

Introduction to Agile Project Management

Learn How to Apply Project Management Practices in an Agile Environment



Agile vs Waterfall Recap

Background Material



Agile versus Waterfall Recap
Choosing the Right Approach

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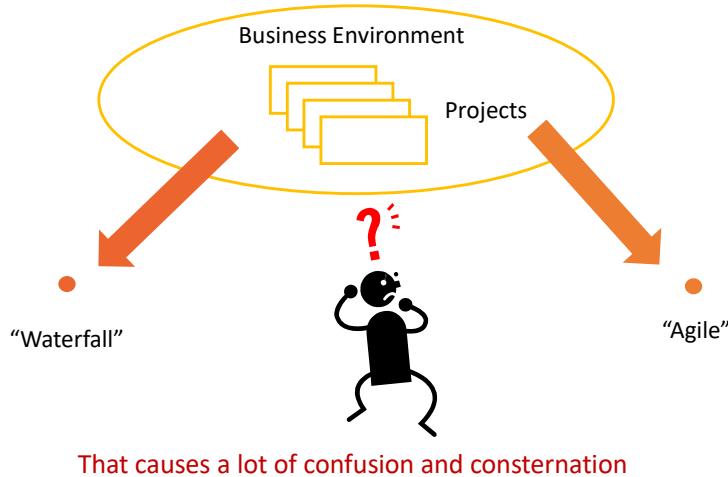
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Here's a brief outline of what we're going to cover in this module:

- We're going to do a brief recap of the Agile versus Waterfall course
- And then we're going to do a short summary on choosing the Right Approach between an Agile approach, a plan-driven approach, and a hybrid approach

Agile vs Waterfall Recap

Agile and "Waterfall" are often thought of as two binary, mutually-exclusive choices and people try to force-fit projects to one of those extremes



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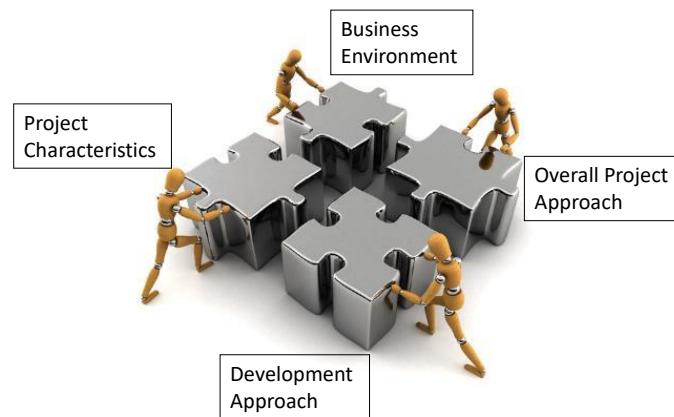
Before we get into the rest of the course, I want to do a very brief recap of some of the key points that were covered earlier in my Agile versus Waterfall course because it's very important to develop the right mindset about Agile and Waterfall before we get into the rest of the course.

The first key point is that Agile and "Waterfall" are often thought of as two binary, mutually-exclusive choices which causes people to attempt to force-fit their business and projects to one of those two extremes. That causes a lot confusion and consternation because it doesn't often result in a good fit.

That one misconception about Agile and Waterfall is a very important mindset change that is essential to make progress in this course. It is very important to see Agile and Waterfall in a fresh new perspective as complementary rather than competitive approaches and recognize that they are not mutually exclusive and the principles and practices behind both Waterfall and Agile can be blended together as necessary to fit a given situation.

Agile versus Waterfall Recap (cont.)

A better solution is to fit the approach (or combination of approaches) to the project and to the business environment



That may require more skill but it definitely can be done!

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In this course we're going to focus on going in the other direction and fitting the approach to the project and sometimes that will require blending together Agile and traditional plan-driven project management principles and practices in the right proportions to fit the project.

That may require more skill but it definitely can be done! It requires a broader knowledge of different methodologies (both Agile and plan-driven) and a deeper understanding of how those methodologies work in order to understand how to blend them together to fit a given situation.

Agile versus Waterfall Recap (cont.)

Agile and traditional plan-driven project management principles and practices are often treated as separate and independent domains of knowledge



It's No Wonder that Project Managers Might be Confused by This!

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It's important to recognize that we are at an early stage in the evolution of Agile Project management and to add to the confusion that already exists, Agile and traditional plan-driven project management are often treated as separate and independent domains of knowledge with little or no integration between the two by PMI and other project management forums.

In this course, we will help you begin to understand these two areas at a deeper level as complementary to each other instead of competitive and begin to see these two areas from a much more integrated perspective.

It's important to understand that this is an area that is constantly evolving and there is a lot of work to be done within the project management community to develop a more integrated approach that fully integrates both Agile and traditional plan-driven project management principles and practices.

What's Are the Benefits of Adopting a More Agile/Adaptive Approach?

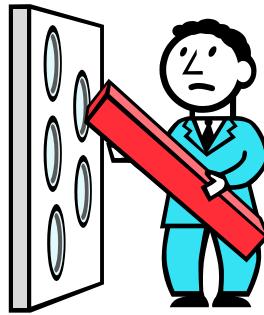
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It's important to objectively understand the strengths and weaknesses of both an Agile and a plan-driven approach so in the next few slides, I want to summarize some of the key benefits of adopting a more adaptive or agile approach.

Why Is a More Adaptive (Agile) Approach Important?

Adaptability - an alternative way for companies to manage projects that involve high levels of uncertainty



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There's a lot of hype associated with Agile – like many new things, it has become somewhat of the “Program du Jour” and many companies want to jump on the Agile bandwagon without necessarily fully understanding why they're getting into it and exactly what they expect to get out of it. The benefits are going to be somewhat different among different companies, but I've summarized here what I think are some of the most important general benefits of developing a more adaptive (Agile) approach:

1. First is **adaptability** – Many people make the mistake of using a “one size fits all” approach for all projects and that just doesn't work well in all situations. You need to be able to fit the methodology to the project and Agile offers an alternative approach that is particularly well-suited for projects that have high levels of uncertainty.

Why Is a More Adaptive (Agile) Approach Important? (cont.)

Time-to-market - the potential to significantly accelerate the startup phase of new projects



Accelerating the startup of the project

Delivering functionality incrementally

Improved efficiency will accelerate progress

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The next one is **time-to-market**. A lot of people believe Agile provides much faster time-to-market and that's generally true, but not necessarily always true. The primary emphasis in Agile, in my opinion, is producing a higher level of customer value by taking a more adaptive approach to meet user needs. That might actually take longer in some situations because it might involve a certain amount of trial-and-error experimentation but there are several ways that an Agile approach can significantly reduce time-to-market:

First, the startup phase of projects can be reduced by deferring some of the upfront planning that might be done with a traditional project management approach.

Another way Time-to-market can be significantly reduced in an Agile project is delivering functionality incrementally.

Finally, Operating more efficiently with less overhead can also have a significant impact on accelerating progress.

Why Is a More Adaptive (Agile) Approach Important? (cont.)

Reduced Costs - opportunities to reduce the costs and overhead associated with projects



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Third, In many situations, Agile and Lean thinking in general offer the potential to **reduce the costs and overhead** associated with a project. By putting the emphasis on producing value as opposed to maximizing control, there is a lot of opportunity to reduce the costs of documentation and other overhead in a project. That's not to say that documentation and other forms of project control and administration are all bad things to do, but it is definitely good to take a hard look at those items and see if they really produce value and who they produce value for.

Why Is a More Adaptive (Agile) Approach Important? (cont.)

Customer Satisfaction - produce higher value solutions that are more well-aligned with user needs



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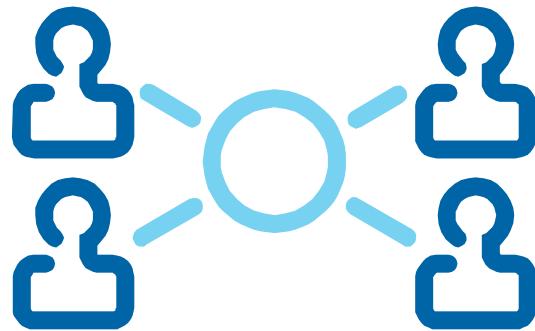
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The big advantage in many situations, as I've mentioned is **higher customer satisfaction** that results from producing solutions that are more well-aligned with customer needs by engaging customers more directly in the project to provide feedback and inputs as the project progresses rather than relying heavily on documenting requirements upfront prior to the start of the project.

There is also a significant improvement in the quality of the products that are produced because quality testing is a much more integral part of the development effort.

Why Is a More Adaptive (Agile) Approach Important? (cont.)

Organizational Agility - build much higher levels of collaboration, trust, and shared responsibility within the organization



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Finally, a big advantage of an Agile approach is that it offers the opportunity to have a **significant positive impact on the culture of the whole organization** by building a spirit of collaboration, trust, and shared responsibility within the organization. That can be a difficult thing to achieve but the benefits are well worth it in terms of organizational synergy and productivity.

Just as an Agile approach can make a project more nimble and adaptive, an Agile transformation can have a huge impact on making an organization much more dynamic and competitive.

NEXT LECTURE...

CHOOSING THE RIGHT APPROACH

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In the next section of the course, we're going to talk about some useful general guidelines on choosing the right approach for a project.

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Choosing the Right Approach

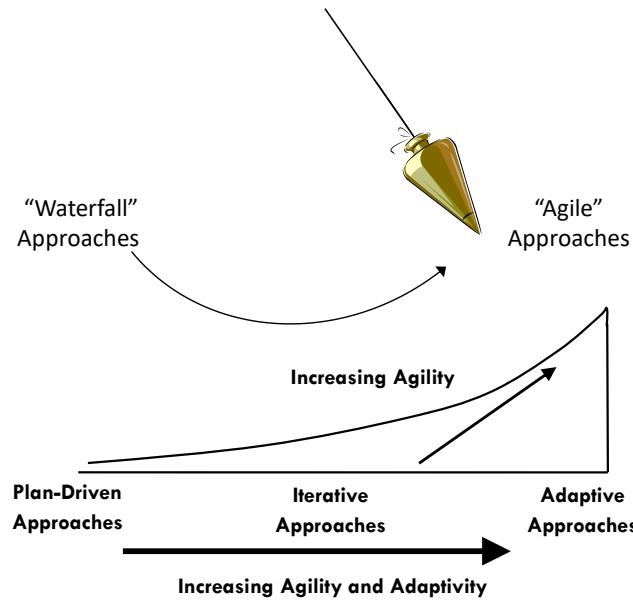
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This lecture is about choosing the right approach to fit a project. Many times this is positioned as a choice between Agile and Waterfall but it's really not a binary choice at all. Instead of force fitting a project to one of those extremes, the right solution is to fit the approach to the project. That requires a lot more skill.

I want to start by reviewing the examples I gave in the Agile versus Waterfall course and then go into some more detail about how to choose the right approach.

The Pendulum Effect



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Let's first do a quick review of some of the information I talked about in the Agile versus Waterfall course...

There has been a pendulum effect in this area for a number of years...

Agile started out as somewhat of a revolution by developers against project management controls associated with traditional Waterfall methodologies that were perceived to be very cumbersome and bureaucratic.

There is certainly some truth in that; but, in some cases, the pendulum has swung a little too far to the other extreme to the extent that some people in the Agile community feel that imposing any kind of management controls on an Agile project is inconsistent with an Agile development approach.

Over the past few years, as Agile has matured; however, that pendulum has started to swing back towards the middle of those extremes and many people have begun to recognize that it's not a binary, "either or" decision to be Agile or "Waterfall" and it's possible to create a hybrid approach that offers the right balance of a plan-driven approach and an adaptive approach to fit a given situation.

Agile is Not a Solution to Every Problem

The Level of Uncertainty in a Project is a major factor in choosing the right approach:



Plan-Driven Approach

Projects that have relatively low levels of uncertainty generally call for a more plan-driven approach



Agile Approach

Projects that have a lot of uncertainty call for a more Agile approach

**The right solution is to fit the approach to the nature of the project
A major factor in choosing the right approach is the level of uncertainty**

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One of the first things we need to recognize is that Agile is not a solution to every problem. One of the major factors in choosing an approach is the level of uncertainty in the requirements for the project.

- Projects that have relatively low levels of uncertainty that make it possible to define requirements prior to the start of the project and require some level of predictability generally call for a more plan-driven approach
- Some things that have a lot of uncertainty call for a more Agile approach

The key point is that you should fit the approach to the nature of the project and a major factor in choosing the right approach is the level of uncertainty associated with the project.

Let's look at an example...

Agile is Not a Solution to Every Problem – Example



Building a Bridge
Across a River

Why is an Agile Approach NOT the best choice?

Significant amount of cost and rework if the design were to change significantly in the middle

The integrity and reliability of the bridge design requires a consistent and well-planned approach

Whoever is paying for the bridge probably wants to know the cost and schedule for completing it

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The example I used in the Learning the Truth About Agile versus Waterfall for a plan-driven approach was building a bridge across a river – as I mentioned if we were building a bridge across a river, it would probably be ridiculous to say “We’ll build the first span of the bridge, see how that comes out and then decide how we will build the remaining spans”. It should be very apparent that an Agile approach makes no sense for this situation – let’s look in a little more detail at some of the reasons why that is the case:

First, if the design of the bridge went through a significant change in the middle of the project to build the bridge, the cost and difficulty of the rework required to change the design at that point might be very significant.

Second, the integrity and reliability of the bridge design depends on using a well-thought-out, well-planned, and consistent approach for the whole bridge. It would probably make no sense to build half of the bridge one way and build the other half another way.

Finally, whoever is paying for the construction of the bridge is probably going to want a somewhat reliable estimate of the costs and schedule for completing it before committing to the construction. No one is going to sign a blank check to build a bridge without some idea of what its going to cost.

But What If There Were Some Uncertainty Involved?



Even the most obvious examples are not always totally black-and-white.

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However, even this situation is not always necessarily this clear and black-and-white. if there is some level of uncertainty or risk associated with building the bridge, you might have to develop somewhat of an adaptive approach. Suppose, for example, that the bridge required some new technology that had never been used before...you probably would want to try out that technology on a smaller scale before committing to the construction of the whole bridge.

The key thing to recognize is that even the most obvious examples are not always totally black-and-white and even the most predictable situations have some level of uncertainty associated with them that shouldn't be overlooked.

Plan-driven is Not a Solution to Every Problem Either

Developing a Cure
for Cancer



Why is a Plan-driven Approach NOT the best choice?

The level of uncertainty in the project makes it impossible to develop a detailed plan

The project would get hopelessly bogged down in the startup phase and never get started

The need to control the costs and schedules is far less important than finding a solution

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A plan-driven approach is also not a solution to every problem. The example I used in the Learning the Truth About Agile versus Waterfall course was finding a cure for cancer. Lets examine a few reasons why using a plan-driven approach for that kind of project would probably make no sense:

First, the level of uncertainty in the project would make it impossible to develop a detailed plan. No one really knows what it will take to find a cure for cancer and it would take a lot of research as well as a lot of trial-and-error to find a solution with no guarantee of finding a solution at all in any reasonable amount of time. Attempting to develop a plan for that kind of effort would be futile.

If we did try to develop a plan, we would probably waste an enormous amount of time trying to plan something that is impossible to plan when the best way to get started is to lay out a general plan based on whatever we do know and some possible assumptions and just start taking an iterative, trial-and-error approach to finding a solution.

Finally, the need in this situation to control the costs and schedules of the effort is insignificant in proportion to the value and importance of finding a cure. So there is not much value in developing a detailed plan. Everyone knows that the effort is not going to be easy and is likely to require a significant amount of money and time and there is also a risk that it may not be successful at all for a long time. The important thing is that all of the stakeholders that are sponsoring the effort have a common understanding of that so that their expectations are properly set.

But Shouldn't We Take Advantage of What We Already Know?



Even in the most extreme case, we're rarely starting from scratch knowing absolutely nothing

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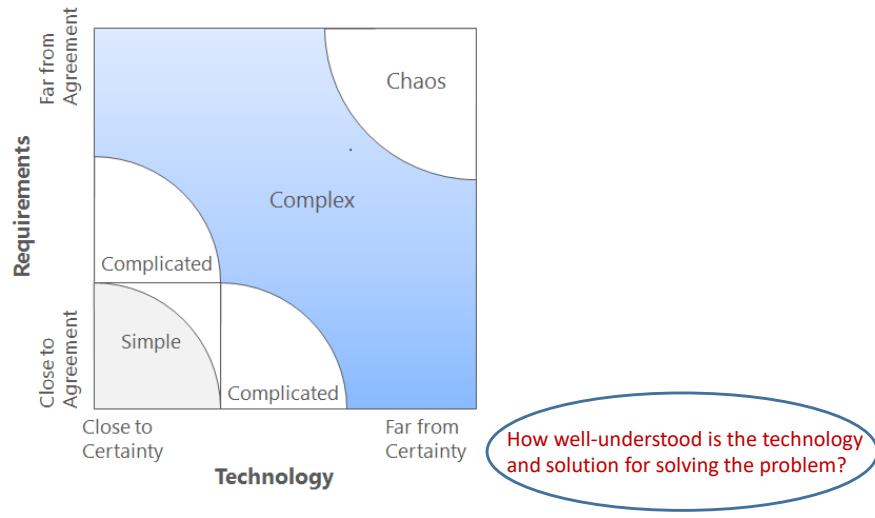
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But even in the extreme case of finding a cure for cancer, there is a lot of knowledge that has already been developed that we certainly should take advantage of – it wouldn't make sense to start from scratch and ignore whatever work had already been done in this area even if it isn't totally conclusive.

Rather than blindly starting to look for a cure for cancer, you would first take stock of what is already known and perhaps develop some hypotheses to prove or disprove. You could develop a rough plan of direction based on that information. It certainly wouldn't be a totally rigid plan but it would provide some general direction to the effort rather than wandering aimlessly looking for a cure without any direction at all.

Again, the key thing to note is that even in an extreme case like this, this is not a totally black-and-white choice between two extremes. You rarely will start a project from scratch where you know absolutely nothing.

Stacey Complexity Model



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An interesting model that is useful for understanding how to handle different types of projects is what is called the Stacey Complexity Model created by Dr. Ralph Stacey. It provides a model for understanding the level of complexity in a project in two dimensions:

- The first dimension is the level of agreement on the requirements – how well-defined and understood are the project requirements?
- The second dimension is the level of certainty associated with the technology – how well-understood is the technology and the solution for solving the problem?

Requirements Uncertainty

“For a new software system, the requirements will not be completely known until after the users have used it”

Humphrey's Requirements Uncertainty Principle

W. S. Humphrey, [A Discipline for Software Engineering](#): Addison-Wesley, 1995

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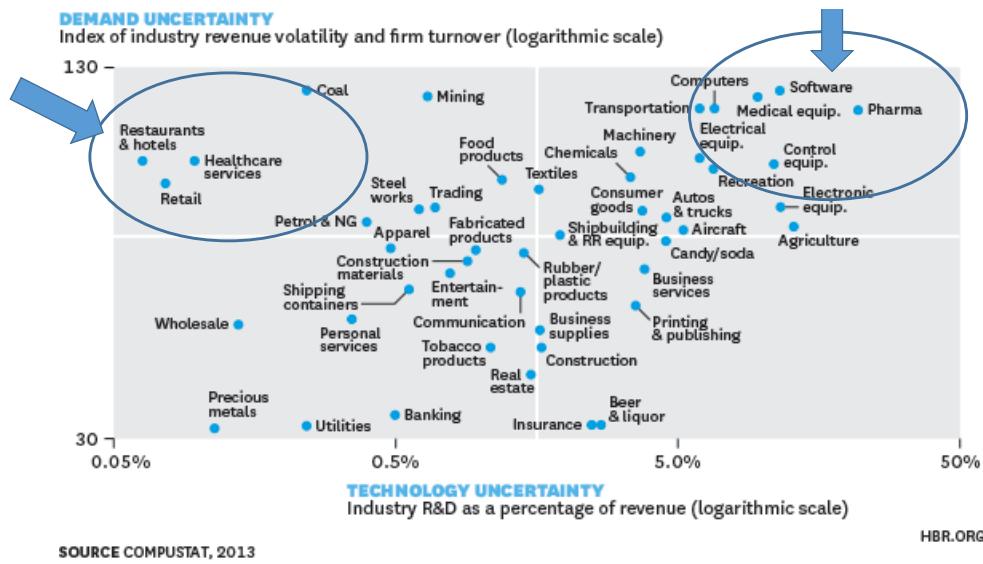
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Of these two dimensions, the one that is probably the most difficult to evaluate is the level of certainty or uncertainty associated with the requirements. There are many situations where the user of the solution may think they know what they want but until you put something in front of them for evaluation you're never really completely sure.

A very famous principle in this area is Humphrey's Requirements Uncertainty Principle that says “For a new software system, the requirements will not be completely known until after the users have used it”

The risk and uncertainty is particularly high for new products that are new to the market or new application areas that haven't been implemented before. And new technologies are enabling many new applications that have never been done before. That is where the interaction of technology uncertainty and requirements uncertainty is at its highest level.

Demand and Technological Uncertainty by Industry

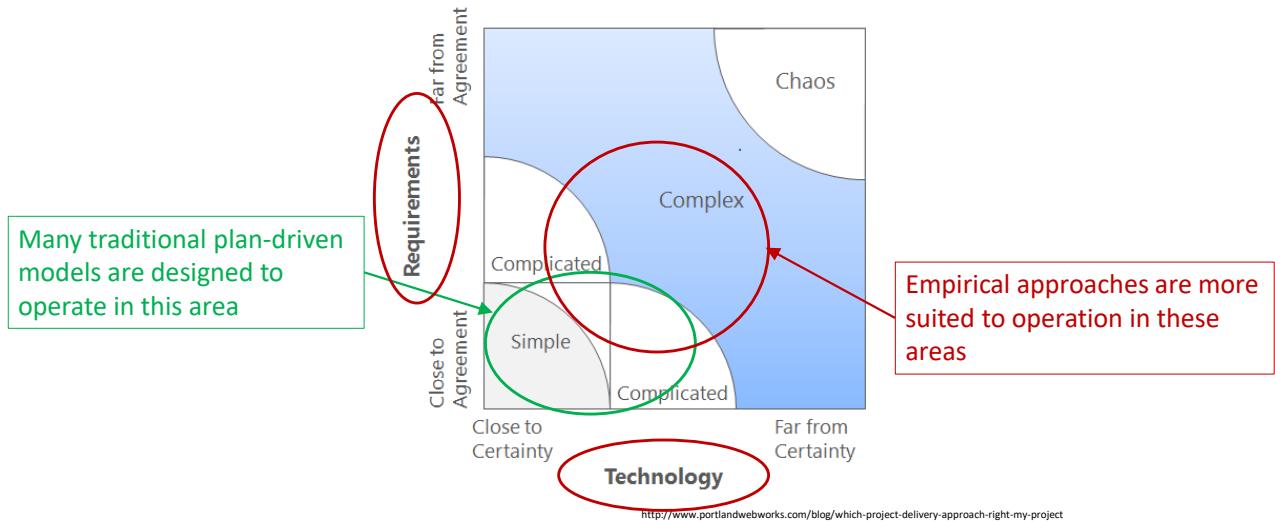


This diagram shows how requirements uncertainty (or what is sometimes known as demand uncertainty) and technology uncertainty can vary by industry.

