

Managing Business Analysis for Agile Development

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Abstract: Agile development methodologies are helping software companies and development teams to align to the new evolving economy. Agile gainsay and hampers our notion of software engineering practices and project management techniques and methodology, and the way we lead our project teams. The Agile movement impacts each role on a project team in a different way and creates a lot of chances to learn new skills and develop new ways of working and gaining success together. Agile introduces a major shift in the way teams look at software requirements gathering and when they are defined in the process. Agile Business Analysts are an unified part of the team throughout the life of the software project development cycle and alleviate collaboration across a broader cross section of the project team and the business. Collaboration, management, facilitation, leadership, coaching and team building become significant new skills required for BA on Agile projects. Leadership and management are key components critical to their success.

Keywords: Conventional requirement, Agile management techniques, Collaborative requirement, New Business Analysis skills, Agile on conventional project

I. INTRODUCTION

Moving from old project work to agile project work will impact all functional role on a project team separately:

- For Business Analysts (BA), successfully managing an agile project depends on defining requirements in smaller increments and working more collaboratively with the team through the life of the project.
- For Project Managers, success moving to Agile development methodologies depends on acquiring the skills necessary to progressively plan a project through its lifecycle rather than at the onset. Project Managers will also need to acquire new ways of intellect project control and risk.
- For Quality Testers, evolving to an agile framework will mean developing the skills necessary to write tests and validate code in parallel with development.

This paper will explore the impact agile development methodologies are having on the BA community, what new skills are required, and what BAs can do to ease the changeover.

II. CONVENTIONAL REQUIREMENT

The BA's are learned to believe that they can and should define detailed requirements at the starting of a project. Built in this philosophy there are several challenging assumptions. Conventional requirements analysis assumes that:

- Customer can definitively know, enounce, and functionally define what the system or software should do at the end of the project
- Once documented, the requirements will not change – at least not without potential project delays, budget overruns, or scrawny feature sets
- Requirements process is captive to a single product owner who sits apart from the development team picturing the product
- Does not acknowledge the inherited uncertainty in software development that agile methodologies seek to embrace

Experience shows us that these assumptions are wrong. As we learn more about the evolving system, our knowledge will impact the system we want to build. The process of creating the system helps the team learn more about what is possible. The act of creating the requirements will cause them to change. Agile methodologies boost us to embrace this kind of work to adopt in our projects. We start realizing that change really is nice, it helps us to deliver greater value to our customers and attempting to define everything up front results in continuous change management. To fully understanding the impact that Agile has on the BA role, it is helpful and required to understand how agile projects are running.

III. AGILE PROJECT MANAGEMENT

According to Agile Project Management the processes need to create good software in today's world are not predictable. Requirements with technologies change and as individual team member productivity is highly varying. When processes are not fixed and results cannot be predicted, we cannot use planning methods that based on only predictability. Instead of it, we need to adjust and change the processes and guide them to give our required outcomes. Agile project management does this by maintaining and keeping progress highly visible, inspecting project outcomes regularly, and maintaining an ability to adapt to changing circumstances as required.

Benefits of Agile Project Management are produced in incremental part by having an enormous amount of accountability and responsibility on team members. Great teams build great software and those should be trusted and

appointed and charge to deliver. The Agile Project Manager helps the team to always stay focused on the several business issues and help them to correct and removes obstacles that hinders the team's ability to deliver final product. The focus is on the team because they are who ultimately going to deliver.

As agile teams are self-organizing, agile project manager focuses much on leadership as compared to a conventional development environment. Several skills like coaching, facilitation and team building are important components for project success. The project manager is creating a trust and an environment where each individual are motivated to contribute to the team's success for project. Project Managers focus little on assigning tasks and managing plan and much on maintaining the solid structure and discipline of the agile team. By trusting that through visibility, regular inspection, and proper adaptation the team will deliver the noticeable and desired results. This philosophy change the role of the BA for how requirements are gathered, distilled, and managed [1].

IV. COLLABORATIVE REQUIRMENTS

1. Introduction

As opposed to conventional requirements gathering, where the BA major works with the client is only to gather requirements, here agile team members are involved in gathering and defining all product requirements. Domain specific technical team members and testing team or QA team collaborate with the product owner and the BA to develop and maintain the project specifications by bringing their all technical skills and experience into this collaborative and collective process. Increasing interaction enables and ensures team to develop requirement document and specifications that can be created and tested under the all project constraints.

To deal with scope on an agile project, specifications and requirements must be considered in two dimensions which are breadth first and then depth. It is necessary to understand the breadth of what we want to build early in the project cycle. Working with breadth of the solution helps team to understand scope and cost that will facilitate them estimating, release and planning. The breadth of a project starts to frame the boundaries of the product and helps to manage and cope the organization's expectations. Breadth of the requirements is a much little investment of time and resources as compared with dealing with the entire depth. The details are likely to evolve when we progress through the project so defining it early has little value. To have a good understanding of the breadth of project requirements early in the project lifecycle helps development team start to define the set of all possible solutions. The BA plays a major role in alleviate the conversation between the product owner, managers, the technical team with QA team. BA ensures that the full scope of requirements has been defined and balanced by technical and domain understanding of the solution.

