

What Does a Business Analyst Do on an Agile Project?

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As the use of agile approaches increases, business analysts struggle to determine how their role maps to the new approach and how it has changed from their familiar development process. Business analysts, for example, often find themselves proclaiming “in everything I read/hear about agile, I never see “business analyst” mentioned!”

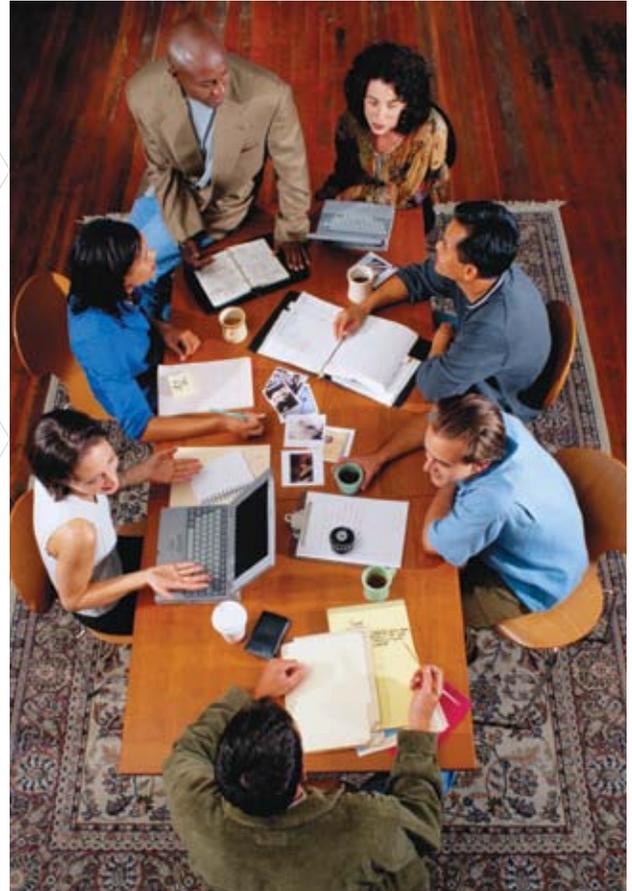
Even though the role of business analyst is rarely mentioned in descriptions of agile it does not mean that business analysis does not occur. In fact, agile’s focus on delivering value to customers requires the entire team to collaboratively perform business analysis on a frequent basis. This and other characteristics of agile change how a business analyst works on a project.

One change that agile introduces is a barely sufficient process which does not prescribe any documentation, including requirements artifacts. That does not mean that documentation is not produced, rather the business analyst collaborates with other team members to decide what is needed to best deliver the solution, including how much documentation is necessary. Contrast this with the detailed methodologies and standards for plan-driven projects used by large organizations that require business analysts to complete extensive requirements documents. These artifacts lead business analysts, especially less experienced ones, to document the same requirements several ways using different models and text even though

more succinct recording of requirements is sufficient.

Another change with agile approaches is the use of short, time boxed delivery cycles referred to as iterations or sprints. These iterations include all the work necessary to go from a requirement to a running, tested feature that could be delivered to production. The use of iterations allows the team to continuously reflect on their past efforts and adapt their processes to improve. The short timeframe of iterations (typically a week to a month) means that the scope for each iteration is much smaller than most traditional projects so the business analyst only needs to focus on the portion of the solution being delivered during that iteration. Business analysts collaborate with other team members to determine how much analysis is needed at the beginning of the project to establish the big picture, and during each iteration in order to establish a shared understanding without creating an extensive requirements inventory.

A third change in agile is the existence of the product owner role. The product owner is the ultimate decision maker and ultimate representative of business needs for the project. In order to be truly



effective, the person filling the product owner role should be well versed in many core business analysis techniques, but they rarely are. This provides the business analyst an excellent opportunity to assist the product owner as is discussed below.