Let's look at the demand uncertainty axis as an example – notice at the top of this axis are restaurants and hotels which can be very volatile and subject to elusive consumer preferences. How many restaurants have you known that tried to implement a new concept and lasted less than a year? There are many of them. Retail is another area that is very volatile – think of all the retail chains such as Radio Shack, Circuit City, Linens and Things, and many others that have closed huge numbers of stores in response to low consumer demand and competition from other stores who did a better job of identifying and understanding consumer preferences.

Now let's look at technology uncertainty. Notice that areas that have a high level of technology uncertainty many times also have a high level of demand uncertainty. They go hand-in-hand – whenever new technology is introduced that enables new applications and new ways of doing things, there is naturally some uncertainty about how consumers will adopt the new technology and that is where the overall uncertainty is the highest.

How Do Most Projects Fit in This Model?

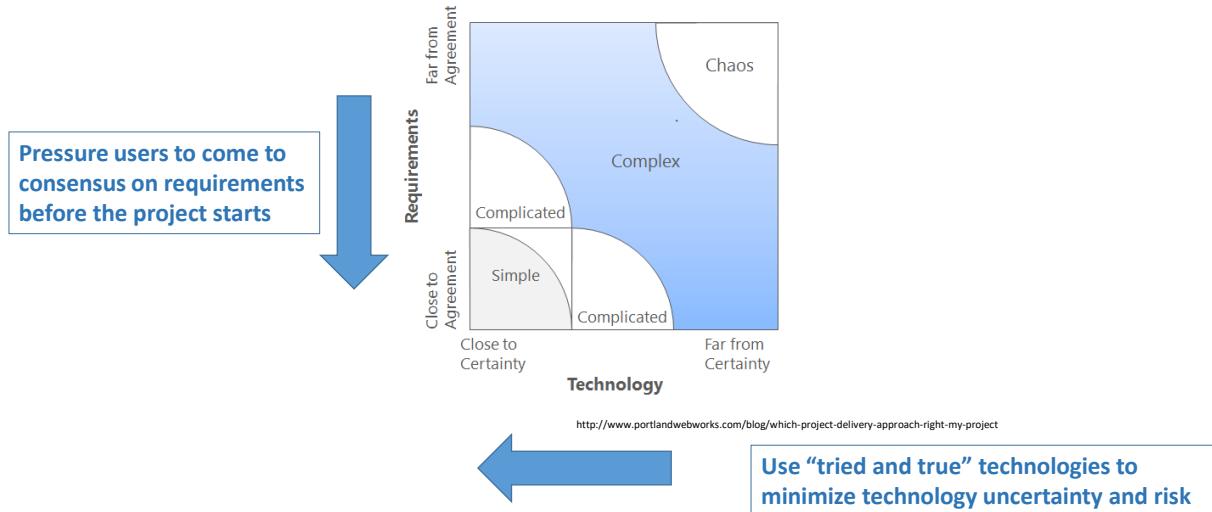


Most plan-driven models are designed to operate in a relatively small area. You have agreement on what the desired outcome is and you are relatively certain of how to get there. In a plan driven project a key part of the initial planning is to attempt to reduce the level of uncertainty in the project to operate in this area. However, there are some significant potential problems with that approach:

- By forcing the users and stakeholders to come to agreement on what the requirements should be prematurely, it may be overlooking a level of uncertainty in the requirements that should take more time to resolve and come to consensus on in order to reach a more optimum solution.
- By selecting a low-risk technology approach that has a higher level of certainty for implementation, it may be avoiding taking a risk on other approaches that could potentially provide a much more significant benefit.

Empirical approaches, on the other hand, are more adaptable to both uncertain requirements and uncertain technology and, for that reason, are more suited to more complex projects.

Forcing a Project into a Plan-driven Model



Because a plan-driven approach is not well-designed to deal with high levels of uncertainty, there are two problems that commonly take place in order to fit a project into a plan-driven model.

- First, there may be a lot of pressure on users to come to consensus on the requirements before the project starts and before they have even seen the solution.
- Second, from a technology perspective, there may be a tendency to use “tried and true” technologies that have been well-proven and have lower risks associated with them

It should be easy to see how both of those tendencies could lead to a less than optimum solution

- Pressuring users to come to consensus prematurely on requirements is likely to hide major areas of uncertainty that should be best to acknowledge and recognize in order to optimize the solution
- Limiting the project to using “tried and true” technologies may be very limiting and might result in producing a solution that is obsolete relatively quickly after it is introduced

Management of uncertainty should be a key area of focus in any project. Rather than attempting to artificially force the level of uncertainty to a very low level, it is many times better to openly acknowledge the uncertainty in a project and use a project model that is more optimized for dealing with uncertainty.

Important Guidelines

A pure plan-driven approach can be very limiting

An Agile approach or a hybrid Agile approach has the potential to cover a much broader range of situations

If you're not sure of the level of uncertainty, it's best to use an Agile or hybrid Agile approach

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Here are some important guidelines that we can summarize from this:

1. First, a pure plan-driven approach can be very limiting because it is not very adaptable to higher levels of uncertainty
 - For that reason, use a pure plan-driven approach only for situations where the level of uncertainty is low
 - Be sure to objectively evaluate the level of uncertainty and don't overlook major areas of uncertainty (either requirements or technology)
2. Second, an Agile approach or a hybrid Agile approach has the potential to cover a much broader range of situations because it is much more adaptable to higher levels of uncertainty

Finally, if you're not sure of the level of uncertainty, it's best to use an Agile or hybrid Agile approach to keep your options open

Questions to Ask

Requirements

How well-defined are the project's goals and requirements?

Are they really understood and agreed-upon by all the project stakeholders?

What level of confidence is associated with that?

Technology

How clear is the approach for implementing the solution?

What's the level of risk and uncertainty associated with implementing the solution?

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One of the most common mistakes that is made in project management is to underestimate the complexity of a project. For that reason, it's very important to make a good objective assessment of the level of complexity in a project. Here are some potential questions to ask to determine what kind of approach is most appropriate for a given project:

1. Requirements

- How well-defined are the project's goals and requirements?
- Are they really understood and agreed-upon by all the project stakeholders?
- What level of confidence is associated with that and how likely are they to change?

2. Technology

- How clear is the approach for implementing the solution?
- What's the level of risk and uncertainty associated with implementing the solution?

Impact on the Future of Project Management

It can take a lot more skill and judgment to fit the approach to the problem

It Requires:

Skill in objectively assessing the level of complexity in the situation

Knowledge of a broader range of methodologies

A deeper understanding of the principles behind the methodologies

A hybrid Agile approach can handle a very broad range of situations

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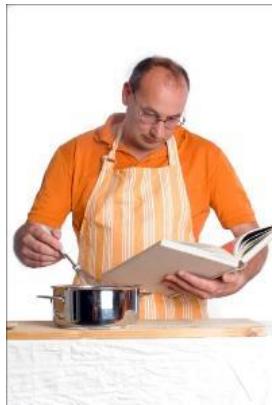
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It should be apparent that it can require a lot more skill to fit an approach to a problem as opposed to force-fitting a problem to some kind of canned predefined methodology whatever it might be (Agile or plan-driven) – it requires

- Skill in objectively assessing the level of complexity in the situation
- Knowledge of a broader range of methodologies, as well as
- A deeper understanding of the principles behind the methodologies to know how to blend them together to fit a given situation

To make this a little easier, I'm going to teach you how to use a hybrid approach in this course that can be adapted to a very broad range of situations

Impact on the Future of Project Management:



"The agile movement forces project managers to consider a much broader range of 'recipes' and 'ingredients' to 'cook' with and requires a much more customized and tailored approach."

ORIGINAL COOK VS. CHEF ANALOGY FROM BOB WYSOCKI

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In my book, I use the analogy of a Project Manager as a cook versus a Project Manager as a chef...a "cook" knows how to prepare a limited number of simple recipes by the book. A "chef" knows how to prepare a broader range of more exotic recipes, his/her knowledge is not limited to pre-defined recipes and he/she will often create new and innovative recipes for a given situation. That's the challenge for project managers today – to become chefs rather than cooks and that's the challenge this course is designed to help you address.

NEXT LECTURE...

POPULAR STEREOTYPES AND MISCONCEPTIONS

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Shifting to an Agile Project Management approach is very much a change of mindset. In the next lecture, we're going to talk about many of the most popular stereotypes and misconceptions that exist about both Agile and traditional project management and go over some of the most critical shifts in thinking that need to take place to successfully adopt an Agile Project Management approach.

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Value-driven Delivery



- Overview of Value-driven Delivery
- Customer-based Prioritization
- Business Case Development

Here's a brief summary of the topics in this section:

- We're going to start with an overview of what value-driven delivery, why the concept is so important to Agile methodologies and discuss some general practices related to value-driven delivery.
- We're then going to discuss Customer-based Prioritization and a number of best practices related to that
- And, finally, we're going to talk about how to develop a business case for Agile projects

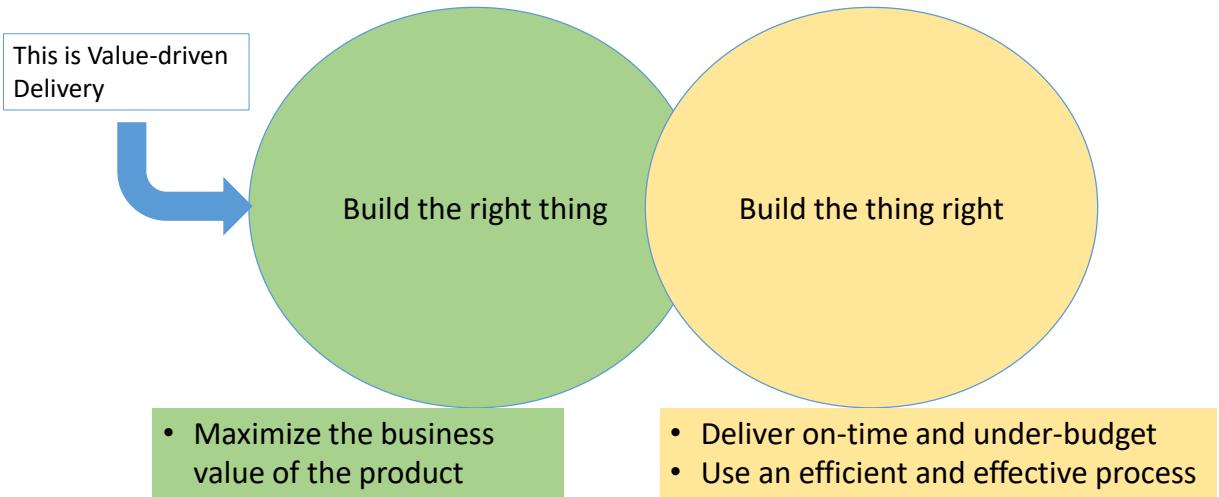
Overview of Value-driven Delivery

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In this lesson, we're going to discuss an overview of value-driven Delivery and why it is so important to any Agile methodology

How Do You Define Project Success?



<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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I want to start the discussion of value-driven delivery with how you define project success. For many years in the world of traditional project management, success has been defined by delivering what was committed on-time and under-budget. And a secondary goal has been to use an efficient and effective process to do it.

The problem with that approach is that many projects met their cost and schedule goals and were considered successful but failed to deliver the required business value. Many project teams have blamed the customers and users of the project for that and rationalized it by saying that “it’s not our fault because we delivered exactly what we were asked to deliver”. That kind of rationalization is not an acceptable excuse any more.

That’s what value-driven delivery is all about – it puts an additional emphasis on “building the right thing” that produces real value for the customer. It’s a major shift in emphasis in a project management approach and requires some different thinking and practices from what has been emphasized in the past with traditional, plan-driven project management.



“There is nothing quite so useless as doing with great efficiency, something that should not be done at all”

- Peter Drucker

<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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The key point is that we have to put a lot more emphasis on producing the right product that maximizes the desired business value as the most critical project goal. In the words of Peter Drucker, “There is nothing quite so useless as doing with great efficiency, something that should not be done at all”.



We have to accept that we live in a world of uncertainty that makes it very difficult, if not impossible for users to define in advance, what they need.

“If I had asked people what they wanted, they would have said ‘faster horses’”

- Henry Ford

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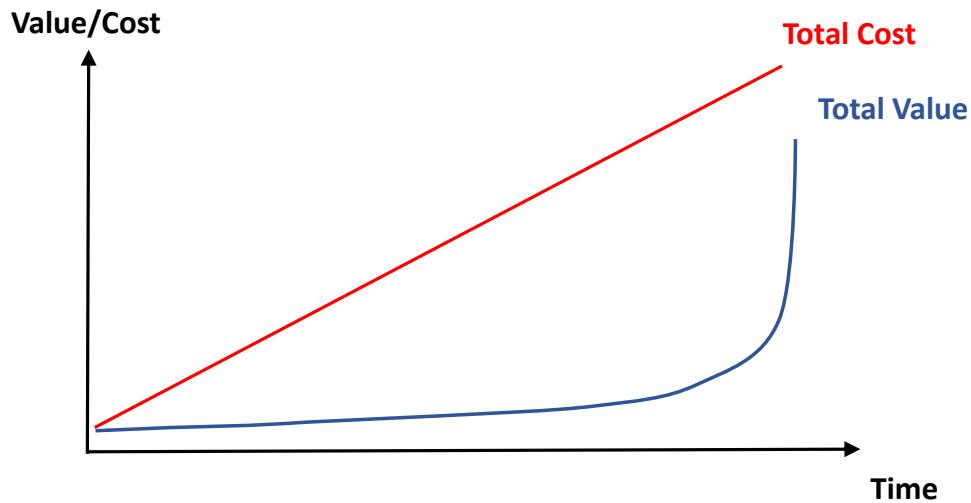
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Another key point is that the rationalization that “we delivered exactly what we were told to deliver” and/or “the users didn’t really tell us what they wanted” is no longer an acceptable excuse. We have to accept that we live in a world of uncertainty and rapidly evolving technology that makes it difficult, if not impossible, for users to exactly and precisely define in advance what they need.

We need to develop and implement an approach that takes that environment into consideration and that will likely cause many people to rethink what we have defined as “project management” for many years.

In the words of Henry Ford, “If I had asked people what they wanted, they would have said ‘faster horses’”.

Plan-driven Cost/Value Curve



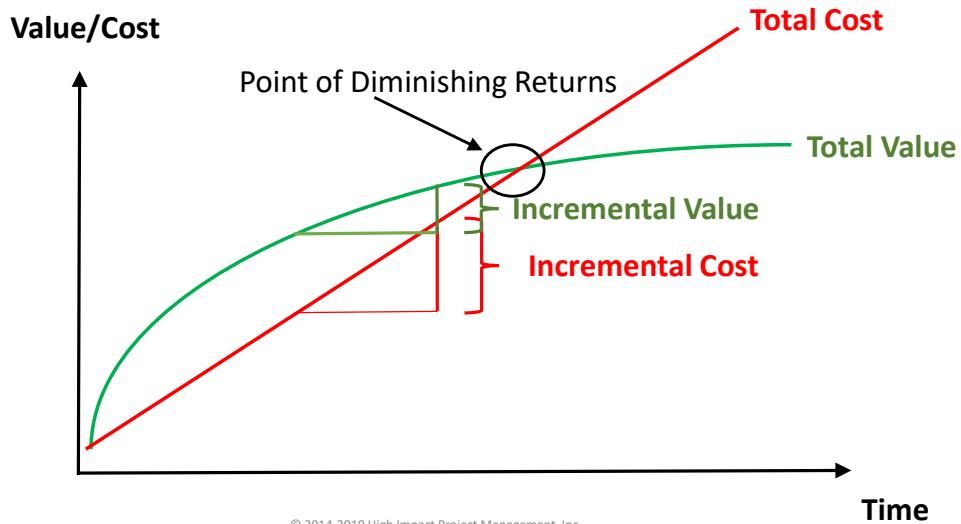
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Let's quickly review some concepts we've discussed earlier regarding value-driven delivery.

A traditional plan-driven project typically looks something like this. The project does not typically deliver value until the very end of the project and then attempts to delivery most or all of the value all at once as shown here.

Agile Cost/Value Curve



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An Agile cost/value curve looks something like this. A big advantage of an iterative or Agile approach is that because the project delivers value incrementally, it is much easier to evaluate the incremental value produced against the incremental cost and to determine when the project reaches a point of diminishing returns where the incremental cost of delivering functionality exceeds the incremental value of that functionality and a decision can be made to terminate the project at that point.

However, implementing this kind of approach requires that the functionality in the project be broken up into discrete increments and prioritized in terms of the value each increment produces.

What's Wrong with the Traditional Approach?

1. Financial Return

Traditional, Plan-driven Approach:

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9
Incremental Value					\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
Incremental Cost	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 200	\$ 200	\$ 200	\$ 200
Net Cash Flow	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ (1,000)	\$ 1,000	\$ 1,800	\$ 1,800	\$ 1,800	\$ 1,800
	Internal Rate of Return =								
	17%								

Agile Approach:

	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7	Period 8	Period 9
Incremental Value	250	500	100	1500	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000
Incremental Cost	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 200	\$ 200	\$ 200	\$ 200
Net Cash Flow	\$ (750)	\$ (500)	\$ (900)	\$ 500	\$ 1,000	\$ 1,800	\$ 1,800	\$ 1,800	\$ 1,800
	Internal Rate of Return =								
	34%								

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The first problem is in the area of financial return. Let's look at an example...

This table shows what the cash flows might look like in a traditional plan-driven project. In this case the project took five periods to deliver a final result and the value of the final result is 2000 and it has a lifespan of five years where it will return value. There's a steady stream of costs of \$1,000 per period for the development project and then a stream of costs of \$200 per period for ongoing support once the product is released.

If you calculate the internal rate of return of the net cash flows it turns out to be about 17% which might not seem too bad but that kind of return probably wouldn't be acceptable on a risky project because you don't really know with any level of certainty what the actual return will be until the project is actually delivered.

The second table shows what the cash flows might look like in an equivalent Agile project. Note that the project costs are exactly the same and the resulting value that is delivered is also the same over the same number of years. The key difference is that the project was able to delivery some portion of the value incrementally as the project was in progress rather than waiting until the very end.

If you calculate the Internal Rate of Return of these cash flows, it turns out to be about 34% which is double the rate of return of the traditional approach. Doubling the rate of financial return is a powerful argument for taking an incremental value-driven approach.

What's Wrong with the Traditional Approach?

2. Time-to-Market



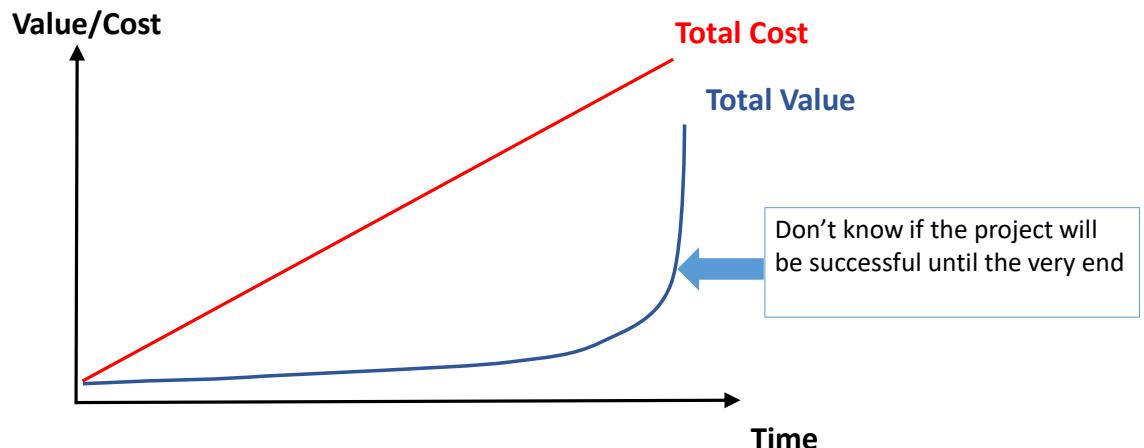
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A related problem is time-to-market. With a traditional, plan-driven approach there can be a very large missed opportunity to deliver at least some portion of the solution early to achieve faster overall time-to-market.

What's Wrong with the Traditional Approach?

3. Risk



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Another major problem is in the area of risk. You don't know if the project will really be successful until the very end and by that time it may be too late to do anything about it or the cost and difficulty of making corrections may be enormous.

An Agile, value-driven approach avoids this problem by delivering at least some partial value as early as possible which provides important early feedback as to whether the project is on the right track or not.

What's Wrong with the Traditional Approach?

4. Flexibility and Adaptivity

An excessive emphasis on meeting cost and schedule goals can create a very inflexible approach

That doesn't work well in uncertain and rapidly-changing environments



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The lack of flexibility and adaptivity is also a problem. A traditional, plan-driven approach that places an excessive emphasis on meeting cost and schedule goals can create a very inflexible approach. The reason for that, of course, is that if you want to control the cost and schedule of the project, you have to control the scope; and, in order to do that you have to lock in the requirements upfront with some level of change control and you also need to minimize uncertainty by creating assumptions about any areas of ambiguity.

That kind of approach just doesn't work well in rapidly-changing environments with high levels of uncertainty. Locking in the requirements upfront with some level of change control makes it difficult to resolve uncertainties in the requirements as the project progresses and when you make arbitrary assumptions to try to minimize uncertainty, many times those assumptions turn out to be wrong.

NEXT LECTURE...

PRINCIPLES OF

VALUE-DRIVEN DELIVERY

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In the next lecture, we're going to talk about the principles of value-driven delivery.

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Principles of Value-driven Delivery

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In this lesson, we're going to talk about the principles behind value-driven delivery

“Agile With Guts”

A Pragmatic Guide to Value-driven Development

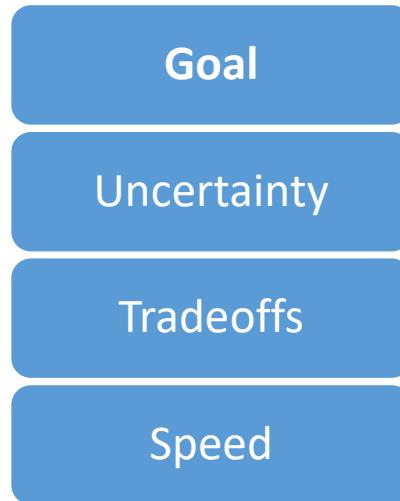
eBook by Nicholas Gouy
<http://www.infoq.com/minibooks/agile-guts>

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3

Before we get too far into this presentation, I want to acknowledge that most of the material in this presentation and some of the material in the previous presentation was derived from an excellent book on this subject by Nicolas Gouy called “Agile with Guts” that you can find online at the location provided on this slide. I highly recommend this book for additional reading on this topic.

