



## Agile Contracts

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There are numerous benefits of Agile methodology to both developers and customers. By using Agile, customers get constant, immediate value in the form of usable software delivered and improved through sprints. Developers, through using Agile, form self-motivating teams that deliver constant value and embrace change by adopting the fixed-time, fixed-cost, flexible-scope approach. To get the most out of these benefits, though, the contract for the Agile project needs to be structured in a way that allows for maximum benefit and does not needlessly restrict the Agile process. This type of contract should also have the added benefit of fostering an environment of trust and positive relationship-building. In this article, we will examine the key features of Agile contracts and look at some examples.

### What needs to be in a contract?

First, let us examine what the contract's structure usually looks like. Peter Stevens<sup>1</sup>, in describing ten contract forms for an Agile contract, described two basic purposes of a contract. One, the contract sets the rules for the project. It is important for a project to start off well, so setting rules that both sides can agree to and work by is essential to that strong foundation. Two, the contract defines risk-sharing and builds trust. It is important for contracts to apportion the risk in a way that neither party bears too much or too little. This way, both parties are properly invested in the project's outcome and they can build trust from there.

For a waterfall project, the typical contract works very well. Scope, time and cost are fixed, the contract paints a clear picture of what the customer is buying, and agreements are in place before development begins. These all work well for a waterfall project because the methodology works by having as many details finalized as possible before work begins. Allan Kelly points out that traditional

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<sup>1</sup> Stevens, Peter (2009). 10 contract forms for your next agile project. Scrum Gathering, Munich, 21 October 2009. [Web](#).

contracts work well because they fit how companies typically make purchases<sup>2</sup>. Where these contracts can fall short is in the execution phase, when change requests happen, new requirements are discovered, and development work overshoots the time and cost estimates.

Another shortcoming is that software development does not match the way purchases typically happen. Edwards, Bickerstaff and Duisberg (2012) argue that the three main purposes of software development contracts should be to define:

- The project's purpose,
- The way the project will be run, and
- What happens if the project goes wrong.<sup>3</sup>

They then point out that the typical waterfall-style development contract puts too little emphasis on the second point, leaving little guidance as to how the project should be run and placing most of the emphasis on the product. In contrast, an effective contract for Agile projects emphasizes the process, letting the team use the process to build the product.

To summarize, Agile contracts cannot be overly restrictive or they will hamper the development process. However, something needs to go down on paper. Few people will agree to a contract where they don't know what the final product will be and there is little to no idea of what the final product will cost or how long it will take. That is where some of the qualities we will discuss come in. To successfully build the foundation for an Agile project, the contract needs to have flexibility, clearly-defined checkpoints and end points, and some degree of risk sharing.

### **What needs to be in an Agile contract?**

*Flexibility.* For Agile contracts, the rules need to set up flexibility in the scope of the project's product. This needs to happen because of the value the Agile methodology places on responding to change as opposed to following a plan. If the scope is too restrictive, Agile teams will find it harder to deliver the key features and constant value because they will be focused on delivering the set scope, not the highest-priority backlog items. Alex Adamopoulos writes that the contract commitment should emphasize the amount of output, not the detailed specifications of output, in order to help set up these kinds of rules<sup>4</sup>. For example, the contract might stipulate a minimum number of story points that need to be met per sprint, regardless of what was in the story points, or state that the team needs to determine their velocity (say, seven story points) and not deviate from a range based on that velocity.

The key factor in a flexible Agile contract is that it should encourage the process, not just the product. Lapham et al. (2011) reinforce this point, writing that a challenge was "to construct any contract type so that it rewards working software and meaningful milestone review compliance rather

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<sup>2</sup> Kelly, Allan (2011, Feb 08). Agile contracts. InfoQ. [Web](#).

<sup>3</sup> Edwards, Ian, Bickerstaff, Roger, and Duisberg, Alexander (2012, September). Bird&Bird&Contracting for Agile software projects. Two Birds Consulting. Position Paper. [Web](#).

<sup>4</sup> Adamopoulos, Alex (2012, August 31). Must-haves for Agile contracts. VersionOne. [Web](#).

than just traditional artifact production”<sup>5</sup> (33). This challenge is worth meeting in order to set up the flexibility Agile contracts need. For example, rather than stating that the code needs to be complete by a certain date and testing needs to begin after, the contract would call for working software after every two-week sprint and require that sprint reviews take place. This approach calls for more trust than might be present in a traditional contract, but the trust in the development process needs to be there for Agile to work.