Finally, all team members have the opportunity to perform analysis so the business analyst also coaches the other team members on analysis techniques and the appropriate stakeholders to contact. Allowing multiple team members to perform analysis prevents handoffs that occur in phased based approaches, and

keeps the business analysts on the team from becoming bottlenecks to overall team progress.

The activities that a business analyst performs to advise the product owner and coach the team, as well as other business analysis considerations are discussed below.

What is agile really about?

There are as many different definitions of agile as there are people providing definitions. For the sake of this paper, agile is defined as *collaboration among stakeholders to deliver value to customers in frequent increments with consistent reflection and adaptation*. This definition focuses on the characteristics that exist in all agile environments, namely:

- Collaboration – how the people involved in the effort work together which includes both the delivery team and project stakeholders
- Deliver value – the true purpose of efforts is to provide value to customers, whether that is through new software, more efficient processes, or new products.
- Frequent increments – the team delivers values every few days, weeks, or months rather than once at the end of a project
- Consistent reflection and adaptation – the project team reflects on their approach and the product on a regular basis and adjusts accordingly.

Agile approaches allow teams to focus on delivering the highest value as set by the business in the shortest time. Teams using agile approaches self-organize to rapidly and repeatedly inspect actual working software in iterations ranging from one week to one month in duration. At the end of each iteration, anyone can see real working software and decide to release it as is or continue to enhance it for another iteration.

The biggest impact of iterations on business analysts is the lack of an analysis phase. Instead of performing all analysis work to develop detailed requirements at the beginning of the project, business analysis occurs throughout the project with an initial high level picture of the overall scope, followed by more detail on specific features when they are delivered. The key is knowing the sufficient amount of business analysis necessary to understand the problem and the aspect of the solution currently being delivered and still keep the project moving forward.

Another aspect of agile approaches that impacts business analysts is the lack of prescription. Agile approaches are based on the premise that simple rules generate complex behavior so they provide a minimalist framework for teams to organize their work and leave the rest to the self-discipline of the team. So while agile approaches do not require

Agile Roles

Because of the focus on teamwork and collaboration, roles in agile approaches are more general in nature than those of more plan based, or traditional prescriptive approaches. Tasks specific to the business analyst are not prescribed in an agile environment, so business analysis practitioners need to know where business analysis techniques need to be applied in a project.

There are four primary roles included in an agile project.

The **Product Owner** is the ultimate decision maker for the product. This role is responsible for defining the product vision, prioritizing features according to business value, and answering team questions.

The **Scrum Master** is the guardian of the team's process. This role is responsible for ensuring the team has the appropriate environment to succeed, removing obstacles, and enabling close cooperation across all roles.

The **Team** is a group of 5 – 9 people dedicated to the project full time who are responsible for self-organizing to deliver value to the customer in each iteration. The team determines how the product is developed, and how the work is divided up to do that based on the conditions at the time.

A **Stakeholder** is anyone who can impact the project and provide input to the business objectives of the product. Stakeholders actively involved in the project are part of the team. Stakeholders who are not actively involved in the project may still interact with the product owner to provide their input on the product backlog.



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any documentation, they do not prohibit any either. Rather it is the appropriate amount of documentation. When teams are deciding what to document in an agile project, business analysts may suggest they ask the following questions:

- Is this something a stakeholder is requesting?
- Is this something the team needs in order to effectively do its job?

Because the business analyst is not so focused on trying to document all requirements, rules, etc. for a separate development team, they can focus more time on actual analysis – did we consider all the scenarios that may occur? Are we keeping our solution consistent? Do we know what unintended consequences we may be creating with this change?

A final aspect of agile that represents a departure from traditional approaches is the focus on teamwork over rigid specialization. The most noticeable result to business analysts is that everyone on the team is encouraged to talk with stakeholders directly to understand their needs. Business analysts may initially consider this a threat until they realize that they have an opportunity to coach their teammates how to be the most effective performing this activity, and they get to expand their toolkit by helping the other team members with their tasks.