Value-driven Delivery Principles



<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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Nicolas Gouy has identified four key principles associated with value-driven delivery:

- The first is to have a clearly defined “Goal” that is defined in terms of the business outcome and value that the project is trying to achieve
- The second is learn to recognize and accept uncertainty as a fact of life that you have to deal with. Value, in particular, can be an elusive term and means different things to different people. It is also somewhat subjective and subject to change
- The third principle is related to “Tradeoffs”. There are typically many tradeoffs that need to be resolved to arrive at an optimum solution and an objective approach is needed for evaluating and resolving these tradeoffs
- The final principle is related to “Speed”. This principle recognizes that the idea of value can change rapidly and, for that reason, it is essential to deliver something as fast as possible

We'll discuss each of these principles in more detail in the following slides

1. Goal

Having clearly-defined goals for a project is very important

Goals should be defined in terms of the desired outcome not how it will be achieved



<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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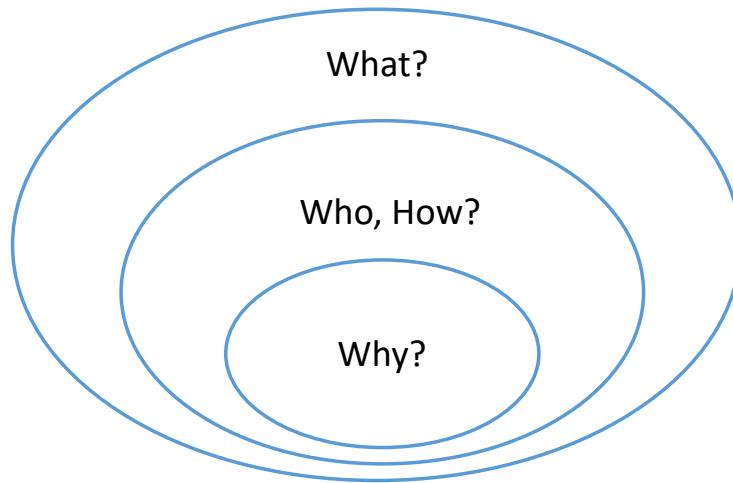
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The first principle is that having a clearly-defined goal for a project is extremely important and the goal should be defined in terms of the desired outcome of the project in terms of the business value that the project is trying to create, not in terms of how it will be achieved

The diagram on this page shows some characteristics of well-defined goals:

- Goals should be specific
- They should be measurable and achievable
- And they should be realistic and timely

Means-oriented Communication



<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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Many people talk about projects in terms of the means that the project is going to use to solve a particular problem and they often lose sight of the real goal that the project is trying to achieve and why it is important.

- One level of discussion is about “What” the project is trying to accomplish
- Another level of discussion is on “Who” and “How” that will be achieved
- However, the more important level of discussion is “Why” is that important?



Great leaders communicate differently. They start with the goal and explain the means afterward.

- Simon Sinek

<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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Simon Sinek noticed that great leaders communicate differently. They start with the goal and explain the means afterward.

An Example - Apple

Everything we do is to make your life simpler

Why?

By working with the best engineers and designers

Who, How?

We provide innovative computers

What?

<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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Keeping the focus on the “Why” is essential to build innovative products and solutions.

Here's an example from Apple. Apple's motto is “Everything we do is to make your life simpler by working with the best engineers and designers, we provide innovative computers”. Let's take that statement apart:

“Everything we do is to make your life simpler” is their primary goal which expresses the “Why”

The “Who” and “How” is expressed by “Working with the best engineers and designers”

And finally “We provide innovative computers” expresses the what

If you lock in on the “What” too early, you run the risk of overlooking other alternative approaches that might provide a more effective solution to the “Why”

Focusing on the “Why?” May Not Be Sufficient

The “Five Why’s” approach is a good approach for digging deeper into the “Why?”

Why do I want a million dollars? Because I don’t want to be stressed about money

Why don’t I want to be stressed about money? So I don’t feel anxious

Why don’t I want to feel anxious? So I can feel secure

Why do I want to feel secure? So I feel free

Why do I want to feel free? Because I want to feel free!

<https://foundryintheforest.wordpress.com/2011/11/17/using-the-five-whys/>

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Just asking the question “Why” may not be sufficient in some cases because you may get just a superficial answer that doesn’t really reflect the real need. The “Five Why’s” approach is a methodology that I’ve mentioned earlier in this learning path and is a good approach for digging deeper into the “Why?”.

Here’s an example:

Why do I want a million dollars? Because I don’t want to be stressed about money.

Why don’t I want to be stressed about money? So I don’t feel anxious.

Why don’t I want to feel anxious? So I can feel secure.

Why do I want to feel secure? So I feel free.

Why do I want to feel free? Because I want to feel free!

In this example, the real answer to the original question is different from the original answer and in this case, if the real goal is to “feel free” there may be other ways of satisfying that goal that don’t require a million dollars.

2. Uncertainty

Accept and acknowledge that some level of uncertainty is a fact of life in all projects

Recognize that you can't make all uncertainty go away

Develop an approach that is appropriate to the level of uncertainty



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The next principle is related to “uncertainty”

We need to accept and acknowledge that some level of uncertainty is a fact of life in all projects and it cannot be ignored

We need to recognize that you can't make all uncertainty go away and

We need to develop an approach that is appropriate to the level of uncertainty



In a typical project, if we focus on the “Why”, there is typically a lot of uncertainty associated with that kind of goal

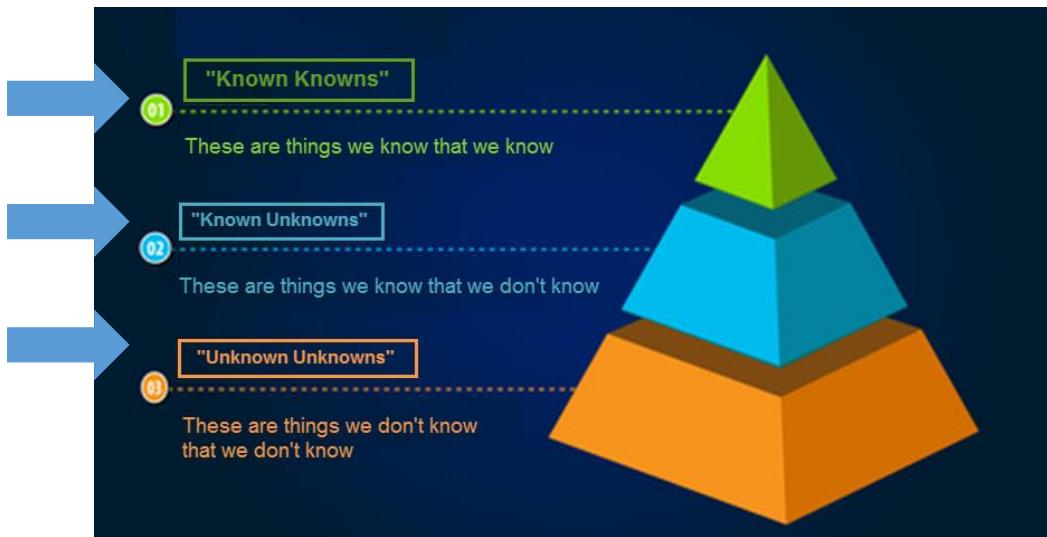
<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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In a typical project, if we focus on the “Why”, there is typically a lot of uncertainty associated with that kind of goal because a lot is left open as to the “Who”, “How”, and “What” will be required to achieve that higher level goal. But that’s very appropriate because jumping into a solution to the what, who, and why of how that goal will be achieved may not lead to the most optimum solution. For that reason, an objective and well-thought approach is needed for dealing with uncertainty.

Management of Uncertainty



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In February 2002, Donald Rumsfeld, the then US Secretary of Defense identified several categories of knowns and unknowns:

- First there are “known-knowns” These are things we know that we know
- And there are “known-unknowns” These are things that we know we don’t know
- And, finally, there are “unknown-unknowns” These are things that we don’t know that we don’t know

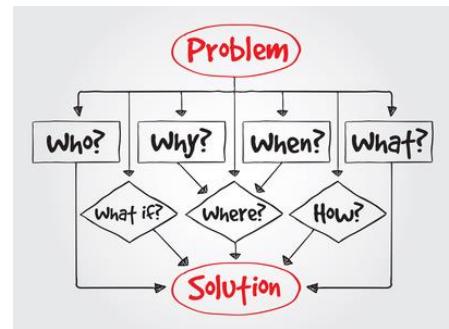


It takes a mature, healthy, and objective approach to see uncertainty in the right perspective and deal with it effectively

People's egos often get in the way of dealing with uncertainty. Many people don't want to readily admit that they don't know everything that they need to know about a particular subject. A more healthy and mature approach is to recognize that there is a lot that we don't know that we don't know.

3. Tradeoffs

A systematic approach is needed to evaluate alternatives to arrive at an optimum solution



<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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The next principle is related to “Tradeoffs”. There is a tendency with Agile to rush too quickly into a solution which may not be optimal and a systematic approach is needed to evaluate alternatives

Difficulties with Tradeoffs

Difficulty comparing solutions

Difficulty prioritizing

Becoming irrational

Fighting for the best solution



<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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Nicolas Gouy has identified a number of problems that teams typically have in evaluating alternative solutions

The first is difficulty comparing solutions – an objective way is needed to evaluate the relative merit of alternative solutions and it has to be done quickly and efficiently. The best judge of that is the customer so it is essential for the customer to be engaged in that process

Next is difficulty prioritizing features which includes evaluating the contribution of the feature to the overall goal of the project against the cost and effort to develop the feature. A common problem in this area is to try to directly compare two different features on the basis of “What” they do and that can be very difficult to do. You have to do the comparison at a higher level on the basis of their contribution to the overall goals of the project (the “Why” and the “How”). The “Why” part helps to keep focus on the goals of the project

Next is becoming irrational – emotions, cognitive illusions, conscious and unconscious biases, fallacies, fear of regret can cause mistakes in analyzing tradeoffs. It’s important to be aware of these factors and mitigate their impact on the analysis

Finally, another problem is fighting for the best solution – there is definitely a point of diminishing returns where attempting to arrive at a perfect solution is not worth the effort. In order to identify that point, a good practice is to use an incremental and iterative approach to developing the solution. Start with something simple that is designed to meet the primary need and enhance it only as needed to provide additional value.

4. Speed

Speed is important

An efficient process is needed to make decisions quickly



"Of course we can make fast decisions ... once we have considered the 4872 factors."

Taking time to evaluate alternative solutions is important but we can't let it drift into "analysis paralysis"

<http://www.infoq.com/resource/minibooks/agile-guts/en/pdf/AgilewithGuts-final.pdf>

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The final point, of course, is that speed is important. All of this has to be done quickly and efficiently to arrive at a solution. Taking time to evaluate alternative solutions is important but we can't let it drift into "analysis paralysis"

NEXT LECTURE... CUSTOMER-VALUE PRIORITIZATION PART

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In the next lecture, we're going to talk about part 1 of 4 parts on Customer-value Prioritization

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Customer-value Prioritization Part 1

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In this lesson of the course, we're going to begin discussing a number of different models and best practices for doing customer-value prioritization. This is the first of four lessons on that topic.

Customer-value Prioritization Is Not Easy

“Value” can be difficult to assess and quantify

Customer ideas about quality are often confused and difficult to see clearly

Different stakeholders may have different views of what value is

It's not as easy as asking a customer what they want and getting a simple answer



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A major problem with many traditional plan-driven approaches has been that they may have met their cost and schedule goals but wound up creating something that didn't produce the required business value. It's naive to believe that you can simply ask a customer what they want, write it down in the form of a requirements document, and then go off and build it without much opportunity for feedback and inputs along the way.

Another important factor in traditional plan-driven projects is that requirements tend to become bloated and projects become unnecessarily complex as a result because customers tend to ask for everything that they might possibly need without adequately prioritizing what's important and what's not.

Prioritizing customer needs based on value is a solution to those problems; however, defining and prioritizing customer values is not an easy thing to do and many people underestimate the difficulty and complexity of this task.

- “Value” can be difficult to assess and quantify and it can also be very subjective
 - Customer ideas about quality are often confused and difficult to see clearly
 - Different stakeholders may have different views of value and it might be difficult to reach consensus on an overall solution

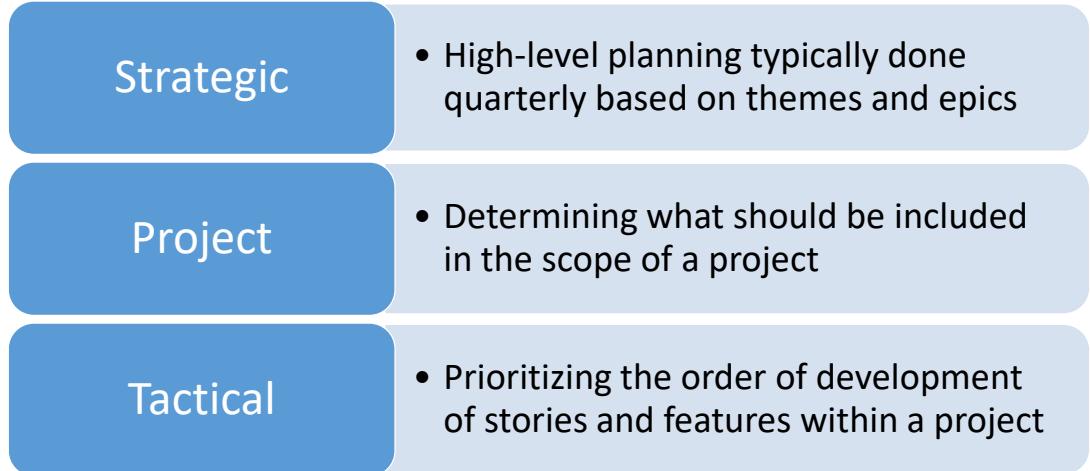
It's definitely not as easy as asking a customer what they want and getting a simple answer



It's very easy to underestimate the difficulty and complexity associated with identifying and prioritizing customer values and it can require a systematic approach to do that

The key point is that it is very easy to underestimate the difficulty and complexity associated with identifying and prioritizing customer values and it can require a systematic approach to do that. In the rest of this lesson we're going to discuss some potential models and best practices for doing that.

Levels of Prioritization



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There are at least several levels of prioritization that you might find in an Agile project

- The first is strategic – Many times Agile development is not bound to well-defined projects. It is more of a continuous development effort that is ongoing and is continuously re-planned as it progresses. This provides a much more flexible and dynamic way of planning and prioritizing efforts. An example might be a company where the senior executives get together quarterly to plan and prioritize initiatives. This effort will typically be done at a high level based on themes and epics. We will discuss themes and epics in more detail later; however, to keep this simple for now, a theme is a higher level strategic objective that might cut across a number of projects like improving employee morale and an epic might be a major high-level project goal that consists of a number of different features such as developing an online order tracking tool.
- The next level is at the project level. The primary goal at this level is to determine what is included in the scope of a project and what is not included. That's a somewhat different process in an Agile environment because the scope of the project is typically much more fluid and may not be rigidly defined. As a result, the Product Backlog is prioritized from top-to-bottom, the items are developed in priority order, and it is understood that at some point the project might reach a point of diminishing returns and, at that point, the remaining items might not be developed at all.
- The final level is a tactical level associated with planning and prioritizing the order of development of stories and features within a project.



All of these levels of planning and prioritization interact with each other in a dynamic way

In a traditional plan-driven environment, you might find a very different environment. You might have much more longer range plans that are much more static and not well-integrated. For example, at a strategic level, you might find multi-year long range strategic plans that aren't updated frequently and lower level plans at project or program levels that may or may not be well integrated. The whole planning and prioritization process in an Agile environment is typically much more dynamic and, as a result needs to be much more integrated. Changes at a strategic level can propagate much more easily down to lower levels to rapidly shift directions if needed to meet business needs.

Factors to Consider in Prioritization

- Business Value and Return on Investment
- Architecturally-significant stories
- Dependencies
- People availability
- Placeholders



<http://blog.3back.com/scrum-tips/5-prioritization-factors/>

7

Dr. Dan Rawsthorne has identified five factors in prioritizing user stories:

- The first and most important is, of course, business value and return on investment. This factor is, of course, important at all levels of prioritization. However, business value alone does not tell the whole story. There are other factors to consider particularly as you get into the more tactical levels of prioritization that include:
- Another factor is that some stories have architectural significance and should be addressed early for that reason
- A related factor is that some stories have dependencies on other stories which needs to be considered in prioritizing the work to be done
- Another very important factor is the availability of people to do the work. Some stories may require specialized resources which need to be planned and the total number of resources required to implement a feature is also a very important factor to consider
- Dr. Rawsthorne has also identified the idea of “placeholders”. The idea behind this is that you often want to reserve some capacity for items that have not been fully identified yet. Bug fixes might be one example.



Focus on customer needs rather than solutions

Many times customers will want to tell you what they want in terms of a solution but that should be avoided in most cases. It's a good practice to always focus on clearly understanding customer needs before jumping too quickly into the solution to those needs.

NEXT LECTURE...

CUSTOMER-VALUE

PRIORITIZATION PART 2

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In the next lecture, we're going to continue our discussion on Customer-value prioritization with the second of four lessons on that topic.

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Customer-value Prioritization Part 2

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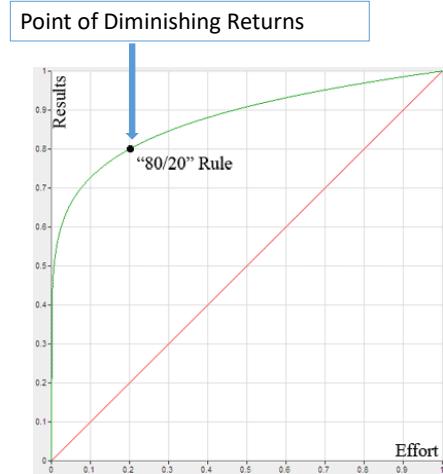
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In this lesson of the course, we're going to discuss a number of different models for doing customer-value prioritization.

Pareto Rule

"The 80/20 rule observes that most things have an unequal distribution"

In a typical product, a relatively small number of features will result in the majority of the impact (the green line)



<http://betterexplained.com/articles/understanding-the-pareto-principle-the-8020-rule/>

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A very important concept to keep in mind in doing customer-value prioritization is the Pareto Rule which says that many things have an unequal distribution.

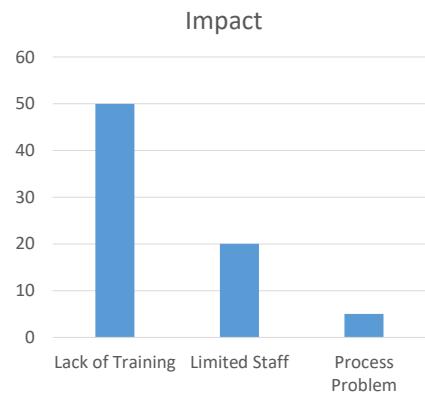
The Pareto principle was first developed in 1906 by Italian economist Vilfredo Pareto, who in the course of researching his ideas, made an interesting observation. 80% of the land in Italy, he discovered, was owned by just 20% of the people. Exploring this relationship in other countries, he found that the situation was the same all over Europe. Over time, he became aware that this 80/20 split was not limited to landowners—or even to human affairs. In fact, he found, 20% of the pea pods in his garden produced 80% of the peas he harvested!

Forty years after Pareto published his ideas, business theorist Joseph Juran stumbled across the 80/20 rule, and wondered if it could be applied to business situations. Could it be that 80% of business problems were generated by just 20% of the related causes? Of course, the answer was a resounding "yes."

In a typical product, a relatively small number of features will result in the majority of the usage and impact of the product. And adding additional features beyond that point can quickly reach a point of diminishing returns and just add complexity to the product without significantly adding value. There are many examples of this in the real world. Take some of the more commonly used products like Microsoft Word and Excel – those products have thousands of features; but, in actual practice, most users only use a very small subset of the features that the product offers.

Example Pareto Analysis

A Pareto Analysis and Pareto Chart is used to show the relative impact of different problems or features



https://www.mindtools.com/pages/article/newTED_01.htm
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A Pareto Analysis and Pareto Chart is used to show the relative impact of different problems or features. This slide shows an example of a simple Pareto Analysis and Pareto Chart. This example shows an example of identifying the root cause of a particular problem among three potential causes:

- Lack of training
- Limited staff
- Process problem

The graph shows the relative frequency of each cause of the problem. A similar type of analysis could be done to analyze the relative usage or impact of a particular product feature.



A limitation of the Pareto Analysis technique is that it only looks at impact and does not include cost (or effort) required

One limitation of the Pareto Analysis technique is that it only looks at impact and does not include the cost or effort required.

Minimum Viable Product

A Minimum Viable Product is that version of a new product which allows a team to collect the maximum amount of validated learning about customers with the least effort

Eric Ries

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One idea that is particularly important in customer-value prioritization is the idea of the “Minimum Viable Product” which is defined by Eric Ries as follows:

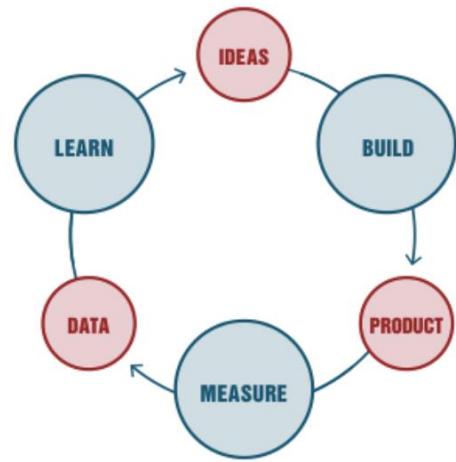
The Minimum Viable Product is “that version of a new product which allows a team to collect the maximum amount of validated learning about customers with the least effort”

Eric Ries did a lot of research into new startup companies and found that a large number of startup companies failed. The pattern that he saw was that companies developed elaborate ideas for products and launched an extensive effort to develop those products and then discovered after all of that effort that the product wasn’t what the market wanted at all. This problem is a direct result of not recognizing the level of uncertainty associated with the acceptance of a new product in the marketplace. We have to recognize that there is a lot that we don’t know and if we assume that we know everything that there is to know about a new product, we will very frequently be wrong.

A much better approach is to start with something very simple that can be created with minimum investment to get feedback and inputs from customers before making a full-blown investment in developing a complete product. That is what the idea of the minimum viable product is all about.

Minimum Viable Product Learning Cycle

The Minimum Viable Product should be a basis for learning what works and doesn't work before committing to a full-scale development effort



<http://leanstack.com/minimum-viable-product/>

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The Minimum Viable Product should be a basis for learning what works and doesn't work before committing to a full-scale development effort

This slide shows the learning cycle associated with a Minimum Viable Product. It starts with a basic idea centered on the core features of the product, then building a prototype as quickly and efficiently as possible to gather feedback and inputs, measuring the results of that feedback and learning from it and continuing that cycle.



