the projects according to business metrics of costs, resources, quality, and delivery. It is only by ensuring that the greater transparency that Agile development can deliver is exploited that the business benefits of Agile practices can be realized. The challenge is that Agile processes change the traditional interface between a development project and project monitoring. Understanding that change and how to manage it is the key to PPM success.

VISIBILITY AND ACCOUNTABILITY

The transition to Agile development practices in IT has been dramatic and driven by the need for businesses to compete more effectively, particularly in difficult economic times, by being more innovative and responding better to business needs. Agile methodologies like Scrum are highly iterative processes working on three levels:

- **Release Plan**: the highest level is the release plan that focuses on the elements of the longer product, application, or service lifecycle, and will typically take from a half to a tenth of the time of traditional waterfall planning timescales;

- **Sprint**: the second level is the iteration or Sprint, which lasts typically two to four weeks to deliver working software to the client and which enables immediate feedback in the end of Sprint review to inform the team if they are nearing customer expectations;

- **Daily Scrum**: the third level is the Daily Scrum, which is usually run at start of working day for about 15 minutes and where the development team meets to discuss what they did the previous day, what problems they encountered if any, and what they plan to work on in the day ahead. Scrum meetings take place in front of the project whiteboard, and for small co-located teams, this is practical enough. Sticky cards are pasted on the whiteboard columns indicating the progress of any particular task. For distributed teams, having an Agile planning solution (like CA Agile Vision) where tasks can be viewed from any location is beneficial, and in most cases, a necessity.
Each of these three levels of iteration generates new types of information about the progress of the project, and unless this information is raised to senior management a major benefit of Agile development working is lost. Products like CA Agile Vision help to ensure this information is filtered up to management.

One of the myths of Agile development is that the development team is no longer required to provide cost estimates of the work ahead. If senior management is told that the IT department has now gone Agile and that as a consequence there will be less visibility, communication and coordination, then it is not Agile development that they have transitioned to but chaos. An Agile-run project should provide estimates and plans covering both effort and costs on an ongoing basis throughout the project lifecycle. A core part of Agile project planning is the acceptance of changes in estimates as the team gains a better understanding of customer requirements. There should also be transparency into the project progress through use of a burn-down chart that shows how much work has been done and how much remains.

However, CIOs need to appreciate that project planning based on traditional metrics will change in an Agile project. Project budgets can be estimated at the start of the project, but as a result of the flexibility built into an Agile development process there will be ongoing revisions. A project’s product owner (or owners of a large and complex project) will need to provide the criteria for which dimensions of the project will be fixed and which adjusted. These dimensions include scope, budget, and scheduled delivery date. When a change in a dimension is required, some flexibility is necessary.

For example, if the scope is changed by the addition of a new feature then either the schedule is moved to allow a new feature, or the cost is increased to bring in additional manpower to work on the new feature. Or the scope total is left unchanged by removing a feature or features of lesser priority of equal effort to the new one. The data is therefore available for maintaining visibility over an Agile project and the Agile development challenge is harnessing this data and raising it to the executive.

AGILE DEVELOPMENT IN MIXED ENVIRONMENTS

Most enterprises will have a mix of software-development processes across the project portfolio, with the traditional/waterfall process continuing to be used. A typical release comprises multiple project teams following different methodologies and development-related issues. While this is non-optimal it reflects realities where Agile is being adopted incrementally. It is important to stress that an individual product team and its projects would be best served by following one methodology to reduce alignment and integration issues.

Regardless of the methodology followed, the CIO needs visibility into the entire portfolio. The ability to synchronize project management across these different teams, and also raise a consistent level of reporting to senior management for tracking costs, resources, scope, and progress regardless of the project management method can be a challenge. Examples include capitalizing costs of Agile development work when design and development is mixed together in a single day, or predicting what will be delivered in an environment where deliverables are always changing.

The CIO therefore has to manage diverse project processes and maintain a consistent view that represents all projects. Ensuring that a unified view is available for the executive requires information to be made available and translated into a common language. The trend toward cloud computing only adds to the complexity of the task, with a new front that requires project tracking.
EXPLOITING CLOUD ECONOMICS IN AGILE DEVELOPMENT PROJECTS

Cloud computing, such as software-as-a-service and infrastructure-as-a-service, is currently the biggest paradigm shift in IT, allowing organizations to improve their agility. The main driver is lowering costs and the cloud leverages the benefits of multi-tenant architecture to deliver services that undercut on-premise solutions with their associated infrastructure costs and maintenance burdens. The other main benefit of the cloud is that ramp-up and down is rapid, whereas on-premise solutions run into procurement obstacles. These two drivers are accelerating cloud service consumption. For software development the cloud offers the reach of the web and the ability to service distributed teams, and developers either exploit the cloud to accelerate development or are developing applications that sit on the cloud and are delivered to end users as a cloud service.

Agile development teams can further improve the delivery of projects on time, budget, and schedule by exploiting cloud services and benefitting from cloud economics. For example, the setting up of test labs on cloud servers allows computing capacity to follow a spike pattern to satisfy testing lifecycle peaks.

The challenge for CIOs is that as cloud services become established, the business is beginning to expect the same service delivery model across the whole of IT. If service-oriented architecture has been rolled out then this is already taking place, and cloud services are another way for end users to consume services.

There is also the challenge for CIOs that users at departmental levels might directly procure cloud-based applications and infrastructure when the IT department is too focused on larger mission-critical projects to help users with small problems. To prevent chaos and data mismanagement the CIO needs a service-oriented approach that balances cloud, in-house, and a variety of other options to deliver the optimal service for the needs of the business. CIOs therefore need to consider portfolio management where all IT activities are translated into service terms that the business can understand.