Agile teams don't always start out being completely collaborative. Teams will often initially fall in the trap of having developers only do development, testers only doing testing, and of course, analysts only doing analysis. Business Analysts help move the team toward a more collaborative nature by adopting the two roles that position them to be a truly value added member of the team:

- Business Advisor (supporting the Product Owner)
- Business Coach (Acting as the analysis

expert on the team)

The nature of the change in the business analysts' work is focused exclusively on how they interact with their team members, product owner, and stakeholders. They are no longer solely responsible for requirements so they will have a lot more interaction helping their team members improve their analysis skill sets and focusing on more strategic focused activities through their interaction with the product owner.

The Business Analyst as Business Advisor

Most agile approaches have a specific role to represent the ultimate business decision maker, such as the role titled product owner. The product owner sets the product vision and is responsible for understanding and representing the needs of the business and user stakeholders. The product owner determines which requirements are most important prior to the start of each iteration and determines how to release value incrementally to best satisfy the needs of the product stakeholders.

A business analyst does not always have the decision making authority necessary to be an effective product owner, but they can become indispensable by supplementing a product owner's lack of time or business analysis skill sets.

A business analyst supports a product owner by helping them analyze the business domain, stocking the product backlog, and grooming the product backlog.

Analyze the Business Domain

The business analyst helps the team and product owner understand and describe the business domain and problem to be solved by facilitating the discussions that explore the following questions:

- What business processes need to be

revised, created, or eliminated?

- What information do we want to know about and track about various entities?
- What stakeholders (such as customers, suppliers, vendors) and systems are involved in the effort?
- What policies and rules guide business behavior and decisions?

While it is important to establish a shared understanding of the business domain, this can't take a great deal of time, especially because the models change as the project progresses and the team learns more as they proceed through the project. To keep this analysis focused, business analysts time box their analysis investigation, prioritize the topics being analyzed, and stay on task with any team discussions.

The business analyst helps the team decide if the requirement models are useful beyond the life of the project. Factors to include in this decision are the effort required to keep the model up to date and the value of the model after the project. If the model is only needed for a brief discussion to figure something out, a sketch on a whiteboard persisted in the form of a digital picture may be sufficient. If the diagram is necessary throughout the project or is expected to live on past the end of the project, the team may wish to establish the model in using a modeling tool. This decision is an aspect of generating the appropriate amount of documentation.

Stock the Product Backlog

Stocking the product backlog means to establish a list of user stories that represent the overall scope of the project. A user story briefly describes functionality or a feature valuable to either a user or customer of a system or software solution. In the remainder of this paper, user stories, and their bigger

variant, epics will be referred to as stories unless there is value in distinguishing them. Business analysts help the product owner derive stories from the models created during business domain analysis. This is analogous to identifying the business requirements for the project and establishing the initial scope.

Additional stories emerge as the project proceeds and are elicited from models created or updated as well as through conversations with impacted stakeholders throughout the project. Business analysts help the product owner, stakeholders, and the team create stories as a reminder to deliver some functionality represented by the models, or discussed in a conversation. Stories can be derived from requirements models such as data models, process flows, work flow diagrams, use cases, business rules, and user interface diagrams.

Stories also result from conversations with stakeholders. These conversations can vary from an informal chat to a planned, facilitated workshop specifically for the purpose of establishing a list of stories.

Informal conversations resulting in new stories occur throughout the project and are a big advantage of projects in the agile environments. The use of a product backlog – a list of things to deliver on the project - allows the team to take note of these new requirements as they occur without being distracted from the immediate work of the iteration. The requirements are placed on the product backlog for further analysis and consideration by the product owner.

New stories also surface during work in the iterations and during end of iteration demos. Seeing some functionality delivered inspires stakeholders to consider additional features that may be needed or to think of other scenarios where the system should behave differently.

Groom the Product Backlog

Grooming the product backlog refers to maintaining the product backlog so that it remains a tool for the product owner and team and not a burden. Business analysts help the product owner groom the product backlog by considering purpose, prioritizing the stories, organizing the stories, splitting epics into user stories, and ensuring a complete description of the solution.