A Pareto Analysis and Pareto Chart is used to show the relative impact of different problems or features

A good approach is to start with the minimum viable product and expand it incrementally only with features that add value

The idea of a Minimum Viable Product is very much consistent with the Pareto rule that 20% of the features in a product create 80% of the impact. By focusing on the most important core features and capabilities of the product, the effort to create at least an initial working prototype can be significantly accelerated with an equivalent reduction in cost.

A good approach is to start with the minimum viable product and expand it incrementally with features that add value based on measuring the impact of the product and learning what works and what doesn't work. This is a much more sensible way to bring a product to market in a very uncertain environment.

Minimum Marketable Feature

The smallest set of functionality that must be realized in order for the customer to perceive value

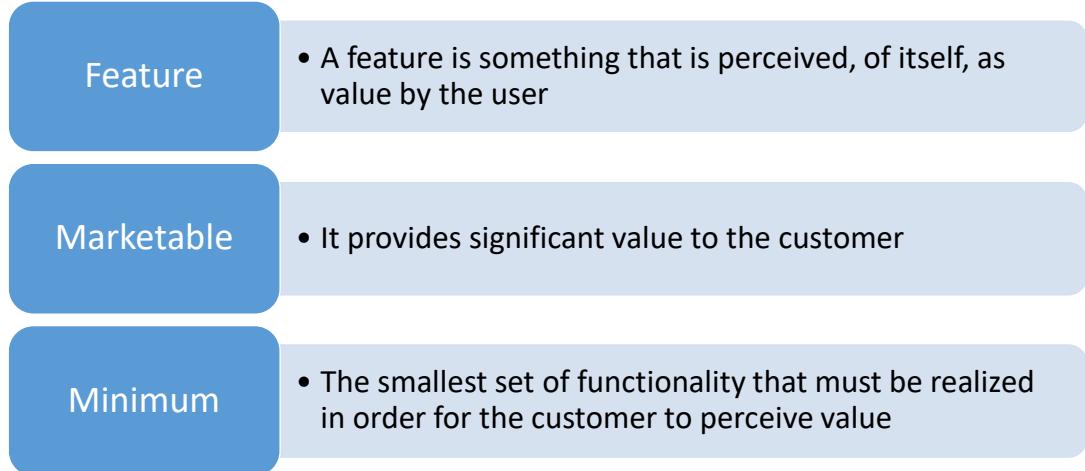
<http://www.solutionsiq.com/agile-glossary/minimum-marketable-features/>

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Another idea that is important in this area is the concept of a “Minimum Marketable Feature” which is defined as “The smallest set of functionality that must be realized in order for the customer to perceive value”. What that means is that each feature does not necessarily need to be fully developed to get customer input and feedback. It is very similar to the idea of a Minimum Viable Product...each feature can be developed incrementally from a very basic idea of a minimum marketable feature.

Characteristics of a Minimum Marketable Feature



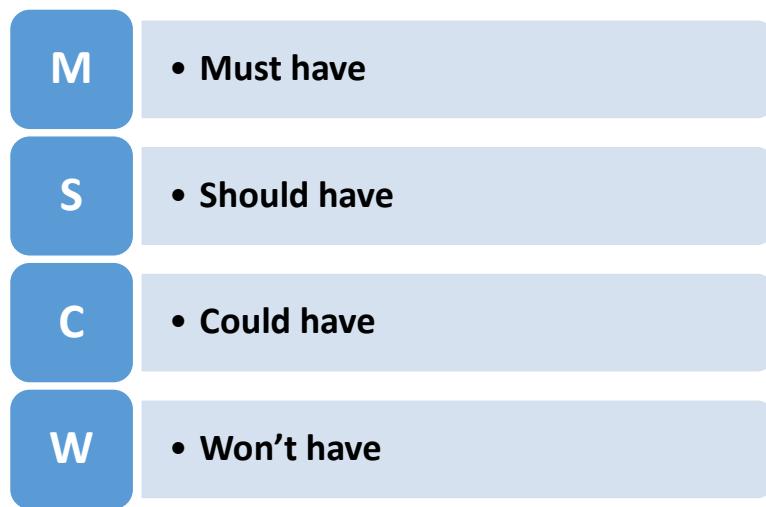
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10

There are several essential characteristics of a Minimum Marketable Feature:

- First a feature is something that is identifiable and perceived, of itself, to have value by the user.
- Marketable means that it provides significant value to the customer. Value may include revenue generation, cost savings, competitive differentiation, brand-name projection, or enhanced customer loyalty
- And, finally, “Minimum” means the smallest set of functionality that must be realized in order for the customer to perceive value

MoSCoW Prioritization



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A very simple model for customer value-prioritization is the Moscow model.

We've previously discussed the MoSCoW model in conjunction with DSDM. This model is a very simple model for prioritization that can be used with any Agile methodology (not limited to DSDM). This slide shows a description of the MoSCoW approach for requirements prioritization. The different levels of priority include:

Must have – These provide the Minimum Usable SubseT (MUST) of requirements that the project guarantees to deliver.

Should have - A “Should Have” may be differentiated from a “Could Have” by reviewing the degree of pain caused by it not being met, in terms of business value or numbers of people affected.

Could have

Wanted or desirable but less important

Less impact if left out (compared with a Should Have)

Won't have - These are requirements the project team has agreed it will not deliver.

NEXT LECTURE...

CUSTOMER-VALUE

PRIORITIZATION PART 3

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12

In the next lecture, we're going to talk about the third of four parts on Customer-value Prioritization

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Customer-value Prioritization Part 3

Kano Model

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In this lesson of the course, we're going to continue our discussion of models for doing customer-value prioritization with the Kano model which is a fairly powerful and sophisticated model for prioritizing customer value.

"The Complete Guide to the Kano Model"

Prioritizing Customer Satisfaction and Delight

eBook by Daniel Zacarias

<http://foldingburritos.com/kano-model/>

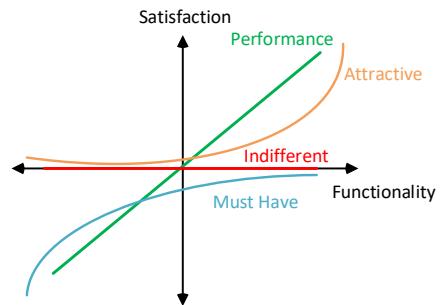
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Before we get too far into this presentation, I want to acknowledge that most of the material in this presentation was derived from an excellent book on this subject by Daniel Zacarias called "The Complete Guide to the Kano Model" that you can find online at the location provided on this slide. I highly recommend this book for additional reading on this topic.

What Is the Kano Model?

Noriaki Kano, a Japanese researcher and consultant, published a paper in 1984 with a set of ideas and techniques that help us determine our customers' (and prospects') satisfaction with product features



Zacarias, Daniel, The Complete Guide to the Kano Model, <http://foldingburritos.com/kano-model/>

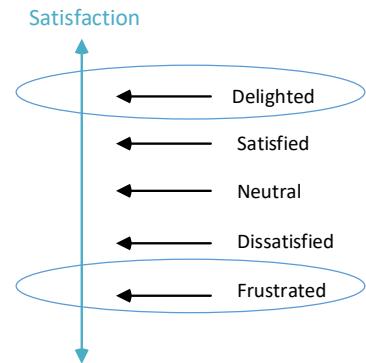
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The Kano Model was developed originally by Noriaki Kano in 1984 to provide a way to determine and model customers' satisfaction with product features.

Kano Model – Customer Satisfaction

Kano proposes a customer satisfaction dimension that goes from total satisfaction to total dissatisfaction



Zacarias, Daniel, The Complete Guide to the Kano Model, <http://foldingburritos.com/kano-model/>

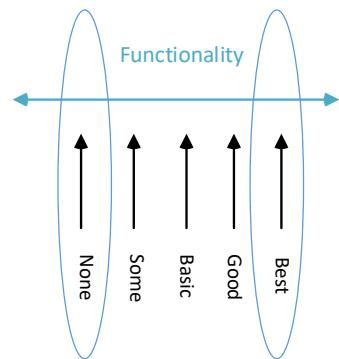
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The Kano Model consists of two dimensions. The first is customer satisfaction. Kano proposes a customer satisfaction dimension that goes from total satisfaction (also called delight and excitement) to total dissatisfaction (or frustration)

Kano Model – Functionality

The functionality dimension goes from no functionality at all, to the best possible implementation



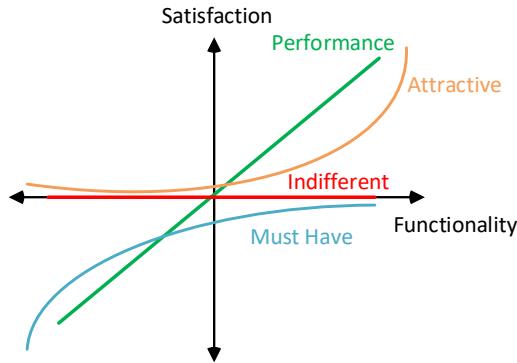
Zacarias, Daniel, The Complete Guide to the Kano Model, <http://foldingburritos.com/kano-model/>

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The next dimension is functionality. This dimension goes from no functionality at all, to the best possible implementation.

Kano Model



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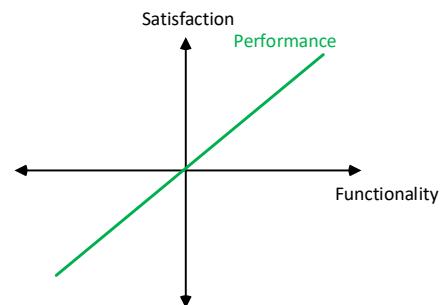
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This diagram shows a depiction of a Kano model. The Kano model defines four categories of features that we will discuss next.

Kano Model – Performance

These attributes result in satisfaction when fulfilled and dissatisfaction when not fulfilled



Zacarias, Daniel, The Complete Guide to the Kano Model, <http://foldingburritos.com/kano-model/>

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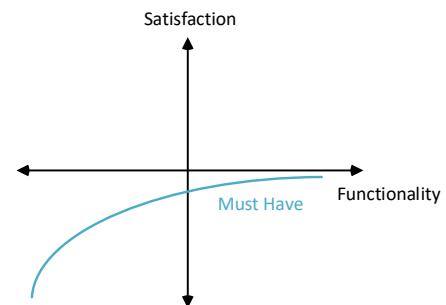
8

The first category of feature is called “One Dimensional” or performance. Attributes in this category result in satisfaction when fulfilled and dissatisfaction when not fulfilled. There is approximately a linear relationship between the level of implementation and the level of satisfaction. The more that feature is implemented, the more the customer is satisfied.

These are attributes that are spoken and the ones in which companies compete. An example of this would be the reported mileage of a car. When Volkswagen reported high mileage figures for its cars, it was a satisfier to encourage people to buy their cars but when it became known that the testing practice to determine those numbers was rigged to show higher results, that became a significant dissatisfier.

Kano Model – Must Haves

These attributes are taken for granted when fulfilled but result in dissatisfaction when not fulfilled



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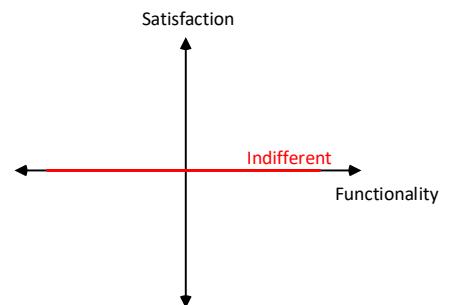
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The next category is called “Must Haves”. These attributes are taken for granted when fulfilled but result in dissatisfaction when not fulfilled.

An example would be a fuel tank on a car that doesn’t leak. It’s taken for granted that a fuel tank on a car should not leak and it doesn’t really result in any significant satisfaction when it doesn’t leak but if it does leak, it would be a significant dissatisfier.

Kano Model - Indifferent

These attributes refer to aspects that are neither good nor bad, and they do not result in either customer satisfaction or customer dissatisfaction



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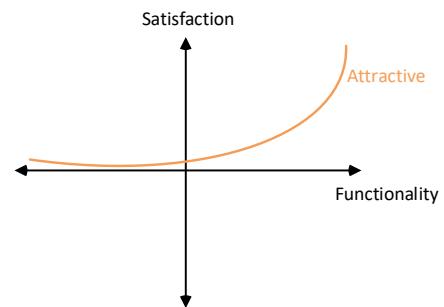
10

The next category is called “Indifferent”. These attributes refer to aspects that are neither good nor bad, and they do not result in either customer satisfaction or customer dissatisfaction.

An example would be the thickness of the paint coating on the car. As long as the paint is effective and does the job it is intended to do, customers wouldn’t normally care about how thick the paint coating on the car is.

Kano Model - Attractive

These attributes provide satisfaction when achieved fully, but do not cause dissatisfaction when not fulfilled



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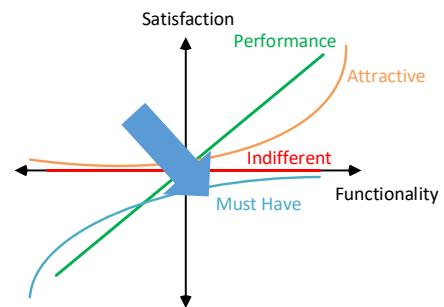
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The next category is called “Attractive”. These attributes provide satisfaction when achieved fully, but do not cause dissatisfaction when not fulfilled.

An example would be the availability of a roadside assistance service in conjunction with the purchase of a new vehicle. If it is available, it could be a significant satisfier, but it might not be a dissatisfier if it is not available.

The Natural Decay of Delight

What our customers feel about some product attribute now is not necessarily what they will feel in the future.



Zacarias, Daniel, The Complete Guide to the Kano Model, <http://foldingburritos.com/kano-model/>

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An important point about customer value is that value decays over time and what our customers feel about some product attribute now is not necessarily what they will feel in the future. Features that are considered attractive today can become must haves over time as they become more widely-accepted and commonplace. An example would be touch-screen displays on smart phones.

Two Questions to Ask

- (Functional)

Ask customers how they feel if they have the feature:

- - I like it

- - I expect it

- - I am neutral

- - I can tolerate it

- - I dislike it

- (Dysfunctional)

Ask customers how they feel if they did not have the feature:

- - I like it

- - I expect it

- - I am neutral

- - I can tolerate it

- - I dislike it

<http://www.slideshare.net/LawrencePhillips/kano-model-rev-1>

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In doing a Kano analysis, you ask two questions about each feature to assess the value that feature provides to the customer. The first question asks the customer how they feel if they have the feature and the second question asks the customer how they feel if they did not have that feature.

Two Questions to Ask - Example

- (Functional)

If the gas mileage in your car is good, how do you feel,:

- - I like it

- - I expect it

- - I am neutral

- - I can tolerate it

- - I dislike it

- (Dysfunctional)

If the gas mileage in your car is poor, how do you feel?:

- - I like it

- - I expect it

- - I am neutral

- - I can tolerate it

- - I dislike it

<http://www.slideshare.net/LawrencePhillips/kano-model-rev-1>

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This slide shows an example of asking these two questions related to car mileage. One asks the customer how they feel if the gas mileage is good and the other asks the question of how they feel if the mileage is poor.

Kano Evaluation Model

		Dysfunctional				
		1. Like	2. Must Be	3. Neutral	4. Live With	5. Dislike
Functional	1. Like	Q	A	A	A	O
	2. Must Be	R	I	I	I	M
	3. Neutral	R	I	I	I	M
	4. Live With	R	I	I	I	M
	5. Dislike	R	R	R	R	Q

Q	Questionable Result
R	Reverse

A	Attractive
O	One-dimensional

M	Must-be
I	Indifferent

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This slide shows what the results of a Kano analysis might look like based on the customer responses to these questions.

First, there are some combinations of answers that don't make sense and should be ignored because the answers to the two questions are contradictory (which is referred to as "Reverse") or the combination of answers is questionable.

The more important combinations of answers are the ones that are:

- Attractive – those are the ones that the customer definitely likes and wants to have but might be able to live without if they weren't there
- One-dimensional – these are the ones that the customer definitely likes if they are present and dislikes if they are not present
- Must-haves are the ones that the customer believes must be in the solution
- And finally, there are a number in the middle that the customer is somewhat indifferent about



The results of a Kano Evaluation might be a composite of different responses from different customers and stakeholders

An important point is that the results of a Kano evaluation might be a composite of different responses from different customers and stakeholders who have different values and opinions and some of those values and opinions might be somewhat contradictory. For important decisions, it may be necessary to form a focus group or what is called a Joint Application Development (JAD) session to better understand and try to resolve these inconsistencies.

NEXT LECTURE...

CUSTOMER-VALUE

PRIORITIZATION PART 4

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In the next lecture, we're going to talk about the fourth of four parts on Customer-value Prioritization

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Customer-value Prioritization Part 4

Relative Weighting

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2

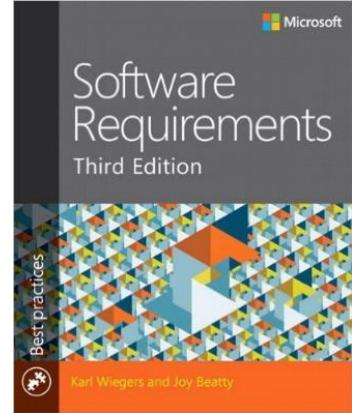
In this lesson of the course, we're going to continue our discussion of models for doing customer-value prioritization with the relative weighting process.

Relative Weighting

Developed by Karl Weiglers in 1999

Provides a mechanism for prioritizing requirements based on user input and feedback but also includes the expert judgment of the team

There are several variations on the implementation of this model



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The Relative Weighting process was developed by Karl Weiglers in 1999. It provides a method for evaluating customer likes and dislikes associated with a product feature similar to Kano, but it goes beyond that and provides a way to develop an overall aggregate assessment of a product feature based on other factors such as risk and cost of implementation evaluated by the project team. There are several variations on the implementation of this model that have been used.

Relative Weight Model Example

Relative Weight	2	1			1		0.5		
Feature	Relative Benefit	Relative Penalty	Total Value	Value (%)	Relative Cost	Cost %	Relative Risk	Risk %	Priority
1. Query status of a vendor order	5	3	13	8.4	2	4.8	1	3.0	1.345
2. Generate a chemical stockroom inventory report	9	7	25	16.2	5	11.9	3	9.1	0.987
3. See history of a specific chemical container	5	5	15	9.7	3	7.1	2	6.1	0.957
4. Print a chemical safety datasheet	2	1	5	3.2	1	2.4	1	3.0	0.833
5. Maintain a list of hazardous chemicals	4	9	17	11.0	4	9.5	4	12.1	0.708
6. Modify a pending chemical request	4	3	11	7.1	3	7.1	2	6.1	0.702
7. Generate an individual laboratory inventory report	6	2	14	9.1	4	9.5	3	9.1	0.646
8.. Search vendor catalogs for a specific chemical	9	8	26	16.9	7	16.7	8	24.2	0.586
9. Check training database for hazardous chemical training record	3	4	10	6.5	4	9.5	2	6.1	0.517
10.. Import chemical structures from structure drawing tools	7	4	18	11.7	9	21.4	7	21.2	0.365
	54	46	154	100.0	42	100.0	33	100.0	

[https://msdn.microsoft.com/en-us/library/hh765981\(v=vs.120\).aspx](https://msdn.microsoft.com/en-us/library/hh765981(v=vs.120).aspx)

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This slide shows an example of a completed relative weight model to compare a set of features for a particular product. We'll walk through a step-by-step analysis of how this model was developed next.

Evaluate Relative Benefit and Relative Penalty

Relative Weight	2	1
Feature	Relative Benefit	Relative Penalty
1. Query status of a vendor order	5	3
2. Generate a chemical stockroom inventory report	9	7
3. See history of a specific chemical container	5	5
4. Print a chemical safety datasheet	2	1
5. Maintain a list of hazardous chemicals	4	9
6. Modify a pending chemical request	4	3
7. Generate an individual laboratory inventory report	6	2
8.. Search vendor catalogs for a specific chemical	9	8
9. Check training database for hazardous chemical training record	3	4
10.. Import chemical structures from structure drawing tools	7	4
	54	46

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This first step in the analysis is to determine the relative weight and relative penalty of each feature based on customer input. This is very similar to the Kano model we previously discussed. The relative weight is a number from 1 to 10 indicating the relative benefit that provides to the customer. The relative penalty is a number from 1 to 10 indicating the impact of that feature not being present.

Calculate Total Value

Relative Weight	2	1	
Feature	Relative Benefit	Relative Penalty	Total Value
1. Query status of a vendor order	5	3	13
2. Generate a chemical stockroom inventory report	9	7	25
3. See history of a specific chemical container	5	5	15
4. Print a chemical safety datasheet	2	1	5
5. Maintain a list of hazardous chemicals	4	9	17
6. Modify a pending chemical request	4	3	11
7. Generate an individual laboratory inventory report	6	2	14
8.. Search vendor catalogs for a specific chemical	9	8	26
9. Check training database for hazardous chemical training record	3	4	10
10.. Import chemical structures from structure drawing tools	7	4	18
	54	46	154

Total Value =
(Relative Benefit * Relative Benefit Weight) +
(Relative Penalty * Relative Penalty Weight)

For example:
 $(5 * 2) + (3 * 1) = 13$

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The next step is to calculate the total value as shown in this formula by summing the value of the relative benefit times the relative benefit weight with the value of the relative penalty times the relative penalty weight. The result is an aggregate number that provides a good indication of the overall importance of each feature.

Calculate Total Value Percent

Relative Weight	2	1		
Feature	Relative Benefit	Relative Penalty	Total Value	Value (%)
1. Query status of a vendor order	5	3	13	8.4
2. Generate a chemical stockroom inventory report	9	7	25	16.2
3. See history of a specific chemical container	5	5	15	9.7
4. Print a chemical safety datasheet	2	1	5	3.2
5. Maintain a list of hazardous chemicals	4	9	17	11.0
6. Modify a pending chemical request	4	3	11	7.1
7. Generate an individual laboratory inventory report	6	2	14	9.1
8.. Search vendor catalogs for a specific chemical	9	8	26	16.9
9. Check training database for hazardous chemical training record	3	4	10	6.5
10.. Import chemical structures from structure drawing tools	7	4	18	11.7
	54	46	154	100.0

$$\text{Value \%} = \frac{\text{(Total Value)}}{\text{(Sum of Total Value)}} * 100$$

For example:
 $(13 / 154) * 100 = 8.4\%$

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The next step is to calculate the Value percentage of each feature by dividing the Total Value of that feature by the sum of the total value of all features. This number indicates what percentage of the total overall value that each feature accounts for.