Once the team has created the breadth of the solution, then they begin incrementally looking at depth of it. The BA take the lead in helping the team by bring requirements to this next level of detail. For this we have to abandon our conventional notions of the Marketing, Product Requirements Document and the list of the system specifications. Instead, we have to focus only on how the system will behave in future.

To manage requirements effectively in a conventional and traditional environment, Business Analysts sort through many-to-many (M-to-M) relationships [2] between business design, and specifications elements. Because of complex interactions among these M-to-M relationships, requirements management industry had created tools to trace their interdependence among them. BA will track the impact of any requirement change to its corresponding design element or from a change in design element back to requirement. This process can get even more complex when one traces into the software component and test results.

1.1. Agile Requirements

Based on the level of process required by an company, BAs will use either use cases or user stories. Agile methods basically tend to be light weight specifications and requirements are documented as user stories. User story is a high level description of system behavior and it is not a full specification of the requirement but a placeholder for conversation about the requirement of system. The user story will be fully documented and specified as it is brought into a development cycle. After delivered, a user story represents a fully functional slice of the overall system. Here are the suggested guidelines to determine what makes a good user story. Bill Wake defined the INVEST model for definition of requirements [3]:

Independent

- Avoid dependencies among stories
- Write to establish foundation
- Combine them if possible in a single iteration

Valuable

- Each story should show some value to the Users and Stakeholders

Estimable

- Enough detail should be provided to allow the team to estimate
- Team will only encounter problems estimating if the story is very big, or if insufficient information is given, or if there is lack of domain knowledge about it

Sized Appropriately

- Every story should be small enough so it should be completed in a single iteration
- Stories that needed to be worked on in near future should be smaller with more detailed and big stories are acceptable if planned further out

Testable

- Acceptance criteria should be written in customer terms
- Tests should be automated if possible
- Every team members should demand a clear acceptance criterion for it.

V. NEW ANALYSIS SKILLS FOR BA

Agile BA will basically depend on facilitation skills of people instead of on conventional projects. BA's role is to conduct a discussion between product owner and software development team. BA will bring a tremendous amount of system and domain knowledge to the discussion and is positioned to get functional requirements from product owner. BAs help to translate user requirements into more technical language for the development team. Apart from coaching, facilitation and team building, agile BA needs to think about the software development process in new and non conventional ways. Agile helps us to decouple breadth of the solution from the depth of the solution to deliver smaller increments of production-ready code. This can cause a difficulty for some analysts making the transition to Agile from traditional way and will create opportunities to learn about how to write feature (functional) driven requirements [4]. BA can be asked to work on an agile project as the project has a high need for written functional specifications and design documents. In both case, BA primary role is to conduct understanding and communication.

While it is ideal is to have a product owner or an on-site customer, for many teams this is not possible. For those teams, the BA may have to fill the role of a customer proxy. Having the role of the customer proxy puts a significant amount of additional responsibility on the role of the BA. In this scenario, the BA is asked to understand the needs of the customer and translate those needs to the development team. This model introduces risk because the true end customer is not directly involved with the people developing the product. The BA can mitigate this risk by encouraging the product owner to review the evolving system as frequently as possible.

VI. AGILE ON CONVENTIONAL PROJECT

Moving to agile is not usually the decision of the Business Analyst. However, given the BA's critical role on the project, there is often quite a bit they can do to help set the stage for an agile transition. The BA can encourage collaboration between the product owners and the technical teams. This will ensure that requirements are balanced and feasible[5]. This will tend toward managing expectations and helping the project owner to understand the cost of the solution they are spending. The BA can begin to demonstrate the value of loosely coupled functional specifications and begin introducing use cases or user stories to the team members. When the specifications are completed, the development team will derive value from a functionally-driven specification. System will be easy to develop and test and traceability will be a non-issue. If software team has dedicated QA members, agile requirements will enable functional testing process. Test plans should be derived from functional organized specifications.

VII. CONCLUSION

Success in present economy needs us to react quickly to always changing software market conditions. Traditional and conventional products delivery methodologies alone cannot deliver quick enough in such highly uncertain project domains. Software agile processes allow BA and development teams to meet changing demands of their customers while developing nice environments where all team members want to work.

BA can play a major role on an agile team success, by shift their traditional and conventional thinking about requirements. Secondly, Business Analyst's need to consider learning new skills for understanding and writing requirement documents and new techniques for managing them. Success for result will depend mainly on how well BAs learn and adapt to these new ways of working with all kinds of requirements, using group collaboration and setting up functional and technical teams.

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