Through understanding how a story supports the purpose of the project and organizational strategy a business analyst can help the product owner decide whether a story should be included on the product backlog and the approach used to deliver that particular story.

The Purpose Based Alignment model makes it easier for teams to understand the organization's strategy by looking at what activities are differentiating and making project level decisions accordingly. By placing stories in the appropriate block, it helps the team determine how to:

- Deliver stories that support differentiating activities uniquely.
- Deliver stories that support parity activities in the simplest way possible.

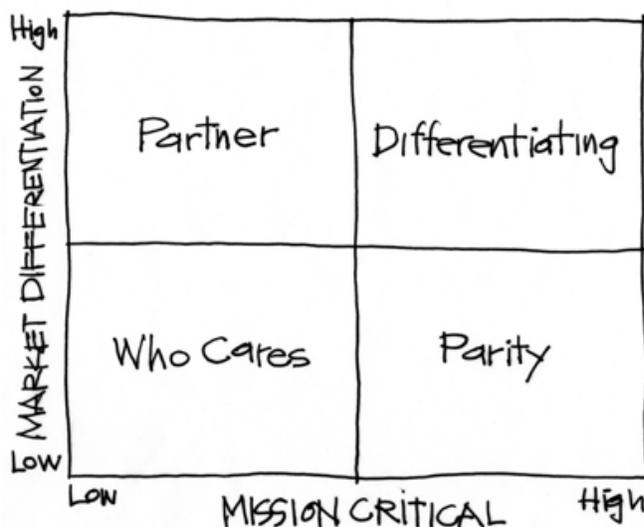
- Look to work with another organization to deliver stories that support partner activities.
- Decide whether to deliver those stories that support the “who cares” activities.

Business analysts can help the product owner order the product backlog by providing information on stakeholder's perceived value of the various items in the product backlog. The model does not provide guidance on priority, but there are other techniques used to gather priority information from multiple stakeholders. Two of these techniques are value points and buying features. In the value points approach, stakeholders are asked to get together as a group and indicate the relative value of stories in comparison to other stories in an approach similar to planning poker.

In the buying features technique, stakeholders indicate how much each item in the product backlog is worth to them by spending an amount of “feature dollars” across some or all of the items in the backlog. The amount of feature dollars they assign to a given item indicates the importance they place on that particular requirement.

Prioritizing a backlog certainly helps

introduce some order to a backlog, but teams often need other ways to order requirements. Business analysts help the product owner and team keep the product backlog easy to follow and manage through a variety of techniques including grouping the stories into themes, and organizing the stories into releases and iterations.



Teams working with a fairly large product backlog on a complex project find grouping the stories into themes a great way to add some hierarchy to the product backlog. Stories that satisfy different aspects of the same need or that need to be grouped together to deliver complete customer value are good candidates for themes.

Teams also organize the product backlog into releases and iterations to provide an indication of when specific stories are targeted for delivery. Exactly when stories get assigned to a release or iteration depends on the point in the lifecycle.

During roadmap planning business analysts help product owners and stakeholders organize the stories in the product backlog into releases based on priority to deliver the highest value stories first. Stakeholders get an initial feel for when they can expect functionality to be delivered and available.