Relative Weight Model Example

Relative Weight	2	1			1		0.5	
Feature	Relative Benefit	Relative Penalty	Total Value	Value (%)	Relative Cost	Cost %	Relative Risk	Risk %
1. Query status of a vendor order	5	3	13	8.4	2	4.8	1	3.0
2. Generate a chemical stockroom inventory report	9	7	25	16.2	5	11.9	3	9.1
3. See history of a specific chemical container	5	5	15	9.7	3	7.1	2	6.1
4. Print a chemical safety datasheet	2	1	5	3.2	1	2.4	1	3.0
5. Maintain a list of hazardous chemicals	4	9	17	11.0	4	9.5	4	12.1
6. Modify a pending chemical request	4	3	11	7.1	3	7.1	2	6.1
7. Generate an individual laboratory inventory report	6	2	14	9.1	4	9.5	3	9.1
8.. Search vendor catalogs for a specific chemical	9	8	26	16.9	7	16.7	8	24.2
9. Check training database for hazardous chemical training record	3	4	10	6.5	4	9.5	2	6.1
10.. Import chemical structures from structure drawing tools	7	4	18	11.7	9	21.4	7	21.2
	54	46	154	100.0	42	100.0	33	100.0

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The analysis up to this point has been based on customer input regarding the value of each feature. At this point the analysis shifts to looking at the cost and risk of each feature based on input of the development team. The team estimates relative cost on a scale of 1 to 10 and relative risk on a scale of 1 to 10 for each feature and then a risk and cost percentage is calculated for each feature similar to the way that the value percentage was calculated.

Relative Weight Model Example

Relative Weight	2	1			1		0.5		
Feature	Relative Benefit	Relative Penalty	Total Value	Value (%)	Relative Cost	Cost %	Relative Risk	Risk %	Priority
1. Query status of a vendor order	5	3	13	8.4	2	4.8	1	3.0	1.345
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7. Generate an individual laboratory inventory report	6	2	14	9.1	4	9.5	3	9.1	0.646
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9. Check training database for hazardous chemical training record	3	4	10	6.5	4	9.5	2	6.1	0.517
10.. Import chemical structures from structure drawing tools	7	4	18	11.7	9	21.4	7	21.2	0.365
	54	46	154	100.0	42	100.0	33	100.0	

Priority =

Value Percentage

$$\text{Priority} = \frac{\text{Value Percentage}}{(\text{Cost Percentage} * \text{Cost Weight}) + (\text{Risk Percentage} * \text{Risk Weight})}$$

The final step is to calculate the overall priority of each feature by dividing the value percentage of each feature by a weighted sum of the cost percentage and risk percentage for each feature according to the formula shown.

Online Relative Weighting Tool

Mountain Goat Software

<https://www.mountaingoatsoftware.com/tools/relative-weighting#>

There are a number of different variations on this model. Mike Cohn has created an online relative weighting tool that is somewhat simpler that you can try out at the address above.

NEXT LECTURE...

BUSINESS CASE

DEVELOPMENT

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11

In the next lecture, we're going to talk about Business Case Development

Business Case Development

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2

In this lesson, we're going to discuss Business Case Development and how it is different in an Agile environment.

Why Create a Business Case?

Executive management is charged with making decisions on effective use of corporate resources

A business case helps organizations estimate the costs and benefits from project efforts

Comparing the expected outcomes from different efforts, management is able to determine where to allocate resources

<http://www.slideshare.net/dangelow/business-case-developmentv2>

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3

Lets first look at why a business case might be developed and how it has been used in a traditional plan-driven environment. There are a number of reasons why a business case might be needed:

- Executive management is charged with making decisions on effective use of corporate resources
- A business case helps organizations estimate the costs and benefits from project efforts
- Comparing the expected outcomes from different efforts, management is able to determine where to allocate resources

Business Case Goals

Understand the costs and resources that a project will require

Define the benefits of the project upon completion

Identify risks that may occur during the course of the effort

Capture the assumptions behind the estimates

<http://www.slideshare.net/dangelow/business-case-development2>

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There are a number of goals of a typical business case:

The first is to understand the costs and resources that a project will require and the business case should also define the benefits of the project upon completion.

It should also identify risks that may occur during the course of the effort and capture the assumptions behind the estimates



There are different levels of detail and rigor behind business cases and it may or may not require a detailed financial analysis

In a traditional plan-driven project environment, the prevailing thinking in many cases is that a business case should be backed up by a detailed financial analysis such as an NPV, ROI, or IRR to quantify the return on investment from the project. That may or may not be practical or necessary in many situations. In a highly uncertain environment, it might be impossible to do a detailed financial analysis; and, if it is done, the results of that analysis might be very unreliable because it will probably be based on many different assumptions.

What's Wrong with This Picture?

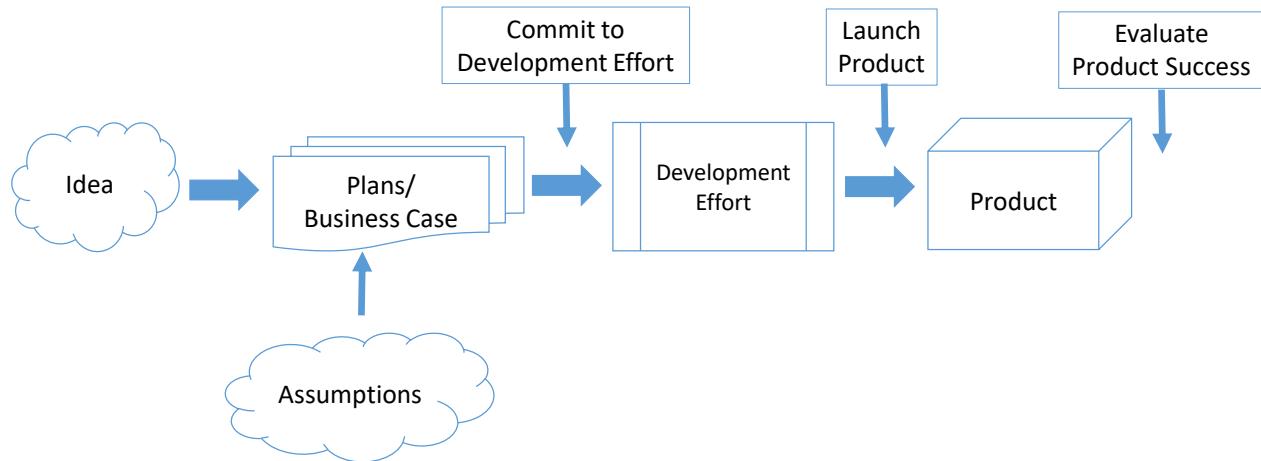
In a highly uncertain environment, there often isn't sufficient information available upfront to make a sound decision

Making too many assumptions can be very problematic

A better approach is to make some hypotheses of what we think is correct and work to test those hypotheses

- The key point is that in a highly uncertain environment, there often isn't sufficient information available upfront to make a sound decision
- Making too many assumptions can be very problematic
- A better approach is to make some hypotheses of what we think is correct and work to test those hypotheses

Typical Planning Approach



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This slide shows what a typical planning approach looks like in a traditional, plan-driven environment.

- It starts with an idea for a product or project and then a business case and plans for that project or product or created that might be based on a large number of assumptions
- Based on that upfront analysis, a commitment is made to fund the development effort and the project is initiated
- After the project has been completed, the product is launched and the success or failure of the product can be evaluated at that point

The result is often that the product or project fails and the entire cost of the development effort is wasted.



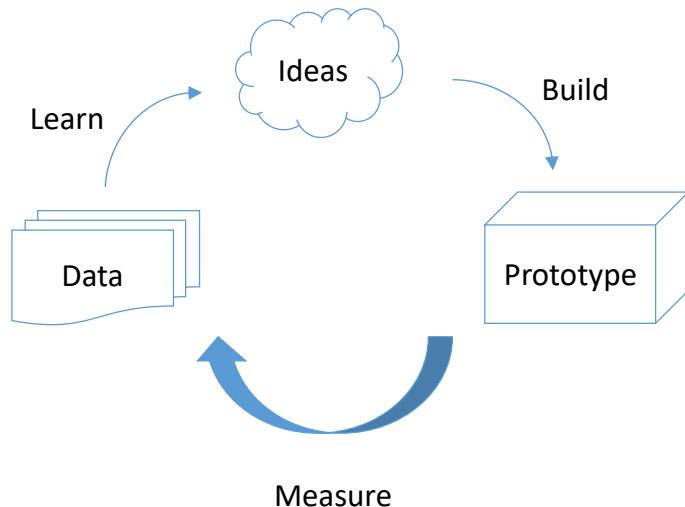
A business case based on a large number of shaky assumptions can be like a “house of cards”

We need to recognize and acknowledge that “we don’t know what we don’t know”

In a number of cases, in an effort to try to precisely quantify the return from a project, a number of assumptions are made that may later turn out to be wrong which can make the whole business case into a “house of cards”. A far better approach can be to openly recognize and acknowledge the level of uncertainty in a situation and develop an approach that is built around that level of uncertainty.

The key point is that we need to recognize and acknowledge that “we don’t know what we don’t know”

Lean Startup Approach – Eric Ries



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Eric Ries did a study of startup companies and found that a number of them failed for exactly this reason. In his book on “Lean Startup” he defines an alternative approach that is much more suitable for uncertain environments. Here’s what’s different about this approach:

It recognizes and acknowledges the level of uncertainty and risk in a project or product and instead of committing to a full-scale development effort, a much more limited effort is initiated to build a prototype or something equivalent to a prototype to get market and customer feedback before committing to a full-scale development effort.

The feedback from that initial prototype is then measured and evaluated to learn what works and doesn’t work; and, as a result, the ideas for the project are refined and the cycle repeats.

Using this method, the ideas for a product or project can be progressively refined and elaborated based on sound customer feedback and inputs and the risk of creating a failed project is significantly reduced.



A business case based on incremental and iterative development and sound customer feedback and inputs is much more likely to be successful

The key point is that in an uncertain environment, a business case based on incremental and iterative development and sound customer feedback and inputs is much more likely to be successful than a business case based on a large number of very shaky assumptions that have not been validated.

Although Eric Ries originally developed this idea to help startup companies be more successful in launching new products and projects, the idea is not limited to startup companies – it can work in any kind of uncertain environment.

NEXT LECTURE...

ROLLING WAVE PLANNING

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In the next lecture, we're going to start a new section of the course on Adaptive Planning. The first lesson in that section is on "Rolling Wave Planning".

Adaptive Planning



- Rolling Wave Planning
- Planning Practices and Tools
- Progressive Elaboration and Multi-level Planning

Here's a brief summary of the topics in this section:

- We're going to start with an overview of what "Rolling-wave Planning" is and why it makes sense and discuss some best practices for doing rolling-wave planning
- Then we're then going to talk about planning practices and tools that are very useful in an Agile environment
- And we're going to discuss the concept of "Progressive Elaboration" and a number of best practices related to that area
- And, finally, we're going to talk discuss Multi-level Planning" and how the typical levels of planning or implemented in a typical Agile project which is a key element of how an Agile project implements progressive elaboration

Rolling Wave Planning

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In this lesson, we're going to discuss an the idea of "Rolling Wave Planning"

Traditional Plan-driven Approach to Planning

A traditional plan-driven approach has a heavy emphasis on upfront planning and control

If the project management approach shifts from an emphasis on control to put more emphasis on providing value, a more adaptive approach is needed



PROJECT MANAGEMENT

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A lot of people have the mindset that if you develop a plan you have to stick with it without deviation or at least control any changes to the plan. That way of thinking is deeply rooted in traditional, plan-driven project management thinking because there is so much emphasis on developing highly-detailed upfront plans as well as managing and controlling changes to manage the scope, costs, and schedule of the project.

That mode of operation might work in a highly-predictable environment but it doesn't work well in environments with high-levels of uncertainty; and, in today's world, it's rare to find any project that doesn't have at least some uncertainty associated with it.

If you shift the emphasis of the project management approach from an emphasis on control of project scope, costs, and schedules to put more emphasis on providing value, a much more adaptive approach is needed.



“In preparing for battle I have always found that plans are useless, but planning is indispensable”

– Dwight D. Eisenhower

<http://www.brainyquote.com/quotes/quotes/d/dwightdei164720.html>

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We can learn a lot from the military on this subject – a lot of people think of the military as a very highly-planned and rigidly-controlled organization but that is not necessarily the case. Here is one of my favorite quotes on that subject:

“In preparing for battle I have always found that plans are useless, but planning is indispensable”

– Dwight D. Eisenhower

The military trains heavily in many different tactics but when you’re on the battlefield, adaptivity is important because you can’t completely anticipate what the enemy is going to do. A similar thing is true of managing projects in a highly uncertain environment.

Rolling Wave Planning

Rolling Wave Planning is a technique that enables you to plan for a project as it unfolds

It requires you to plan iteratively



<http://www.brighthubpm.com/project-planning/48953-basics-of-rolling-wave-planning/>

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Rolling Wave Planning is a technique that enables you to plan for a project as it unfolds. This technique, then, requires you to plan iteratively. The planning technique is essential in SCRUM or other Agile Methodologies. Essentially, when you use Rolling Wave Planning, plan until you have visibility, implement, and then re-plan.

Rolling Wave Planning is used when you just don't have enough clarity to plan in detail the entire project. This lack of clarity could come from various factors, such as emerging requirements. Rolling Wave Planning is particularly useful in projects with high uncertainty.

Rolling Wave Planning

Rolling wave planning is the process of planning for a project in waves as the project becomes clearer and unfolds

It acknowledges the fact that we can see more clearly what is in close proximity, but looking further ahead our vision becomes less clear



http://pmcrunch.com/project_management_process/rolling-wave-planning-and-progressive-elaboration/

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Rolling wave planning is the process of planning for a project in waves as the project becomes clearer and unfolds.

It acknowledges the fact that we can see more clearly what is in close proximity, but looking further ahead our vision becomes less clear



“The core concept behind ‘rolling wave’ is: ***you cannot plan in detail what you do not know***”

http://www.mosaicprojects.com.au/WhitePapers/WP1060_Rolling_Wave.pdf

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“The core concept behind ‘rolling wave’ is: ***you cannot plan in detail what you do not know***”

Rolling Wave Planning

Objectively evaluate the level of uncertainty in the project and identify the knowns and unknowns as best you can

Develop an initial plan based on the knowns and an approach for further defining the unknowns as the project progresses



http://pmcrunch.com/project_management_process/rolling-wave-planning-and-progressive-elaboration/

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The approach that I think makes sense for doing rolling wave planning is something like this:

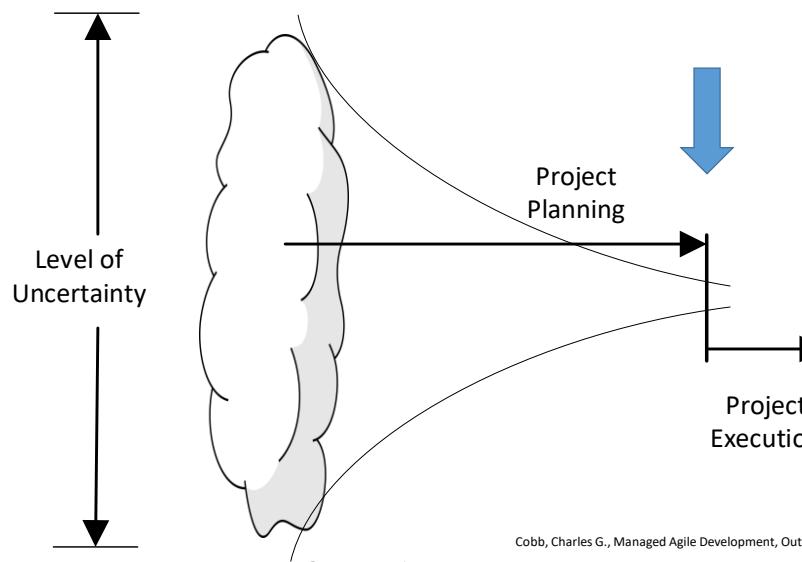
- First, objectively evaluate the level of uncertainty in the project and identify the knowns and unknowns as best you can. The word “objectively” is very important here – it is very important to take a mature approach to acknowledge that “we don’t know what we don’t know”. It is foolish to try to develop a detailed plan based on unreliable and incomplete information but it is also foolish to ignore and not take advantage of information that we do know. Starting with a blank sheet of paper rarely makes sense.
- Next, develop an initial plan based on the knowns and an approach for further defining the unknowns as the project progresses. The approach for doing this might vary significantly from one project to the next depending on the level of uncertainty in the project. At one extreme, you might start out with just some high-level objectives and a vision statement and further elaborate more detailed plans as the project progresses. On the other hand, in a more predictable and less uncertain environment, you might start out with a much more detailed upfront plan with fewer unknowns to elaborate as the project progresses.



Effective management of uncertainty is the most critical element of doing rolling wave planning.

The most critical element in doing rolling wave planning successfully is the effective management of uncertainty

Typical Plan-driven (“Waterfall”) Planning Approach



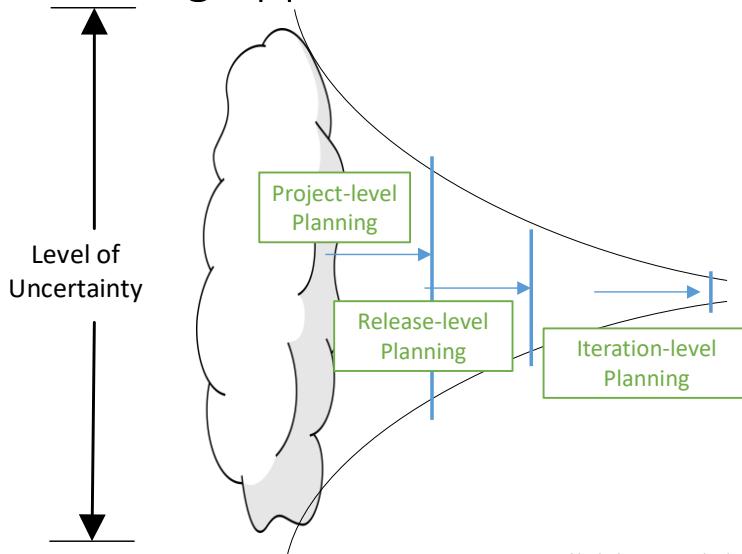
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12

This slide shows what is commonly called “the cone of uncertainty” – all projects start out with some level of uncertainty but there is a major difference in the approach to managing uncertainty between a traditional, plan-driven approach and an Agile or adaptive approach. The planning approach attempts to remove uncertainty by more clearly defining the goals and requirements for the project and also more clearly defining the process required to produce the results and the level of effort and time required. A typical Waterfall or plan-driven project attempts to reduce the level of uncertainty associated with the project to a very low level before the project starts. That is a reasonable approach with some projects but it's not reasonable to force that kind of approach on a project that has very high-levels of uncertainty.

Attempting to do that on a project with very high levels of uncertainty might force you to make a large number of assumptions about the requirements for the project based on very sketchy and incomplete information. A basic problem with the Waterfall approach is that sometimes project managers make assumptions like that, lock them into a requirements document to define the project, and then make it difficult to change those assumptions through a formal method of change control later. That creates an “illusion of control” – on the surface, it looks like the project is very well controlled, but a project can only be as well controlled as the requirements are certain. As a result, you might start the project with what appears to be a very detailed plan that is designed to control the project and after some large number of change requests later, discover that it wasn't so well-controlled after all.

Agile Planning Approach



Cobb, Charles G., *Managed Agile Development*, Outskirts Press, 2013

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This slide shows the general way that an Agile rolling wave planning approach progressively reduces the uncertainty in a project as the project progresses rather than attempting to remove all the uncertainty upfront. By breaking up the project into releases and iterations a lot of the detailed planning can be deferred until that release or iteration is ready for development and then only the detailed planning associated with that iteration needs to be done rather than attempting to do a detailed plan for the entire project upfront.

What typically happens is project planning is done once at the beginning of the project and establishes the Vision, Product Backlog, Product Road Map, and potentially also some cost and schedule estimates at whatever level of detail is necessary. That forms the high-level plan for the project which is then further elaborated into more detail at the lower levels as the project progresses.

For example, at the release planning level, the general goals for that release would be defined and the high-level epics to be included in that release would also be defined. Then, at the iteration or sprint level, the stories to be included in that sprint would be finalized and estimated to fit within the capacity of that sprint.

As more detailed information is planned at the lower levels, there may be some re-planning needed at the higher levels. For example, if the release planning finds that it is going to take significantly longer to complete a release than planned, that information should probably be bubbled up to the project-level plan and adjust the project level plan as necessary.

Summary of Planning Differences

Waterfall projects attempt to plan the entire project upfront

Agile projects use a “Rolling-Wave” Planning approach

Attempting to plan too far in advance involves speculation

Many times that speculation will be wrong and will require wasted effort in re-planning

Only essential, high-level planning is done upfront

More detailed planning is deferred until the “last responsible moment”

Better decisions can be made when more is known about the project (Just-in-Time Planning)

This slide shows a summary of some of the key differences between a traditional “waterfall-style” planning approach and a more agile approach

- Waterfall projects attempt to plan the entire project upfront. The downside of that is:
 - Attempting to plan too far in advance in a very uncertain environment involves speculation
 - Many times that speculation will be wrong and will require wasted effort in re-planning
- Agile projects use a “rolling-wave” planning approach
 - Only essential, high-level planning is done upfront and the level of detail in the upfront planning is directly related to the level of certainty in the project.
 - More detailed planning is deferred until the “last responsible moment”. The last responsible moment is defined as the point in time where delaying planning beyond that point might have some impact on the project
 - Better decisions can be made when more is known about the project (just-in-time planning)



This is not an all-or-nothing decision between very extensive and detailed upfront planning and no upfront planning at all

“Adaptive Planning” means fitting the planning approach to the nature of the project

The key point is that this is not an all-or-nothing decision between very extensive and detailed upfront planning and no upfront planning at all. We should use good common sense to adapt the level of planning to the nature of the project.

“Adaptive Planning” means fitting the planning approach to the nature of the project.

Agile Planning Practices and Tools Part 1

Product/Project Vision

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2

In this lesson, we're going to begin a series of lessons on discussing practices, tools, and techniques for doing planning in an Agile environment. This is the first part in that series and it is focused on developing a "Product/Project Vision" statement.

Value-based Functional Decomposition

Agile is focused on delivering business value as quickly as possible

Start with a vision statement of the value to be provided, the vision defines the “why” of the project

Use functional decomposition as necessary to break down the vision statement into functionality needed to achieve that vision

Moore, Geoffrey A., *Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers*, Harper Business Books, 1999

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A very important benefit of an Agile approach is increased focus on business value.

A good approach is to start with a vision statement that clearly defines the business value that the solution will provide. A vision statement should be short and succinct. The vision defines the “Why” of the project. This is the higher purpose, or the reason for the project’s existence

Once a high-level vision statement has been defined, it is a good technique to use functional decomposition to break down that vision statement into the functionality that will be needed to achieve that overall vision.

