

## How can we use Agile Methods on a Late, Overbudget Fixed-Scope Traditional Contract?

**The OBVIOUS solution is to develop a PRODUCT BACKLOG with the highest-priority requirements that absolutely need to get done and have the highest business value (and get those done first) -- You can also bring on one or two additional Agile teams if the PRODUCT BACKLOG is TOO BIG for one team (i.e., you want to get as much done as possible WITHOUT DOING EVERYTHING) -- It's as SIMPLE as that (because you are NOT a MIRACLE WORKER) ...**

- **Case Study #1.** We spent 5 years on a Fixed-Scope contract specifying too many requirements to replace 15 million lines of FORTRAN, i.e., in the 11th hour, with six months left on the contract during the testing phase, we began iterating over a basic operational system skeleton and implemented some key requirements to collect large volumes of data over the network, store it in a database, and process the data to produce some key visualizations and reports -- **BOTTOM LINE**, we STOPPED writing requirements in the 11th hour and began using agile methods to code and test as many requirements as we could with the remaining resources -- That's all you can do, especially if they are IMPORTANT SYSTEM FUNCTIONS.
- **Case Study #2.** In another instance, we spent 5 years and billions of dollars writing requirements for programmable devices using CMMI Level 5 processes, i.e., ONCE AGAIN, in the 11th hour, a small team used Agile Methods to document the highest priority software requirements, code and test them one at a time, load the software into the devices, test them, and deliver completely functional programmable devices to our customer -- **IN OTHER WORDS**, the small agile team SAVED the entire contract with the remaining resources available to them-- In essence, giving the illusion that 100% of the original requirements had been satisfied ...)

**Your solution is SOMEWHERE IN THE MIDDLE:** Your team can ...

- Rapidly set expectations with your management and customers (that they CANNOT get 100% of the original scope in the 11th hour).
- You will use Agile methods to rapidly construct a product backlog (of MUST-HAVE system needs).
- Begin iterating over the backlog one requirement at a time in Lean-Kanban like style (analyzing, coding, testing, and creating an operational baseline).
- Bring on more programming resources and crash the schedule (to complete as many backlog items as possible, but not everything).
- Demonstrate important functions to your customer as they become available (every one or two weeks).
- Complete 5% to 15% of THREE to FIVE critically important system features (but NOT all system features, and NOT 100% of any one system feature).

**Your managers and customer can choose one of THREE ALTERNATIVES ...**

- Cancel the contract, because they want 100% of the scope (and hopefully they won't sue your company for lack of performance AND hopefully you won't get fired for refusing to deliver 100% of the scope).
- Agree to let you complete 5% to 15% of the most important system functions using Agile methods (and let the contract come to a natural close).
- Be happy that you were able to demonstrate important system functions during the final few months (and EXTEND the contract to do some more system functions).

**Alternatively, you can RE-PLAN and RE-BASELINE the project altogether ...**

- Stop-work on the existing contract (fixed-scope, fixed-price statement of work).
- RE-PLAN and RE-BASELINE a NEW agile project with a new PRODUCT BACKLOG (but focus on 5% to 15% of the most important customer needs, even if they cross multiple system features).
- Use Agile methods to complete the new PRODUCT BACKLOG.
- Don't focus on 100% of any one system feature or promise too many major features (but deliver the most important functions across a small subset of critically important system features -- **See** <http://davidfrico.com/incremental-business-value.pdf>).

(The ADVANTAGE of the LAST ALTERNATIVE approach, i.e., RE-PLAN and RE-BASELINE, is that everyone understands and agrees in advance to begin a new limited-scope project to build the highest-priority needs AND everyone agrees to CANCEL the original fixed-scope project requiring 100% of the original requirements ...)