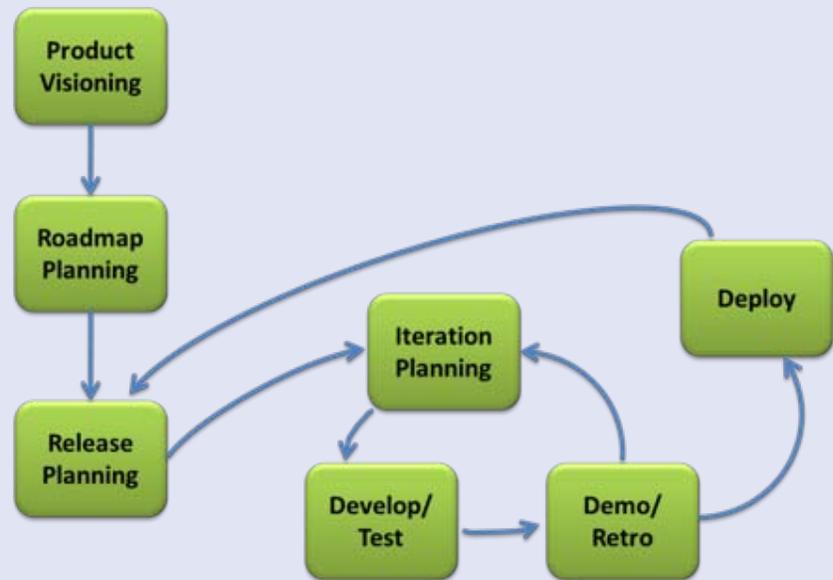
During release planning business analysts work with the product owner and team to decompose epics in the current release into user stories and identify the iteration in which each story may be delivered. The release plan changes as work on the iterations proceeds. The release plan helps the team determine if they need outside assistance from any outside resources or if stories are complex and need to be analyzed during the iteration prior to their delivery.

During iteration planning the team commits to delivering a set of stories in that iteration and the product owner makes any necessary changes to the release plan.

Business analysts often work with the team to *right size* stories for delivery within an iteration. Stories are of different sizes based on how close they are to being delivered. Epics are too large to deliver within a single iteration, and exist as

Project Lifecycle in Agile

The iterative nature of projects in an agile environment changes the form of the project lifecycle, but not the activities that are performed.



Organizations working in an agile environment plan in a variety of different levels, at differing levels of detail. The nearer term the plan, the more detailed it is.

In Product visioning, the product owner describes how the organization or product should look in the future in order to implement organizational strategy. Business analysts support product planning through working with the product owner to define the vision for a product and purpose of the project.

During roadmap planning the business analyst, along with the rest of the team and stakeholders, help the product owner determine at a high level what to deliver by stocking the product backlog with epics and user stories (stories).

During release planning the business analyst, along with the rest of the team and stakeholders, help the product owner prioritize the stories in the current release and identify in which iterations the stories are targeted for delivery.

In iteration planning, the team commits to deliver a set of stories and identify a corresponding set of tasks needed to deliver those stories. This set of tasks creates the sprint backlog. The business analyst fully participates in this activity as a member of the team and may facilitate this activity.

reminders of general functionality that needs to be further defined as the time for implementation nears. This further definition creates user stories, which are small enough to deliver within an iteration and planned to be delivered in the near future. There are many different ways to split stories. Two frequently

used approaches are splitting stories on operational boundaries (create, read, update, and delete) or on data boundaries (different pieces of information associated with an entity).

A final way that Business analysts help product owners is to help them ensure that the portion of the solution being

delivered in current iteration and release is fully explained. Some questions to ask to ensure the description of the solution is complete:

- Do we know which users have the same goal?
- Are there some users who should not be able to use the functionality developed?
- Are there any scenarios that we have to account for in order to provide the expected value?
- Do we have sufficient information to meet the goal requested by the user stories?
- Do we have sufficient information to enforce the identified rules?
- What unintended consequences occur if we deliver these user stories?
- Do we have a complete understanding of the process that will use this functionality?

Business analysis skills are vital for analyzing the product backlog for completeness. As a result, Business analysts either perform this analysis or coach other team members in how to perform this analysis. Involving the entire team increases the chance of identifying a complete understanding of the problem and description of the solution.

The Business Analyst as Business Coach

During the work of an iteration the business analyst interacts with the team, acting as the analysis specialist on the team. Some of the activities the business analyst performs or provides coaching to the team during an iteration include facilitating collaboration, generating examples, transferring knowledge, and being a good team member.

Facilitate Collaboration

Collaboration within the team and between the team and stakeholders is

vital for project success. Business analysts facilitate collaboration through helping with stakeholder analysis and acting as a language coach. Business analysts have the clearest understanding of the stakeholders involved in the project so they can provide suggestions on which stakeholders that team member should talk to for information.