Functional decomposition becomes particularly important on large projects where there could be hundreds of user stories. It provides a hierarchical approach for organizing requirements is an essential technique for prioritizing requirements. Without an effective approach for functional decomposition that aligns with an overall value statement, it is very easy to “get lost in the weeds” of individual requirements or user stories and lose sight of the big picture of the value you’re trying to deliver.

What Is a Vision Statement?

“A brief statement of the desired future state that would be achieved by developing and deploying a product.

A good vision should be simple to state and provide a coherent direction to the people who are asked to realize it”

A vision statement can be at the level of an entire company or at the level of a particular product, project, or program



<http://www.innolution.com/resources/glossary/product-vision>

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Here's a brief definition of what a vision statement is:

A vision statement is a “brief statement of the desired future state that would be achieved by developing and deploying a product. A good vision should be simple to state and provide a coherent direction to the people who are asked to realize it”

A vision statement can be at the level of an entire company or at the level of a particular product, project, or program

Vision Statement Template

For	(Target customer)
Who	(Statement of the need or opportunity)
The	(Product Name) is a (Product Category)
That	(Key benefit, compelling reason to buy)
Unlike	(Primary competitive alternative)
Our Product	(Statement of primary differentiation)

Moore, Geoffrey A., Crossing the Chasm: Marketing and Selling High-Tech Products to Mainstream Customers, Harper Business Books, 1999

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This slide shows a general format that can be used for creating a vision statement

For (target customer) - Its very important to clearly define who the target customer is who is going to derive the most benefit from the product or project

Who (statement of the need or opportunity) - Next is to specifically identify the need that the product or project is designed to address

The (product name) is a (product category) - then we also have to define what the product is that solves that problem

That (key benefit, compelling reason to buy) and how it solves the problem

Unlike (primary competitive alternative) and how it is different from other competitive or alternative approaches

Our product (statement of primary differentiation)

This is just a general model and should be modified as necessary to fit the situation.

Example Vision Statement – Online Grocery Shopping

For	Grocery Shoppers
Who	Want an easy way to buy grocery items
The Grocery Mall	Is a web-based grocery mall
That	Allows customers to buy items from the web
Unlike	Solutions that require going into a conventional store
Our Product	Will provide a totally web-based shopping experience

<https://www.visual-paradigm.com/scrum/how-to-write-scrum-product-vision/>

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This slide shows an example of a product vision statement for an online grocery store which provides the convenience of online shopping for groceries rather than having to go into a conventional grocery store

For (target customer) - the target customer here is clearly defined as grocery shoppers (note that other types of shoppers are not a target)

Who (statement of the need or opportunity) - Their need is defined as “want an easy way to buy groceries”

The (product name) is a (product category) - The Grocery Mall is a web-based grocery mall

That (key benefit, compelling reason to buy) the key benefit allows customers to buy items from the web

And a key differentiator versus other email solutions is that it will provide a totally web-based shopping experience

This vision statement is a good example of a general Agile vision statement

Example Vision Statement – PMI-ACP Training

For	Project Managers with a traditional plan-driven project management background
Who	Want to develop new knowledge and skills to continue developing their careers in today's Agile environment
The	PMI-ACP Training Curriculum is a complete online training curriculum
That	Provides a very comprehensive base of knowledge related to Agile Project Management that is based on real-world experience and is very well-designed for learning
Unlike	Other PMI-ACP training programs
Our Product	Goes beyond simply passing the exam and provides a base of knowledge and skills geared towards a high-impact, real-world role

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Here's another example for the Agile Project Management training curriculum that I have developed to help project managers qualify for PMI-ACP certification.

For (target customer) - the target customer here is defined as a project manager with a traditional, plan-driven background

Who (statement of the need or opportunity) - the need for these project managers is to develop new knowledge and skills to continue developing their skills in today's Agile environment – I truly believe that in the not-too-distant future, project managers who only know how to implement a traditional plan-driven approach to project management will have a much more limited future”

The (product name) is a (product category) - it defines this product as a complete learning curriculum consisting of multiple courses

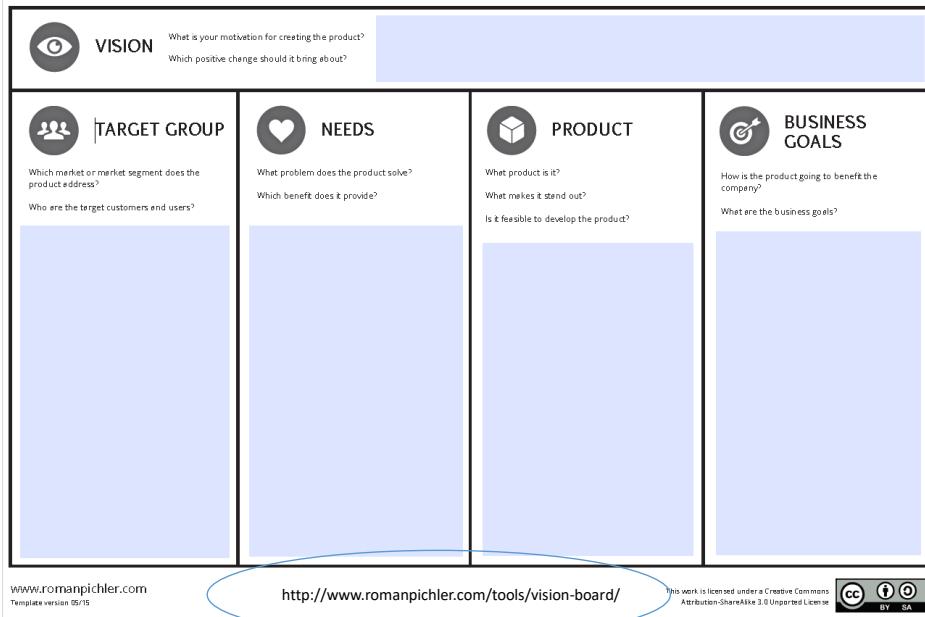
That (key benefit, compelling reason to buy) the key benefit is defined as Providing a very comprehensive base of knowledge related to Agile Project Management that is based on real-world experience and is very well-designed for learning. The two key attributes there are that it is based on solid real-world experience and not just theoretical, textbook knowledge and it is very well-designed to make it easy to learn

And a key differentiator versus other training courses is that it is not just an “exam prep” course. There are many PMI-ACP training programs out there that are designed around getting you through passing the exam and little more than that

This is the vision statement I have used to develop my Agile Project Management training curriculum to help project managers prepare for PMI-ACP certification.

THE PRODUCT VISION BOARD

 pichler consulting



www.romanpichler.com
Template version 05/15

<http://www.romanpichler.com/tools/vision-board/>

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8

This slide shows a Product Vision Board template that is available from Roman Pichler for creating a vision statement. This template can be downloaded from the web address shown at the bottom of this slide.

Eight Tips for Creating a Compelling Agile Product Vision

Roman Pichler

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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The remainder of this presentation is based on an excellent article by Roman Pichler called “Eight Tips for Creating a Compelling Product Vision” which you can find online at the address shown here.

Tips for Creating a Compelling Vision

1. Describe the motivation behind the product

“The product vision is the overarching goal you are aiming for, the reason for creating the product. It provides a continued purpose in an ever-changing world, acts as the product’s true north, provides motivation when the going gets tough, and facilitates effective collaboration.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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Roman Pichler who is fairly well-known in association with Product Visions defined a product vision as follows:

“The product vision is the overarching goal you are aiming for, the reason for creating the product. It provides a continued purpose in an ever-changing world, acts as the product’s true north, provides motivation when the going gets tough, and facilitates effective collaboration”

The key point is to capture the motivation behind the product and hopefully express it in a way to motivate the entire team working on the product. He went on to say that:

“To choose the right vision, ask yourself why you are excited to work on the product, why you care about it, what positive change the product should bring about, and how it will shape the future. One of my favorite vision statements comes from Toys R Us. The company’s vision is to “put joy in kids’ hearts and a smile on parents’ faces”. The statement concisely captures the intention behind the company’s products and services and describes the change the users and customers should experience”

Tips for Creating a Compelling Vision

2. Look beyond the product

“Be clear on the difference between the product vision and the product and don’t confuse the two. The former is the motivation for developing the product; the latter is a means to achieve the overarching goal.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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He emphasizes to look beyond the product and keep the focus on why you’re developing the product. What is important is the motivation for developing the product – the means for achieving that goal should be secondary.

Tips for Creating a Compelling Vision

3. Distinguish between the vision and the product strategy

“Your product vision should not be a plan that shows how to reach your goal.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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He emphasizes to differentiating the product vision from the product strategy which is the plan for achieving that goal. Keeping those two things separate enables you to change strategy while staying grounded in your vision.

Tips for Creating a Compelling Vision

4. Employ a shared vision

“You can come up with the most beautiful vision for your product. But it’s useless if the people involved in making the product a success don’t buy into it.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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He also talks about the importance of having a shared vision that everyone on the team really buys into. A well-defined vision that is shared by everyone on the team can be a unifying force to keep the entire team focused on what's really important.

To leverage the vision as the product's true north, to create alignment, and to facilitate effective collaboration, the product vision must be shared – everyone must have the same vision. Without a shared vision, people follow their own goals making it much harder to achieve product success

Tips for Creating a Compelling Vision

5. Choose a motivating vision

“If you are working on something exciting that you really care about, you don’t have to be pushed.”

“‘The vision pulls you,’ said Steve Jobs. Your vision should therefore motivate people, connect them to the product, and inspire them.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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A good vision should be a motivational tool to help build very high-performance teams.

If you are working on something exciting that you really care about, you don’t have to be pushed.”

“‘The vision pulls you,’ said Steve Jobs. Your vision should therefore motivate people, connect them to the product, and inspire them.”

Tips for Creating a Compelling Vision

6. Think big

“Make your product vision broad and ambitious so that it engages people and it can facilitate a change in the strategy.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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A good vision should also be broad and expansive. Roman Pichler emphasizes making your product vision broad and ambitious so that it engages people and it can facilitate a change in the strategy.

He uses the vision of a computer game as an example “Help children enjoy music and dancing” is a broad and ambitious vision, for instance. It does not refer to the actual product idea or a specific target group, and it is not satisfied with creating a fun gaming experience. It aims for more.

Tips for Creating a Compelling Vision

7. Keep your vision short and sweet

“As your vision is the ultimate reason for creating the product, it should be easy to communicate and to understand.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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A good vision should also be short and sweet to make it easy to communicate and understand.

Tips for Creating a Compelling Vision

8. Use the vision to guide your decisions

“Use the vision to guide your product decisions and to focus everyone on the ultimate reason for creating the product.”

<http://www.romanpichler.com/blog/tips-for-writing-compelling-product-vision/>

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“Use the vision to guide your product decisions and to focus everyone on the ultimate reason for creating the product. While the vision alone is certainly not enough, it is a first filter for new ideas and change requests: Anything that helps you move closer to your vision – be it a new feature, a change of direction, or a new technology – is helpful and should be considered; anything that doesn’t, is not beneficial and should probably be discarded.”

NEXT LECTURE...

AGILE PLANNING PRACTICES AND TOOLS PART 2

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18

In the next lecture, we're going to start the second of five parts on Agile Planning Practices and Tools. The next part of that series is on developing a "Product Road Map".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Agile Planning Practices and Tools Part 2

Product Roadmap

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2

In this lesson, we're going to continue discussing practices, tools, and techniques for doing planning in an Agile environment. This is the second part in that series and it is on developing a "Product Roadmap"

What Is a “Product Roadmap”?

“A product roadmap is a high-level plan that describes how the product is likely to grow. It allows you to express where you want to take your product, and why it’s worthwhile investing in it.”

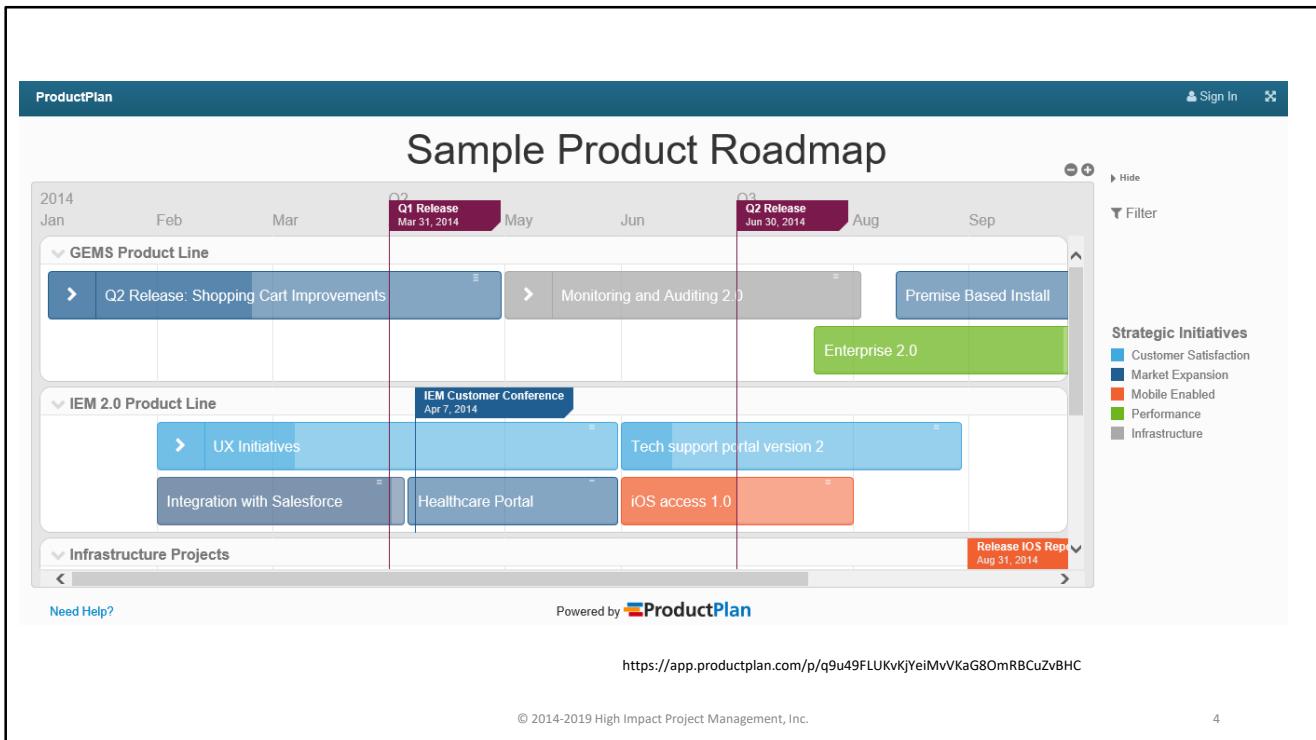
<http://www.romanpichler.com/blog/agile-product-roadmap/>

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3

Roman Pichler has defined a Product Roadmap as follows:

“A product roadmap is a high-level plan that describes how the product is likely to grow. It allows you to express where you want to take your product, and why it’s worthwhile investing in it. An agile product roadmap also facilitates learning and change. A great way to achieve these objectives is to employ a goal-oriented roadmap – a roadmap based on goals rather than dominated by many features.”



This slide shows an example of a Product Roadmap. As you can see from this slide, it shows the major goals that are expected to be achieved over a period of time. It is generally expressed in terms of high-level goals and releases and might be tied in with some key events such as announcing a product at a major trade show.

You will also notice in this example that the goals in the roadmap are tied in and grouped by major strategic initiatives as shown. In Agile terminology, these are many times called “Themes”. A theme is a major high-level strategic initiative that might cut across several projects. An example of a theme might be something like “Improve Employee Morale” ...this is an important way of tying together tactical project goals with major strategic initiatives. The Product Roadmap is an excellent tool that can be used to communicate the high-level product/project goals to an executive audience.

This particular example is from the ProductPlan.com website which provides an online tool for creating and managing product roadmaps.

THE GO PRODUCT ROADMAP

 pichler consulting

 DATE The release date or timeframe	Date or timeframe	Date or timeframe	Date or timeframe	Date or timeframe
 NAME The name of the new release	Name/version	Name/version	Name/version	Name/version
 GOAL The reason for creating the new release	Goal	Goal	Goal	Goal
 FEATURES The high-level features necessary to meet the goal	Features	Features	Features	Features
 METRICS The metrics to determine if the goal has been met	Metrics	Metrics	Metrics	Metrics

www.romanpichler.com
Template version 0.9.15

<http://www.romanpichler.com/tools/product-roadmap/>

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5

There are many different online templates available for creating a Product Roadmap. This slide shows an example of a downloadable template that is available from Roman Pichler's web site.

Typical Product Roadmap Template Elements

Date	The release date or timeframe
Name	The name of the new release
Goal	The reason for creating the new release
Features	The high-level features necessary to meet the goal
Metrics	The metrics to determine if the goal has been met

<http://www.romanpichler.com/tools/product-roadmap/>

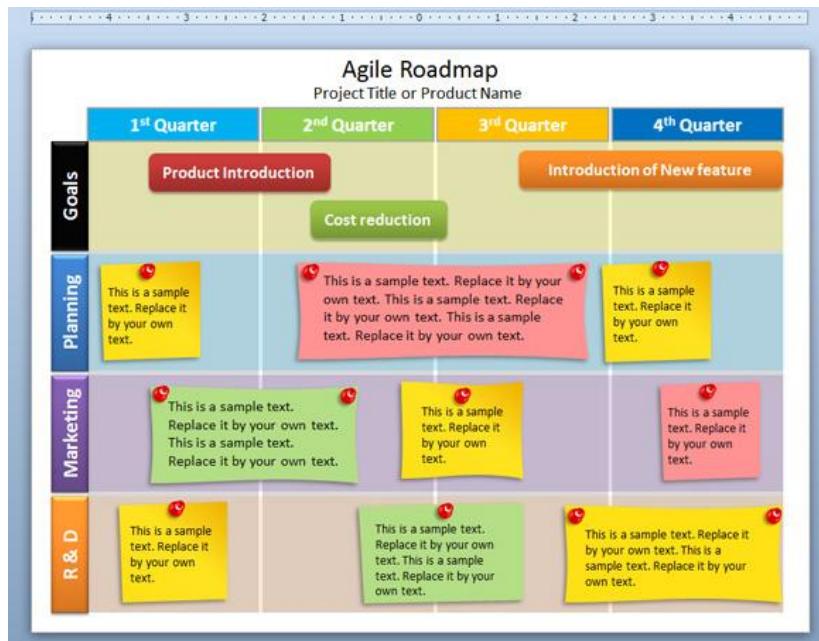
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6

This slide shows the major elements that are included in Roman Pichler's Product Roadmap template. These elements are common to most Product Roadmaps.

It includes:

- The release date or timeframe
- The name of the release
- The reason for creating the release
- The high-level features necessary to meet the goal
- The metrics to determine if the goal has been met



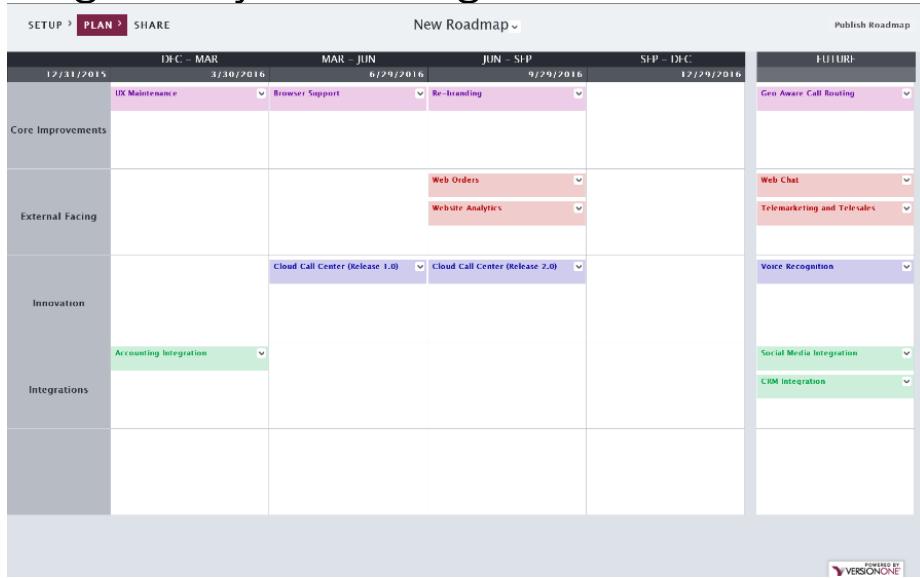
<http://www.free-power-point-templates.com/articles/free-editable-agile-roadmap-powerpoint-template/>

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7

This slide shows another example of a downloadable Product Roadmap template that is downloadable from the address shown on this slide. This particular template is available in PowerPoint format which makes it easy to present to an executive-level audience.

Online Agile Project Management Tools



<https://www.versionone.com/product/agile-roadmap-software/>

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8

A Product Roadmap should be dynamic and should be a living document that is continuously updated as the project progresses. One of the easiest ways to do this is to incorporate the Product Roadmap into an Agile Project Management tools. That allows changes in the underlying project efforts to automatically update the product roadmap.

We will talk more about Agile Project Management tools in a later course; however, there are several widely-used Agile Project Management tools such as VersionOne, Rally, and Jira that all offer the capability to incorporate a Product Roadmap and tie other lower-level tasks and features to that higher-level roadmap.

This particular example shows a Product Roadmap in the VersionOne Agile Project Management tool.

Product Roadmap Benefits

Communications	Helps communicate how the product or project will be developed
Alignment	Helps align the product and the company strategy
Coordination	Helps coordinate the development, marketing, and sales activities with important events and activities
Portfolio Management	Helps synchronize the development efforts of different products and projects
Integration	Provides a way of integrating more tactical project details

<http://www.romanpichler.com/blog/agile-product-roadmap/>

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9

This slide shows a summary of some of the key benefits that Roman Pichler has identified that a Product Roadmap can provide:

- Communications

The Product Road Map is an excellent tool to help communicate how the product or project will be developed

Alignment

It helps align the product or project and the company strategy

Coordination

It helps coordinate the development, marketing, and sales activities with important events and other activities and stakeholders that might be outside of the direct project team

Portfolio Management

From a portfolio management perspective, it helps synchronize the development efforts of different products and projects

Integration

And, finally, it provides a way of integrating more tactical project details with higher level strategic initiatives as well as with related products and projects

Ten Tips for Creating a Product Roadmap

Roman Pichler

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

The remainder of this presentation is based on an excellent article by Roman Pichler called “Ten Tips for Creating a Creating a Product Roadmap” which you can find online at the address shown here.

Tips for Creating a Product Roadmap

1. Do the prep work

“Describe and validate the product strategy – the path to realize your vision – before you create your roadmap and decide how the strategy is best implemented.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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11

The first tip that Roman provides is to “Describe and validate the product strategy – the path to realize your vision – before you create your roadmap and decide how the strategy is best implemented”

Tips for Creating a Product Roadmap

2. Tell a convincing and realistic story

“Your product roadmap should tell a coherent story about the likely growth of your product. Each release should build on the previous one and move you closer towards your vision.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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12

The next tip that Roman provides is “Your product roadmap should tell a coherent story about the likely growth of your product. Each release should build on the previous one and move you closer towards your vision” Keeping the Product Road Map aligned with the business goals it is intended to support will help achieve that goal.