*Commitment.* The rules also need to set up customer interactions and collaborations to establish the expectation that the customer is heavily involved in the Agile product development. This is another key difference between Agile and waterfall. With a waterfall-based project, the customer can fix scope, time, and cost and then “walk away” while waiting for the product to be developed, tested, and released. With Agile, the customer is expected to be involved in these processes to help ensure that he or she is getting the desired features through constant working builds. Two ways to set these up through the contract are by defining the mechanisms for prioritizing features and setting expectations for customer attendance at certain events, like sprint reviews and release planning. Because of how important it is that the customer attend these events, putting details about them in the contract can help solidify that commitment.

*Risk-sharing.* The Agile contract also needs to set up risk-sharing in a way that promotes Agile rather than hindering it. One contract type that accomplishes this well is the capped Time and Materials (T&M) contract. Kane Mar describes this type of contract as one that covers labor and material cost up to a fixed cap that both sides agree to<sup>6</sup>. The time and materials portion rewards suppliers by covering costs, but customers are protected by having a limit to how much they will spend. Both sides share the risks of cost overrun in this type of contract.

*Defined Checkpoints and End Points.* Finally, Agile contracts need to have a way for project work to be inspected and for the project to end at a point where the customer is satisfied. Because Agile methodology focuses on delivering consistent value through working builds, the customer may decide that the product is satisfactory after a few sprints. Another type of contract Mar<sup>7</sup> describes, incremental delivery, fits this concept well. Incremental delivery contracts build in several inspection points at which the customer can see the product and decide whether or not to continue. For example, if inspection points are every ten weeks and there are two-week sprints, there would be an inspection point after five sprints. At that point, the customer may accept the product and save the balance of the contract or wait until the next inspection point and get the remaining highest-priority features included. The customer and the organization work out the number of inspection points and how often they need to happen.

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5 Lapham, Mary Ann., Garcia-Miller, Suzanne., Adams, Lorraine., Brown, Nanette., Hackemack, Bart., Hammons, Charles (Bud), Levine, Linda., & Schenker, Alfred. (2011). Agile Methods: Selected DoD Management and Acquisition Concerns (CMU/SEI-2011-TN-002). Retrieved June 16, 2014, from the [Software Engineering Institute, Carnegie Mellon University website](#).

6 Mar, Kane (2014). An overview of Agile contracts. Scrumology. [Web](#).

7 Mar, Kane (2014). An overview of Agile contracts. Scrumology. [Web](#).

## Examples of contracts

Many templates are available online for Agile contracts. According to Adamopoulos, one of the leading Agile contract templates was developed by a law firm and the company [Emergn](#) in 2010<sup>8</sup>. A sample fixed-price Agile contract is available on [Coactivate.org](#)<sup>9</sup>. This contract sets up the parameters for the Agile project by defining the processes, metrics, and roles and responsibilities of each party. The roles and responsibilities are particularly important in the Scrum methodology because there are many ceremonies whose success depends on each person fulfilling his or her role.

Lapham et al. (2011) recorded experiences from implementing Agile contracts in the Department of Defense to provide advice on specific contract types, including Fixed Price, Time and Material (T&M), and Indefinite Duration Indefinite Quantity/Delivery Order (IDIQ/Delivery Order)<sup>10</sup>. They found that the Agile Fixed Price contracts they observed were usually of shorter duration than traditional Fixed Price contracts, and were typically used after the team had prioritized the product backlog for each release. Using this approach, time and cost estimates could be made for each item by priority, allowing for an estimate of the cost depending on how many backlog items are picked up. They found that T&M was easiest to use but required the most oversight to ensure that performance was efficient and that the seller was controlling costs. Finally, IDIQ/Delivery Order was found to provide the most flexibility and chance for collaboration, but it was difficult to manage several of these running at the same time, which might happen more with Agile.

## Summary

Just as Agile methodology has disrupted the traditional software development process, Agile contracts need to disrupt the traditional contract in order to help, rather than hurt, the parties involved in an Agile project. By outlining the processes, emphasizing amount of output over detailed specifications, defining the metrics for success, and clarifying roles and responsibilities, an effective Agile contract can establish the base for project success. Furthermore, an effective Agile contract can help build a positive working relationship with trust as a strong foundation.

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6 Adamopoulos, Alex (2012, August 31). Must-haves for Agile contracts. VersionOne. [Web](#).

9 Coactivate (2008, December 21). Sample fixed price Agile contract. [Coactivate.org](#). [Web](#).

10 Lapham, Mary Ann., Garcia-Miller, Suzanne., Adams, Lorraine., Brown, Nanette., Hackemack, Bart., Hammons, Charles (Bud)., Levine, Linda., & Schenker, Alfred. (2011). Agile Methods: Selected DoD Management and Acquisition Concerns (CMU/SEI-2011-TN-002). Retrieved June 16, 2014, from the [Software Engineering Institute, Carnegie Mellon University website](#).