Agile Planning in a Multi-project, Multi-team Environment

How organizations evolve to cope with the challenge of scaling Agile planning and improving its reliability.

Executive Summary

As Agile methods continue to gain popularity across the software development community, the Scrum method is on the verge of becoming a de facto industry standard. Though there are success stories and recommendations, additional understanding of the challenges in the adoption of Agile methods in general, and Scrum in particular, is needed.

The adoption of the Scrum process in a multi-team context — with groups working simultaneously on several projects — is one area that is in severe need of attention.

Planning Onion

Mike Cohn, the cofounder of Scrum Alliance, has described the planning continuum using an onion analogy. With this image, strategy is the outermost layer followed successively by layers for portfolio, product, release, iteration and daily segments as you approach the onion core (see Figure 1). There is no one tool or technique perfectly suited for each level in the onion.

The certainty of undertaking activities addressed in each of these levels increases as you peel the onion. As a result, the amount of detail addressed, the number of people involved and the frequency can increase as you peel down through the onion. Therefore, it is vital to get the first three layers right and to mitigate the risk of spending money on features that may not be built or may be built differently.

This white paper, with its focus on two illustrative cases, throws light on industry best practices in Agile planning in a multiple-project, multi-team environment by detailing the first three layers of the planning onion — strategy, portfolio and product.

Case One: Online Platform in the Telecommunications Industry

Operating in the European region, a leading telecommunications company undertook the construction of an online platform. The program consisted of 20-plus subprojects spanning diverse areas, from online shopping to customer care. The platform was developed and maintained by a mixture of in-house development teams and third-party vendors operating in both Agile and Waterfall methods. However, the delivery team and product management team were strongly committed to the Agile methodology.
The teams received more than 1,000 requests to add, enhance or modify functionality of the platform in the last year alone from different areas of the business. So, the challenge was to ensure that the delivery team – consisting of multiple Scrum teams and vendors – adhere to the strategy set out by the product management team. Given that only one of every two requests gets financial approval, this mammoth task had to be executed with minimal waste of effort. It also required an evolving design and architecture to comply with the Agile principles of development.

This was achieved by setting up a dedicated front-door team that sits within the delivery team to act as a primary point of contact for each product owner. Every request from any product owner had to go through the process diagrammed in Figure 2, which enabled the delivery team to adhere to the first three layers of the planning onion.

The front-door process includes the following:

- **Backlog:** This is where the business and product owners engage with the front-door team about any piece of work, whether it’s by phone, e-mail or face to face. It’s added into the backlog and from there it should be picked up by one of the front-door team members.

- **Vision:** This is where the front-door member works out the high-level requirements by establishing the goal, the benefits and the customer experience. This team member will work out the best way to deliver the work with the funds available, and set the initial expectations on the size of the challenge. Particular emphasis is given to how the solution fits with the overall strategy and within the current portfolio.

- **Initial estimate:** Once the scope of the requirement is understood, the front-door member works with the online delivery team and third parties if needed. The front-door member estimates the high-level cost to complete the request. The front-door member then goes through the estimate with the product owner.

- **Inception:** Sometimes it just isn’t possible to nail down the requirements. In such cases, the front-door member brings the project team together with representatives of the online delivery team, who’ll help shape the requirements and devise a more detailed estimate.

- **Detailed quote:** After the inception, a detailed quote with an indicative cost to complete the piece of work is given. Note that the quote is given in monetary terms based on T-shirt estimation. Naturally, the variance and risk involved in the estimates is made clear to the product owner.

- **Transition to delivery:** Once the product owner approves the estimate, the request is transitioned for delivery. The product management team then prioritizes the requests by liaising with the product owners. In the Scrum of Scrums meeting, one Scrum team picks up the request based on available resources and skill sets. Note that from this point on, we are dealing with the bottom three layers of the planning onion. The Scrum team then liaises with the product owner to deliver the request per the business requirements.

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**Peeling the Agile Onion**

![Source: Mountain Goat Software.](image)

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**Front-Door Process**

![Figure 2](image)
Case Two: E-commerce Platform in the Airline Industry

Our second case in point involves an e-commerce platform (or product) developed, customized and hosted by a global software provider to the airline industry. This solution is used by more than 20 airlines operating in different geographies. The diverse nature of the legislation and regulatory compliance needed, coupled with varying requirements for both budget and conventional airlines, make it a complex systems development activity. At any point in time, more than 100 requests from various clients using different versions of the customized solution have to be addressed by the product management team.

Similar to the first case, only one in every two requests will be approved by the client based on the estimates provided.

Figure 3 depicts how these requests were planned and estimated, before going back to the customer for approval.

The requests originate with the customer-facing project managers who hand them off to the product management team. The product management team prioritizes the requests by liaising with the project managers. These requests are fed into the Scrum of Scrums as research spikes for estimation. They are then picked up by Scrum teams at least two Sprints (over two weekly Sprints) in advance.

Once the research spike is played in a Sprint, the team proposes a high-level solution and relative estimate that is passed back to customers through the project management team. Where necessary, prototypes and demos are used to minimize the use of documents. Once the client (product owner) is happy, he agrees on the delivery method and date with the project management office. If the request is approved, the feature request returns as a Story to the backlog item with well-defined acceptance criteria for development.

Results

For both the cases, the observed results of the planning approach are as follows:

- **Case One:** The front-door team received 1,012 requests over the first year. All of them were initially cost-estimated. Figure 4 shows the items estimated by the front-door team, broken down by calendar month and project area. Note that only 46.2% of the requests (i.e., 465 requests) were approved for delivery and eventually transitioned to delivery. Many of the items transitioned have either been delivered or are currently being developed. Given that the front-door process was put in place just over a year ago, the feedback received thus far from the business and Scrum teams has been positive. There is an overwhelming feeling within the business that this planning process is more transparent, relatively accurate and reliable than the planning process previously in place.

- **Case Two:** Before this planning process was introduced, several customers were unhappy with the turnaround time of their requests. One key customer was in a state of high escalation. After nine months of following this planning process, along with other Agile methodology compliance improvements, many of these customers have openly stated that their...
response times for estimation have improved significantly. As a testimony to the success of this Agile planning process, the key customer who was in a state of high alert has now left red-alert status.

Gaining Agile Momentum
Planning and estimation have often been controversial areas for organizations following Agile, Waterfall or iterative methods. In particular, the key issues of predictability and standardization come up time and again. This gets exacerbated in a multi-project, multi-team environment where teams are expected not only to work on multiple projects simultaneously, but to estimate the requests and revert to the product owners at the same time. If not handled effectively, this multi-tasking set of activities puts pressure on the team and distracts them from delivering their Sprint commitments.

Because of this problem, this is an area where a wide range of hybridization has occurred. However, as demonstrated in this white paper, organizations must evolve to adjust planning techniques to fit their governance structures, culture and risk profiles in a manner that increases standardization without ignoring the principles of the Agile Manifesto. There is no one-size-fits-all solution and therefore organizations can’t take the cookie-cutter approach to address this challenge.

It is clear that an organization has to inspect and adapt to fine-tune the planning process, before getting it right. This can be achieved only through able leadership and support from an Agile coach with experience in Agile transformation projects.

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