Tips for Creating a Product Roadmap

3. Have the courage to say “NO”

“While you want to get buy-in to from the key stakeholders, you should not say yes to every idea and request.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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13

The next tip that Roman provides is “While you want to get buy-in to from the key stakeholders, you should not say yes to every idea and request.” This is very consistent with the idea of prioritizing all features by business value and focusing on the most important features and capabilities first.

Tips for Creating a Product Roadmap

4. Keep it simple

“Resist the temptation of adding too many details to your roadmap. Keep your roadmap simple and easy to understand. Focus on your goals and capture what really matters; leave out the rest.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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14

The next tip that Roman provides is “Resist the temptation of adding too many details to your roadmap. Keep your roadmap simple and easy to understand. Focus on your goals and capture what really matters; leave out the rest. Keep the features on your roadmap coarse-grained and derive them from the goals. The details including the epics, user stories, scenarios and UI designs belong in the product backlog and not on your roadmap”

Tips for Creating a Product Roadmap

5. Get buy-in

“Your roadmap is worthless if the people required to develop, market and sell the product don’t buy into it. The best way to create agreement is to involve the key stakeholders in creating the roadmap.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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15

The next tip that Roman provides is “Your roadmap is worthless if the people required to develop, market and sell the product don’t buy into it. The best way to create agreement is to involve the key stakeholders in creating the roadmap.”

Tips for Creating a Product Roadmap

6. Choose the right timeframe

“Choose a realistic timeframe for your roadmap – a timeframe where you can anticipate the growth of your product without resorting to speculation.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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16

The next tip that Roman provides is “Choose a realistic timeframe for your roadmap – a timeframe where you can anticipate the growth of your product without resorting to speculation.”

Tips for Creating a Product Roadmap

7. Prioritize date vs. goal

“When building the roadmap, ask yourself if meeting a date or fully achieving a goal is more important for the success of your product.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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17

The next tip that Roman provides is “When building the roadmap, ask yourself if meeting a date or fully achieving a goal is more important for the success of your product. If you are constrained by dates – for instance, to launch together with other products, to have a new version available at a major tradeshow, or to launch sooner than a competitor – then start with the date and determine what goal you can realistically achieve within the given timeframe.”

Tips for Creating a Product Roadmap

8. Determine the right innovation cadence

“To determine how often you should launch a new product version consider how ambitious your goals are, how difficult is it to build the product, and how often your users and customers can take advantage of new product features without feeling overwhelmed or confused.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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18

The next tip that Roman provides is “To determine how often you should launch a new product version consider how ambitious your goals are, how difficult is it to build the product, and how often your users and customers can take advantage of new product features without feeling overwhelmed or confused.”

Tips for Creating a Product Roadmap

9. Goals come first, features second

“The features should be the key product capabilities or themes required to reach the goal.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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The next tip that Roman provides is “I recommend that you derive the features on your roadmap from the corresponding goal. The features should be the key product capabilities or themes required to reach the goal. If your goal is to improve the user experience (UX), then an example for a feature would be “intuitive, hassle-free user registration” (assuming that the current registration process is not great)..”

Tips for Creating a Product Roadmap

10. Select helpful metrics and KPIs

“Once you have selected a goal, ask yourself how you will know that you have met it successful and determine the appropriate metrics or key progress indicators (KPIs). Your metrics hence depend on your goal.”

<http://www.romanpichler.com/blog/10-tips-creating-agile-product-roadmap/>

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20

The next tip that Roman provides is “Once you have selected a goal, ask yourself how you will know that you have met it successfully and determine the appropriate metrics or key progress indicators (KPIs). Your metrics hence depend on your goal. For instance, measuring the success of acquiring users may involve looking at traffic, search results, and download data;

Another example is understanding if technical debt has been successfully removed may require measuring code complexity and refactoring potential. Choose quantitative metrics if you can. If not, use qualitative ones. Refine your metrics as you learn more about the product and the market by developing and launching new product versions.”

NEXT LECTURE...

AGILE PLANNING PRACTICES AND TOOLS PART 3

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21

In the next lecture, we're going to start the third of five parts on Agile Planning Practices and Tools. The next part of that series is on doing an "Exploratory 360 Assessment".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Agile Planning Practices and Tools Part 3

Exploratory 360 Assessment

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2

In this lesson, we're going to continue discussing practices, tools, and techniques for doing planning in an Agile environment. This is the third part in that series and it is on "Exploratory 360 Assessment"

Exploratory 360 Assessment

Alistair Cockburn

<http://alistair.cockburn.us/Exploratory+360>

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3

Before we get too far into this presentation, I want to acknowledge that most of the material in this presentation is based on work by Alistair Cockburn. Alistair has been recognized as a real thought leader in the Agile community for a long time and was the developer of the Crystal Clear methodology early in the history of Agile.

Exploratory 360 Assessment

First created by Alistair Cockburn in conjunction with Crystal Clear methodology

A way of quickly identifying some major knowns and unknowns associated with a project



<http://alistair.cockburn.us/Exploratory+360>

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4

The idea of an Exploratory 360 Assessment was first created by Alistair Cockburn in conjunction with the Crystal Clear methodology in the early 1990's.

An Exploratory 360 Assessment is a way of quickly identifying some knowns and unknowns associated with a project.

Exploratory 360 Assessment

At the start of a new project, the team needs to establish that the project is both meaningful and that they can deliver it using the intended technology:

Business value

Requirements

Domain model

<http://alistair.cockburn.us/Exploratory+360>

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5

At the start of a new project, usually during the chartering activity, the team needs to establish that the project is both meaningful and they can deliver it using the intended technology.

Business value sampling consists of capturing, with key stakeholders, what the system should do for its users and their organization(s). This should result in the names of the key use cases for the system, along with the focal roles the system should serve, the personalities and functions it should present to the world

Requirements sampling consists of low-precision use cases that show what the system must do, and with what other people and systems it will have to interact. Often that drafting exercise turns up interfaces between organizations or technology systems that had not formerly been identified

In larger and more complex projects, it may be useful to create a domain model of the system concurrently or from the use case drafts. This sample serves to highlight the key concepts the developers will be working with, the core of the business, the programming and discursive vocabulary. It also helps the team to estimate the size and difficulty of the problem at hand

Exploratory 360 Assessment

Additional items that might be considered include:

Technology plans

Project plan

Team makeup

Process or methodology

<http://alistair.cockburn.us/Exploratory+360>

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Additional items that might be included in an Exploratory 360 Assessment include:

- Technology plans to evaluate potential uncertainties associated with any technology that is needed for the project. This may result in some experiments or spikes to analyze and resolve any uncertainties associated with the technology required for the project.
- The team might create a coarse-grained project plan to make sure the project is delivering suitable business value for suitable expense in a suitable time period
- The assessment might also look at the team makeup to determine if the size and makeup of the team is appropriate for the project
- And, finally, it may be worthwhile to discuss the process or methodology to be used in the project to ensure that the process to be used is really appropriate to the project and the level of uncertainty and risks involved



This is only intended as a checklist of items to consider

I want to emphasize that these items are just a checklist of potential items to consider in developing a plan for a new project; however, these are probably the major ones that need to be considered in most projects.



An Exploratory 360 Assessment is a way of doing a high-level feasibility study of a project

The key point is that “An Exploratory 360 Assessment is a way of doing a high-level feasibility study of a project” and to identify the major risks and issues that need to be addressed for the project to be successful.

NEXT LECTURE...

AGILE PLANNING PRACTICES AND TOOLS PART 4

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9

In the next lecture, we're going to start the fourth of five parts on Agile Planning Practices and Tools. The next part of that series is on "Functional Decomposition".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Agile Planning Practices and Tools Part 4

Functional Decomposition

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2

In this lesson, we're going to continue discussing practices, tools, and techniques for doing planning in an Agile environment. This is the fourth part in that series and it is focused on functional decomposition.

Summary of High-level Planning Process



A short and succinct statement of the motivation behind the product or project and provides the high-level direction and business goals of the product or project



A high-level plan that describes how the product is likely to grow. Helps communicate how the product will be developed and align the product and the company strategy



An assessment by the project team to evaluate the feasibility and major risks and issues associated with the project

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3

This slide shows a summary of the planning process that we've discussed so far...

- The vision statement provides a short and succinct statement of the motivation behind the product or project and provides the high-level direction and business goals of the product or project
- The Product Roadmap is a high-level plan that describes how the product is likely to grow. Helps communicate how the product will be developed and align the product and the company strategy
- And, finally the Exploratory 360 Assessment is an assessment by the project team to evaluate the feasibility and major risks and issues associated with the project



These planning tools and practices are only a suggestion

The planning approach as well as the tools and practices to be used need to be selected to fit the nature of the project

I want to emphasize a key point that was made earlier. There is no standard planning approach that will work for all projects and the essence of an adaptive planning approach is to adapt the nature and extent of the planning process as well as the planning practices and tools to the nature of the project. For that reason, the tools and practices we've discussed thus far are only suggestions.

What's Next?

The tools defined so far may be all that is needed for a high-level plan

Optionally, it may be worthwhile to:

Use functional decomposition to break down the functionality into high-level epics and stories

Develop a high-level estimate of the effort and schedule required

Summarize the high-level plan in a Project Charter document

The tools defined so far may be all that is needed for a high-level plan

Optionally, it may be worthwhile to:

Use functional decomposition to break down the functionality into high-level epics and stories

Develop a high-level estimate of the effort and schedule required

Summarize the high-level plan in a Project Charter document

Again, these are only tools that you can choose to use or not use depending on the nature of the project and the level of planning that is appropriate.

Functional Decomposition

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The first topic to talk about is “Functional Decomposition”

What Is a “Functional Decomposition”?

“A method of business analysis that dissects a complex business process to show its individual elements.

Functional decomposition is used to facilitate the understanding and management of large and/or complex processes and can be used to help solve problems.”

<http://www.investopedia.com/terms/f/functional-decomposition.asp>

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7

Here's a definition of Functional Decomposition:

“A method of business analysis that dissects a complex business process to show its individual elements. Functional decomposition is used to facilitate the understanding and management of large and/or complex processes and can be used to help solve problems”

Why Is It Relevant to Agile?

Agile is about maximizing the business value that a project produces

On small, simple projects, you might be able to discover what that business value is easily based on direct face-to-face discussion with the Product Owner and individual stakeholders

However, on large enterprise-level projects, that may not be so easy to do

Functional decomposition also helps to ensure that all of the functionality included in the project is really well-aligned with the overall business goals

<http://managedagile.com/2013/05/01/what-is-functional-decomposition-and-why-is-it-relevant-to-agile/>

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8

You might ask, “Why is this relevant to Agile?”

Agile is about maximizing the business value that a project produces. On small, simple projects, you might be able to discover what that business value is easily based on direct face-to-face discussion with the Product Owner and individual stakeholders. On large enterprise-level projects, that may not be so easy to do.

Functional decomposition also helps to ensure that all of the functionality in the project is really well-aligned with the overall business goals. That is particularly important in large complex projects.

Using functional decomposition to organize stories into epics and themes makes it possible to keep all of the stories:



- Well-aligned with producing the higher-level business value that the project is intended to produce and
- Makes it a lot easier to effectively manage the Product Backlog

<http://managedagile.com/2013/05/01/what-is-functional-decomposition-and-why-is-it-relevant-to-agile/>

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Using functional decomposition to organize stories into epics and themes makes it possible to keep all of the stories well-aligned with producing the higher-level business value that the project is intended to produce and makes it a lot easier to effectively manage the Product Backlog. It also provides a capability for traceability – you can look at the top-level functionality and then look down into the functional decomposition to verify that the lower-level functionality is really complete and sufficient to support the higher-level functionality

Benefits of Functional Decomposition

Provides a way of scoping and defining the overall work to be done

Breaks up the project into smaller manageable “chunks” that are easier to estimate and manage

Helps to analyze alignment, dependencies, and inconsistencies among functions

There are a number of potential benefits of doing a functional decomposition of a project or product:

- It provides a way of scoping and defining the overall work to be done and what's in scope and what's not in scope
- It breaks up the project into smaller manageable “chunks” that are easier to estimate and manage
- It helps to analyze alignment, dependencies, and inconsistencies among functions



The level of functional decomposition to be done as part of the upfront planning in an Agile project will depend on the nature of the planning process and the level of predictability required by the project

The level of functional decomposition to be done as part of the upfront planning in an Agile project will depend on the nature of the planning process and the level of predictability required by the project.

At one extreme, it may not be necessary to do functional decomposition at all as part of the upfront planning process. If the project is small and not very complex and predictability is not important, the functional decomposition might be deferred until later in the project when it becomes more essential to support the work to be done at that time.

At the other extreme, if a higher level of predictability is required in the project, it might be necessary to do more functional decomposition upfront to break down the project into smaller chunks of functionality to enable an estimate to be developed of the level of effort required.

And, of course there are lots of alternatives between those extremes. A typical practice on many Agile projects would be to break down the functionality required into Epics.

What Is an “Epic”?

“Epics are containers for significant initiatives that help guide value streams toward the larger aim of the portfolio. In so doing, they drive much of the economic value for the enterprise”

<http://www.scaledagileframework.com/epic/>

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In an Agile environment, there are two very important terms that come into play in functional decomposition – epics and themes. This slide shows the definition of an “epic”:

“Epics are containers for significant initiatives that help guide value streams toward the larger aim of the portfolio. In so doing, they drive much of the economic value for the enterprise”

Epics are basically large user stories that need to be further broken down into smaller chunks before they are further developed.

Example of an Epic

“As a banking customer, I want to be able to easily make an on-line deposit of a check into my bank account through my iPhone® so that I can save the time required to send a check for deposit through the mail and I can have the money immediately credited to my checking account as soon as the deposit is completed electronically”.

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This slide shows an example of an Epic:

“As a banking customer, I want to be able to easily make an on-line deposit of a check into my bank account through my iPhone® so that I can save the time required to send a check for deposit through the mail and I can have the money immediately credited to my checking account as soon as the deposit is completed electronically”.

The effort this requires is clearly too big to be accomplished in a single sprint and needs to be broken up into smaller chunks for estimation and implementation purposes.

Decomposing an Epic into User Stories

User Stories:

Scan a Check Image

- As an Electronic Banking Customer, I want to be able to scan an image of the front and back of a check into the iPhone® so that it can be deposited electronically

Enter Deposit Information

- As an Electronic Banking Customer, I want to be able to enter the deposit information associated with an electronic deposit so that the correct amount will be deposited into the correct bank account when the electronic deposit is processed

Submit Deposit

- As an Electronic Banking Customer, I want to be able to electronically submit a scanned check and deposit information to the bank for deposit so that I can save the time associated with sending deposits by mail

Receive Confirmation

- As an Electronic Banking Customer, I want to be able to receive confirmation of a completed electronic deposit so that I will know that the deposit was successfully processed

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This slide shows how functional decomposition might be used to break down the previous epic into smaller user stories. The user stories might consist of:

- Scan a Check Image - As an Electronic Banking Customer, I want to be able to scan an image of the front and back of a check into the iPhone® so that it can be deposited electronically.
- Enter Deposit Information - As an Electronic Banking Customer, I want to be able to enter the deposit information associated with an electronic deposit so that the correct amount will be deposited into the correct bank account when the electronic deposit is processed.
- Submit Deposit - As an Electronic Banking Customer, I want to be able to electronically submit a scanned check and deposit information to the bank for deposit so that I can save the time associated with sending deposits by mail.
- Receive Confirmation - As an Electronic Banking Customer, I want to be able to receive confirmation of a completed electronic deposit so that I will know that the deposit was successfully processed

What Is a “Theme”?

A “Theme” is a group of epics or user stories that share a common attribute, and for convenience they are grouped together

In many cases, a theme may be related to a higher-level business objective

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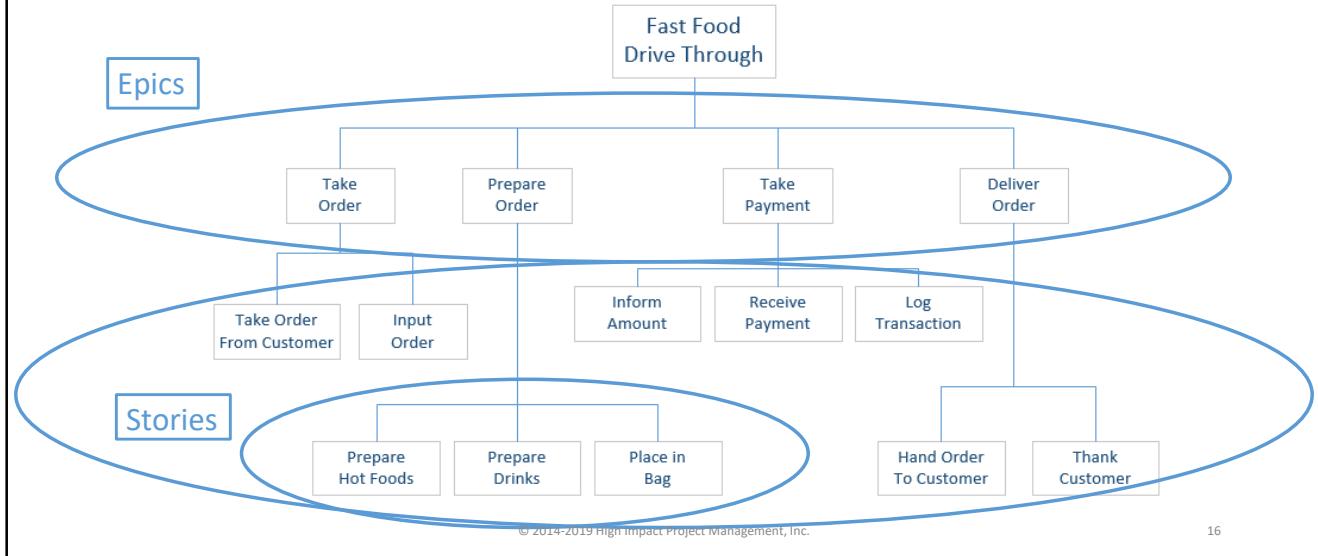
This slide shows the definition of a “theme”:

A “Theme” is a group of epics or user stories that share a common attribute, and for convenience they are grouped together. In many cases, a theme may be related to a higher-level business objective. An example might be:

- Improve employee morale, or
- Increase inventory turns, or
- Improve operational efficiency

You can think of an epic as a way of vertically grouping functionality within a product or project into higher levels of functionality to align with business goals and objectives while a theme is more of a horizontally grouping related functionality that might cut across projects or epics within a project.

Functional Decomposition Example



This slide shows an example of a functional decomposition of a process for handling food orders at a fast food restaurant. At a high-level, the process breaks down into:

- Taking an order
- Preparing an order
- Taking Payment
- Delivering the order

Those functions would probably be considered epics in Agile terminology and each of those high-level functions can be broken down into further detail which might correspond to user stories.

For example, the “Prepare Order” epic might break down into:

- Prepare hot foods
- Prepare drinks
- Place in bag

NEXT LECTURE...

AGILE PLANNING PRACTICES AND TOOLS PART 5

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17

In the next lecture, we're going to start the fifth of five parts on Agile Planning Practices and Tools. The next part of that series is on developing an Agile Project Charter

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Agile Planning Practices and Tools Part 5

Agile Project Charter

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2

In this lesson, we're going to continue discussing practices, tools, and techniques for doing planning in an Agile environment. This is the fifth and last part in that series and it is focused on the role of a project charter in an Agile project.

What Is a "Project Charter"?

A project charter plays a very significant role in a traditional plan-driven project:

"A project charter (PC) is a document that states a project exists and provides the project manager with written authority to begin work"

<http://searchcio.techtarget.com/definition/project-charter-PC>

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3

A project charter plays a very significant role in a traditional plan-driven project:

"A project charter (PC) is a document that states a project exists and provides the project manager with written authority to begin work"

According to PMBOK, a project should not be allowed to start without a Project Charter and the Project Charter essentially defines a contract between the customer and the project team. In an Agile project, there is a much more of a partnership relationship with the customer and the customer should be intimately involved in the project as it progresses with lots of communication, so there is less of a need for a project charter.



In an Agile environment, the role of a Project Charter is not really required at all and, if it is used, the purpose it serves is more informational in nature

In an Agile environment, the role of a Project Charter is not really required at all and, if it is used, the purpose it serves is more informational in nature. In essence it summarizes the planning that has been done to define the project for the benefit of anyone concerned.

The general rule in producing any kind of documentation in an Agile environment is that we shouldn't produce documentation for the sake of producing documentation. Any document should provide value to someone. In an Agile project, a simple project charter document might be valuable to managers and executives to have a simple definition and description of information about the project.

Elements of a Project Charter

Background and reasons for undertaking the project

Objectives and constraints of the project

Directions concerning the solution (might include product/project road map)

Identities of the main stakeholders

https://en.wikipedia.org/wiki/Project_charter

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5

This slide shows the typical elements you will find in many project charters. These include:

- Background and reasons for undertaking the project
- Objectives and constraints of the project
- Directions concerning the solution (might include product/project road map)
- Identities of the main stakeholders

Elements of a Project Charter

In-scope and out-of-scope items

Risks identified early-on

Target project goals and benefits

Key Deliverables (Might include functional decomposition)

Optional cost and schedule estimates

https://en.wikipedia.org/wiki/Project_charter

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6

This slide shows some additional typical elements you will find in many project charters. These include:

- In-scope and out-of-scope items
- Risks identified early-on
- Target project goals and benefits
- Key Deliverables (Might include functional decomposition)
- Optional cost and schedule estimates)

Of course, I want to emphasize again that a project charter is not required in an Agile environment and should only be used where it adds some value. By the same reasoning judgment is needed as to what should be included in the project charter if one is used but the general rule is to keep it very short and succinct and rely much more heavily on other forms of direct communications between the customer and the project team.



In an Agile environment, if a Project Charter is used at all, as a general rule, it should be kept short and succinct

In an Agile environment, the key point is that if a Project Charter is used at all, it should be short and succinct.



A sample project charter template is provided as a downloadable resource with this lesson

A sample project charter template is provided as a downloadable resource with this lesson

NEXT LECTURE...

PROGRESSIVE ELABORATION AND MULTI-LEVEL PLANNING

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9

In the next lecture, we're going to start the last lesson in this section on Adaptive Planning. That lesson is on "Progressive Elaboration and Multi-level Planning."

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Introduction to Agile Project Management

Learn How to Apply Project Management Practices in an Agile Environment



Progressive Elaboration and Multilevel Planning

Progressive Elaboration and Multi-level Planning

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2

In this lesson, we're going to finish up our discussion of Adaptive Planning with a discussion of Progressive Elaboration and Multi-level Planning in an Agile project.

Progressive Elaboration

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The first subject to discuss is “Progressive Elaboration”

What Is “Progressive Elaboration”?