Once they have helped their teammates identify the appropriate stakeholders to talk to, business analysts turn their experience translating “business speak” into “technical speak” and vice versa by helping team members from different backgrounds and team members and stakeholders “speak the same language.” They change from translating the messages between two people talking from different perspectives to helping those people talk to each other.

Generate Examples

Teams in an agile environment use examples to clearly communicate business intent, provide more detail about stories, and to confirm those stories were delivered properly. Examples are a good technique for remembering the information discussed during conversations, communicating that information to the team members who will deliver the user story, and for confirming the user story was delivered properly.

Teams use the same examples to communicate requirements to the implementation team and describing tests to ensure consistent understanding of expected system behavior. The examples are real world - meaning that they are possible, even if they are not very probable.

Any team member can generate examples, but business analysts may do the bulk of this work if the team determines that analysis needs to occur in

the iteration prior to when user stories are delivered.

Examples can take a variety of forms. When describing the enforcement of business rules, the appropriate form is as a table. Communicating examples as tables makes it easier to grasp the content and spot gaps and inconsistencies. When describing a process, the Given, When, Then format is more appropriate.

```
Given <Precondition>
When <Action>
Then <expected>
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Examples are also generated to consider normal use, abnormal but reasonable use, and abnormal and unreasonable use to identify different scenarios. Some good questions that teams ask when generating examples include:

- How should we verify that this user story is implemented completely and correctly?
- Pretend that we have already delivered this thing – how would you actually test it?
- Are there cases with this particular user story that we have not identified how the system should behave?

Transfer Knowledge

Business analysts along with the product owner have the best grasp of the big picture of the project and where it fits within the organizational strategy. They spend a considerable amount of time during the work of the iteration transferring to the other team members the information gained while they were acting as a business advisor.

The best way to transfer that knowledge is to involve the team members in the analysis of the business domain and the stocking and grooming of the backlog. Because

the entire team cannot be involved in each of these exercises, some relaying of this information is necessary. This information can be transferred by posting the business domain information on information radiators, or a common shared area, available to the team to refer to when needed.

Be A Good Team Member

Business analysts get the opportunity to help their teammates clear bottlenecks. Doing this improves relationships with other team members and gives the BA an opportunity to expand their toolkit and learn new skills through performing tasks

generally performed by other roles such as testing, user interface design, preparing test data, training, and providing an update to an executive sponsor.

Conclusion

Agile approaches do not prescribe many roles, primarily because the focus on collaboration makes the establishment of many roles unnecessary. This lack of defined roles offers business analysts an excellent opportunity to expand their horizons both from a business perspective, as well as a technical perspective. Business analysts work closely with their product owner to

position the product to best deliver value to stakeholders, in the process building their domain knowledge and experience solving business problems. Business analysts also work closely with their team mates to improve everyone's analysis skills as well as acquire new skills including testing and perhaps even some coding skills. These opportunities position the business analyst to look beyond a specific role and work with their teammates to deliver value for their customers, and improve their worth in their organization. ■

Key BA Skills for Agile Projects

A high performing business analysis professional on the team increases the likelihood that the resulting product meets true business needs and fits in well with the current business environment. If an experienced business analyst is not available, at least one team member must have extensive business analysis training and experience. Key business analysis skills that an agile project needs:

- Understanding of the business area that the project is involved with
- Expertise in conceptual modeling; ability to see the big picture and envision possible solutions
- Outstanding verbal and non-verbal communication skills
- Ability to multi-task
- Ability to facilitate a team to consensus on scope, design decisions, and implementation decisions
- Ability to ask strong questions to help the team see areas that may lead to problems
- Ability to document requirements formally or informally depending on the need of the project
- Understanding of the agile development process
- Familiarity with requirements techniques such as, user stories, use cases, and informal modeling. These are the primary requirements techniques used by agile teams.

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