PORTFOLIO MANAGEMENT FOR AGILE IT

A SERVICE-BASED APPROACH TO IT DELIVERY

Enterprise IT organizations are increasingly adopting a service-based approach to IT delivery on the back of IT service-management frameworks such as ITIL, an approach that can only continue to gain traction as cloud-delivered IT services are added to, or replace, the traditional on-premise delivery of business-enabling technology. This concept of IT delivered as a service has moved beyond the confines of the IT department and consequently enterprises will increasingly expect their IT to be delivered this way with the associated benefits even if in-house IT organizations are not mature enough to move beyond a traditional component-based approach.

In Ovum’s opinion, however, this service-based mentality should not be limited to only the IT operations, the usual standard bearers of ITIL. The service lifecycle should also encompass the application-development lifecycle, with IT operations not only aware of, but also involved in, the creation of new applications where each resource is viewed as creating service elements rather than "just" software.

DERIVING VALUE FROM SERVICE PORTFOLIO MANAGEMENT

In Ovum’s opinion, “true” service portfolio management should allow IT organizations to link IT services to the business value they deliver and allow for its comparison with the cost of provision in order to identify winners and losers from an investment and ongoing delivery perspective.
There are at least two interpretations of the term service portfolio management: “service portfolio” management (managing the service portfolio) and “service” portfolio management (applying portfolio management tools and techniques to services). Many IT service-management vendors take the former view of service portfolio management and treat it very much as an extension of service catalog management, with the portfolio comprising the services pipeline (potential new services) and retired services in addition to available services (the service catalog).

However, in Ovum’s opinion, only the latter, “true” service portfolio management, can help IT organizations to minimize risk, maximize ROI, and assist them in selecting the right blend of IT investments. The right framework of service portfolio management policies, processes, and enabling technology will also help to prioritize and manage the utilization of scarce corporate resources based on organizational need.

While many IT organizations still struggle with the complexities of IT financial management beyond the basics of budgeting and accounting, service portfolio management can deliver valuable insights to IT organizations on the relative worth of current and future IT services in the context of delivering IT services as part of an overall IT portfolio. A simple example is that of an IT organization choosing to cut a high unit cost, low-volume service to help satisfy mandated IT budget cuts. The decision is made on perceived business impact, low in terms of volume and middling in terms of cost savings. However, when viewed from a delivered-value perspective, the story might be completely different, with the business value achieved from the ceased service far outweighing that from lower unit cost or higher volume services (the latter are often protected through a supply rather than an on-demand-based mentality). The IT organization will probably eventually realize its mistake, but it will be a case of “shutting the stable door after the horse has bolted” with the business impact of the ceased service potentially severe. Service portfolio management would have helped to prevent this.

APPLYING CA TECHNOLOGIES’ PORTFOLIO MANAGEMENT STRATEGY FOR AGILE IT

CA Technologies offers its Portfolio Management for Agile IT solution, which is congruent with this approach, and allows IT organizations to take a business view of available IT services and those in the project pipeline, supporting the comparison of IT expenditure and resource consumption across IT functional boundaries in order to help ensure that IT funds and efforts are optimized at a business level rather than at an IT level. Leveraging Agile methods in service definition and development also allows the organizations to be more responsive as business needs change and services adapt. The Portfolio Management for Agile IT solution includes the CA Clarity PPM product and has recently been extended to bring Agile development resources into the mix with the CA Agile Vision Enterprise Edition product.

Agile development can be viewed as yet another resource-consuming IT silo and may even be seen by some as a way of circumventing mandated IT governance processes and procedures. However, CA Technologies has created a way of supporting both freedom and visibility when managing Agile resources, helping to plug the perceived “IT governance gap” associated with Agile development.

This is achieved via the integration of CA Agile Vision Enterprise Edition with CA Clarity PPM to link Agile development projects as “investment items” with expenditure-driving and resource-consuming activities from elsewhere within the IT organization. This provides a business-based assessment of value in the context of IT as a whole that includes insight into resource consumption (people and money) and the ability to determine the strategic alignment of IT services to business goals. This results not only in greater overall visibility from an IT governance perspective but also a much-needed capability as IT organizations make informed decisions about which IT services to move to the cloud and the priority for migration.
The CA Portfolio Management for Agile IT solution allows senior management to see metrics such as hours spent on a project across all projects regardless of the project-management method. Agile developers can enter timesheet information unobtrusively on the cards pasted on the electronic whiteboard via CA Agile Vision. The data is aggregated and fed into CA Clarity PPM for creating management-style reports. This approach ensures that Agile development practices do not disrupt business-side monitoring of development projects. It also leads to better project management and delivery, and minimizes any duplicate time entry by the Agile development team. In Ovum’s opinion this is an excellent demonstration of how automation can help an organization to work more effectively without forcing changes to preferred work styles.

CONCLUSION

Just-right governance means maintaining sufficient visibility across the entire portfolio of projects, from waterfall to Agile, without interfering with how those projects operate. CIOs can allow product managers and their project teams to choose the style of work that is most suited to the needs of the project and the business, and at the same time have available the project metrics needed at a project-management office level. CA Agile Vision and CA Clarity PPM, with their integrated capability, provide a bridge across traditional and Agile development practices allowing for an Agile Portfolio Management for Agile IT approach that also encapsulates an SOA environment and cloud-based services. Ovum believes this approach can help reduce the pressure on CIOs and help them meet the toughest demands of their business.