“Progressive elaboration is a continuous iterative process of refining and further detailing the product characteristics based on more detailed information and insight that becomes available as the project progresses.”

<http://www.projectmanagementlexicon.com/progressive-elaboration/>

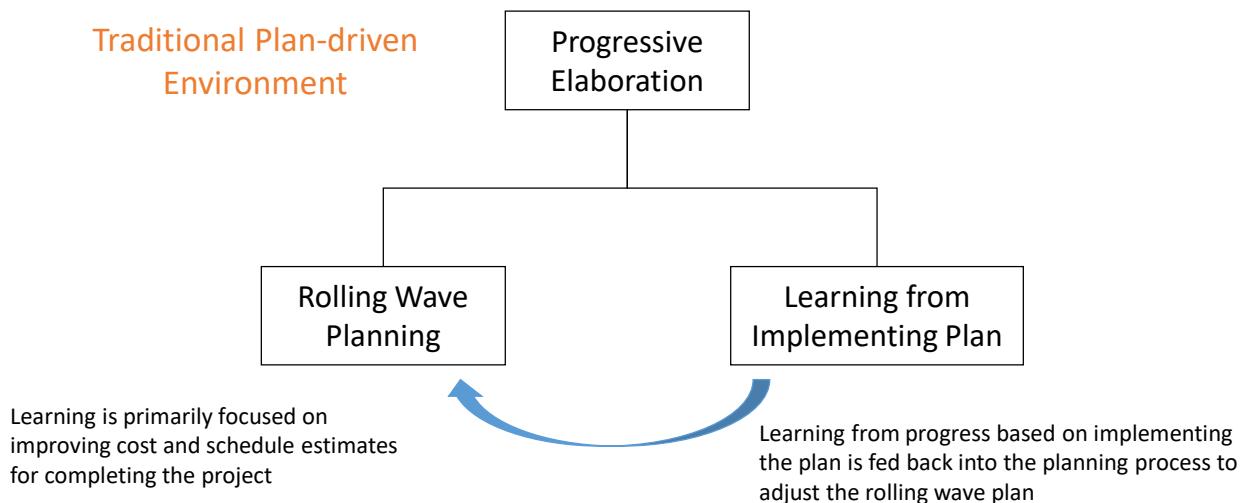
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Here's a definition of what “Progressive Elaboration” is:

“Progressive elaboration is a continuous iterative process of refining and further detailing the product characteristics based on more detailed information and insight that becomes available as the project progresses.”

Progressive Elaboration vs. Rolling Wave Planning



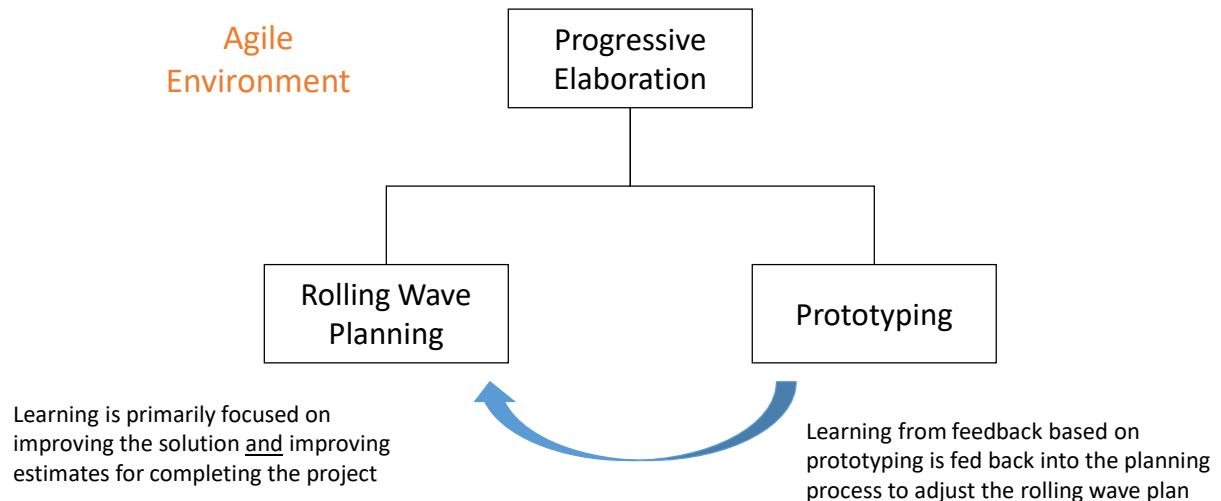
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This slide shows the relationship of progressive elaboration to rolling wave planning. Progressive Elaboration is generally considered to be a broader term that encompasses both rolling wave planning and some form of learning from actually implementing the plan.

In a traditional plan-driven project management context, progressive elaboration usually means to further refine the project plan to further define the scope, costs, and schedule of the project by evaluating the estimates of work against actual progress to further refine the estimates for completing the project. It assumes that the solution and the requirements are relatively stable and the primary variable is the estimated work to complete the project.

Progressive Elaboration vs. Rolling Wave Planning



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In an Agile environment, it takes on a broader meaning that places a much heavier emphasis on prototyping the solution to get additional feedback that is incorporated into the rolling wave planning process. An Agile environment does not assume that the solution and the requirements are stable so in addition to learning about the estimated work to be done there is a significant amount of additional learning to be done about the solution itself to be done. In an Agile environment, all of that learning is fed back into the rolling wave planning process.



A project plan (if one exists at all) in an Agile environment is likely to be much more loosely-defined and is expected to go through much more significant changes as the project progresses as the result of progressive elaboration

Also, keep in mind that the level of planning may also be very different in an Agile environment. Instead of having a detailed project plan like you might find in a traditional plan-driven environment, a project plan (if one exists at all) in an Agile environment is likely to be much more loosely-defined and is expected to go through much more significant changes as the project progresses as a result of progressive elaboration.

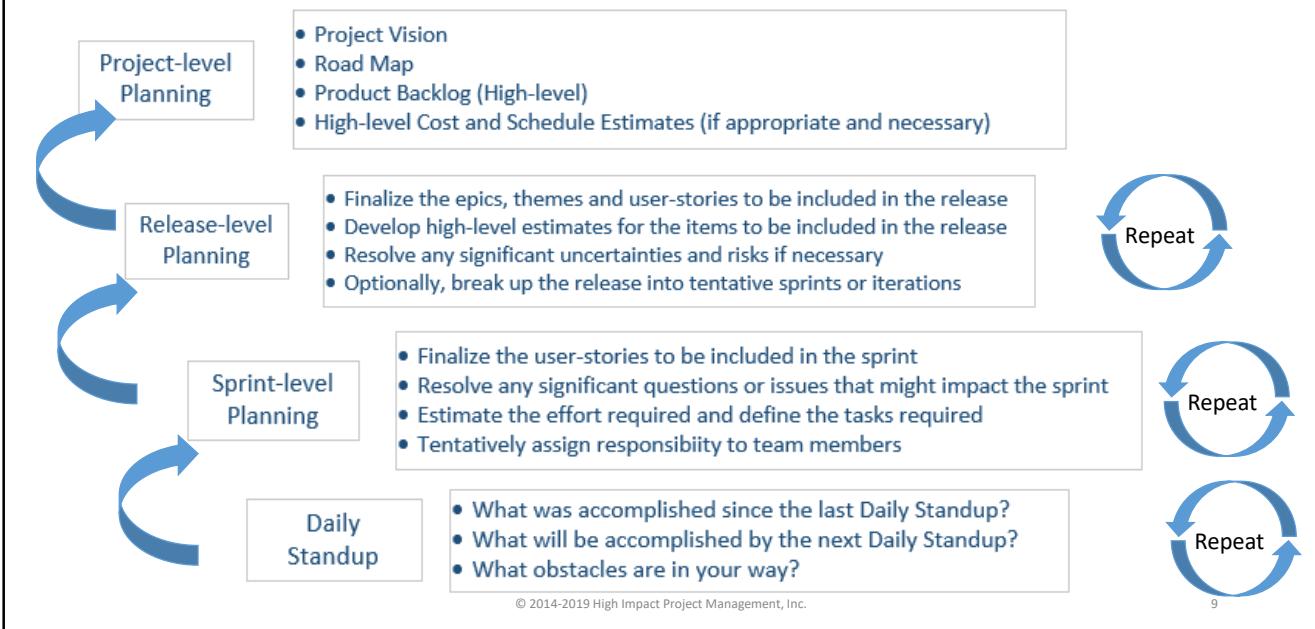
Multi-level Planning

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The next subject to discuss is “Multi-level Planning”

Rolling-Wave, Multi-Level Planning



In a typical Agile project, Rolling wave planning is typically done at different levels as is illustrated in this slide; however, each of these levels is inter-related – in other words, you don't do project level planning at the beginning of the project once and never do it again.

What typically happens is project planning is done once at the beginning of the project and establishes the Vision, Product Backlog, Product Road Map, and potentially also some cost and schedule estimates at whatever level of detail is necessary. That forms the high-level plan for the project which is then further elaborated into more detail at the lower levels as the project progresses.

At the release planning level, the general goals for that release would be defined and the high-level epics, stories, and themes to be included in that release would also be defined. And, at the release level, the level of effort to complete the release will typically be estimated in order to pin-down the projected release date. And, if the projected release date turns out to be unacceptable trade-offs may be needed such as removing items from the release to bring the date in. Release level planning is naturally more detailed than project-level planning and is repeated for each release. Any significant new information that results from release-level planning should be fed back to adjust the project-level plan if necessary.

Then, at the sprint level, the stories to be included in that sprint would be finalized and estimated to fit within the capacity of that sprint and any significant issues or questions that might impact successful completion of the sprint are resolved. The team would then identify the tasks required to implement the stories and tentatively assign responsibilities for the tasks among the team members. Sprint-level planning is naturally much more detailed than project-level and release-level planning and is repeated for each sprint. Any significant new information that results from sprint-level planning should be fed back to adjust the release-level plan and project-level plan if necessary.

The final level of Agile planning happens during the sprint at the Daily Standup – during that meeting, each individual reviews what they're working on, what progress has been made and what obstacles stand in their way and the plan for completing the sprint is adjusted as necessary. The Daily Standup meeting is naturally repeated daily as the sprint is in progress.



All of the levels of planning are inter-related and inter-dependent

If a significant change is discovered at a lower level, it should be bubbled up to adjust the higher level plans as necessary

In a similar way, if re-planning is done at a higher level, the lower levels may need to be re-planned to be consistent with the new higher-level plan

A key point is that in this multi-level planning model, all of the levels of planning are inter-related and inter-dependent. If a significant change is discovered at a lower level, it should be bubbled up to adjust the higher-level plans as necessary.

In a similar way if re-planning is done at a higher level, the lower levels may need to be re-planned to be consistent with the higher-level plan.



“Progressive elaboration” is an important concept in planning a strategy for the definition of requirements in an Agile project; however, it is not really new to Agile

Progressive elaboration has been a traditional project management practice for a long time; however, Agile emphasizes its use much more heavily

Another important point is that “Progressive elaboration” is an important concept in planning a strategy for the definition of requirements in an Agile project; however, it is not really new to Agile. Progressive elaboration has been a traditional project management practice for a long time; however, Agile emphasizes its use much more heavily.

Progressive Elaboration and Multi-level Planning

- Don't get bogged down in planning requirements too far in advance
- Requirements are only defined to the extent needed to support any decisions or actions at that point in time

Project-level planning

- Evaluate the overall feasibility and scope of the effort, if required

Release-level planning

- Estimate the time and effort to complete a release, if necessary

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The key principle behind progressive elaboration and rolling wave planning is that you shouldn't get too bogged down in planning requirements too far in advance because it involves too much speculation and may lead to unnecessary rework if that speculation is wrong. Requirements should only be defined to the extent needed to support whatever decisions or action is required at that particular point in time. For example,

- At the project-level, there may be a need to understand the overall feasibility and scope of the project to evaluate the resources, costs, and schedule required; however, that can typically be done on the basis of a very high-level understanding of the goals and high-level requirements without details.
- At the release-level, there may be a need for a little more accuracy in the estimated time and effort to complete a release and that may call for understanding the requirements in a little more detail, but that also may not require a significant amount of detail.

Progressive Elaboration and Multi-level Planning

- Requirements are only defined to the extent needed at that point in time

Sprint-level planning

- More accurately estimate the level of effort required in story points to fit it into the capacity of the sprint
- Remove any significant uncertainties in the requirements that would cause a blocking issue

Daily Sprint-level planning

- Further elaborate any details of requirements to define implementation
- Evaluate alternative implementation approaches

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Finally, at the sprint level, there are typically two needs that should be satisfied prior to the start of a sprint:

- The team needs to have a reasonable estimate of the requirements in terms of story points to determine if they can fit into the capacity for a sprint
- The team should not take any requirements into a sprint that have major uncertainties or issues associated with them that might block or delay the development effort

However, even at the sprint level, many details of how the requirements will be implemented can be worked out while the sprint is in progress

At the daily level in a sprint there is a need to further elaborate details of requirements to define implementation and to evaluate alternative approaches.



The definition of requirements should be deferred until “the last responsible moment”

A very important point in Agile is to defer any decision until the “last responsible moment”. There is no need to make decisions any further in advance than required to support whatever decisions and actions are required at that point in time. Deferring a decision until “the last responsible moment” means to delay the decision to the point where delaying it any further might impact the outcome of whatever actions that decision is designed to support.

NEXT LECTURE...

AGILE REQUIREMENTS

BEST PRACTICES

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In the next lecture, we're going to start a new section on Agile Requirements Definition Practices and the first lesson in that section is on "Agile Requirements Best Practices".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Agile Requirements Practices



Agile Requirements Best Practices

The Role of a Business Analyst in an Agile Project

User Stories and User Story Examples

Requirements Hierarchy, Epics, and Themes

Product Backlog and Product Backlog Grooming

Story Mapping

Here's a brief summary of the topics in this section:

- We're going to start with an overview of a number of general best practices related to Agile Requirements
- Then we're then going to talk about the role of a Business Analyst in an Agile project which is similar to the role of a project manager in an Agile project. Officially, at the team level there is no role for either a Project Manager or a Business Analyst in an Agile project; however, there is a need for both of those functions even though the role may or may not be performed by someone with the title of Business Analyst or Project Manager
- And we're going to discuss User Stories as well as Epics and Themes to organize user stories into a well-organized, hierarchical approach
- And, finally, we're going to talk discuss the Product Backlog and Story Mapping

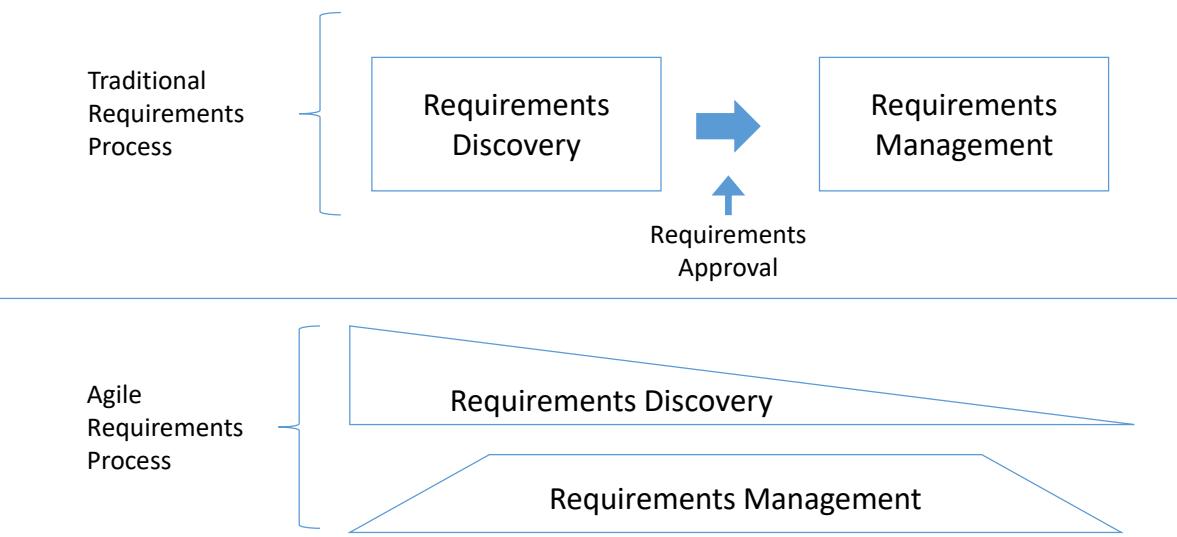
Agile Requirements Best Practices

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4

Next I want to talk about some best practices for Agile requirements. I have synthesized what I think are a number of best practices for requirements from a number of different sources.

Requirements Discovery and Management



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This slide shows a comparison of a traditional requirements process and an Agile requirements process.

In a traditional plan-driven requirements process, the requirements discovery process and the requirements management process are somewhat sequential. An effort is put in place to discover and document requirements; the requirements are approved; and, from that point on, there is some kind of a process for managing the requirements

In an Agile process, the requirements discovery goes on continuously throughout the process. Although there is typically some amount of upfront discovery to define the broad-based vision and high-level requirements, detailed requirements definition is typically deferred until later as the project is in progress.

- The amount of planning and requirements definition that is done upfront versus deferred will vary from one project to the next depending on the level of uncertainty in the project and other factors
- Requirements management is typically designed around controlling changes to manage the scope of the project

Requirements management also takes place throughout the project and is designed around encouraging change to maximize the value that the project provides in an uncertain environment.

Requirements Discovery and Management

Requirements Discovery Practices

Use the right amount of upfront planning and design

Stakeholders actively participate

Start small, think big

Differentiate wants from needs

Simplicity is ***important***

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This slide shows a summary of the practices we're going to talk about related to requirements discovery. These are:

- Use the right amount of upfront planning and design
- Stakeholders actively participate
- Start small think big
- Differentiate wants from needs
- Simplicity is important

We will discuss each of these in more detail in the following slides.

Agile Requirements Discovery Best Practices

1. Use the right amount of upfront planning and design

Avoid making too many decisions based on speculation if possible

Defer decisions until the “last responsible moment”

Take advantage of what is known but be careful of assumptions



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The first and probably most important best practice is to “Use the right amount of upfront planning and design”.

- On the one hand, you certainly wouldn’t want to start with a blank sheet of paper and just start writing code, but
- On the other hand, it can be just as bad to go overboard and do too much upfront planning and design

The right approach is somewhere between those extremes and is a function of a number of factors including the level of uncertainty in the project. The general guidelines for making this decision are:

- Avoid making too many decisions based on speculation if possible – Unless there is a compelling reason why it is necessary to make assumptions upfront, it is best to defer those decisions until later in the project
- Which leads to a basic principle of “deferring decisions until the last responsible moment”. What that means is that it is generally a good practice to defer decisions as long as possible until more and better information will be available to make those decisions. The “last responsible moment” is defined as the point in time where deferring the decision any further than that may have some impact on the project

- On the other hand, there is no point in ignoring information that you do have so you should take advantage of what is known but be careful of assumptions. If we were to set out to find a cure for cancer, for example, we wouldn't be starting from scratch and it would be foolish to ignore what is already known from previous efforts.

Agile Requirements Discovery Best Practices

2. Stakeholders actively participate

The Product Owner role should not be a substitute for direct stakeholder communication

Direct communications between developers and stakeholders/users is essential to optimize the design of the solution



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The next point is that “Stakeholders should actively participate”.

The role of the Product Owner is a very important role in Agile. The Product Owner is intended to be the key decision-maker on all project requirements and is responsible for the overall success or failure of the project from a business perspective; however, that doesn’t mean that the Product Owner is the only person that the team should talk to about project requirements. The Product Owner should be the ultimate decision-maker and might play a role of facilitating some discussions with stakeholders; however, on large and complex projects, the role of the Product Owner could easily become a bottleneck if the Product Owner became a middle-man for all communications with anyone outside of the project team.

Direct communications with the outside stakeholders will give the developers additional valuable insight into their needs; however, that should be done in concert with the Product Owner so that he/she is kept in the loop on those conversations as much as possible.

Agile Requirements Discovery Best Practices

3. Start small, think big

Focus on the big picture before you dive down to far into details

Have a clearly defined vision of where you want to go but don't take on too much at once



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The next principle is “Start small, think big”. You should have a clear vision of where the project is going in the long term; but, on the other hand, you don’t want to get too bogged down in implementing that long term vision – you wan to pick some short-term milestones that will demonstrate progress and return value as quickly as possible.

Agile Requirements Discovery Best Practices

4. Differentiate “wants” from “needs”

“Wants tend to be associated with a solution that the client envisions”

“Need tend to be associated with the problem”

Focus on solving the problem first (not the solution)

Use the “Five Why’s” technique to get to the root of the problem



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Another very good technique in developing requirements for Agile projects is to differentiate “wants” from “needs”.

- Wants tend to be associated with a solution that a client envisions
- Needs tend to be associated with the problem

It is very typical in many instances for a user to tell you what they think they want for a solution before the problem the solution is intended to solve is really clearly defined. You should never lose sight of the problem to be solved before you go too far into implementing a solution and its also a good practice to dig a little deeper into the problem to be solved to get to the root cause of the problem to be solved.

“Five Why’s” Technique

“Why is our client, Hinson Corp., unhappy? Because we did not deliver our services when we said we would.

Why were we unable to meet the agreed-upon timeline or schedule for delivery? The job took much longer than we thought it would.

Why did it take so much longer? Because we underestimated the complexity of the job.

Why did we underestimate the complexity of the job? Because we made a quick estimate of the time needed to complete it, and did not list the individual stages needed to complete the project.

Why didn't we do this? Because we were running behind on other projects. We clearly need to review our time estimation and specification procedures.”¹

5 Why's Problem Solving from MindTools.com, http://www.mindtools.com/pages/article/newTMC_5W.htm

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We've previously discussed the “Five Why’s” which is a good approach for digging into a customer need to get to the root of the problem. This slide shows an example of how the “Five Why’s” technique can be used to get to the root of a problem.

The idea is that by progressively asking “why” over-and-over again, you eventually get to the root cause of the problem. Here's an example:

- “Why is our client, Hinson Corp., unhappy? Because we did not deliver our services when we said we would.
- Why were we unable to meet the agreed-upon timeline or schedule for delivery? The job took much longer than we thought it would.
- Why did it take so much longer? Because we underestimated the complexity of the job.
- Why did we underestimate the complexity of the job? Because we made a quick estimate of the time needed to complete it, and did not list the individual stages needed to complete the project.
- Why didn't we do this? Because we were running behind on other projects. We clearly need to review our time estimation and specification procedures.”¹

Agile Requirements Discovery Best Practices

5. Simplicity is important

An important principle in Agile is simplicity and “just barely good enough”

- Beyond a certain optimum point, adding additional features has diminishing value and just adds complexity to the application and, of course, significantly extends the development effort

Start with something basic and simple and only add to it as necessity to satisfy the users



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This may seem to be counter to traditional project management knowledge, but a very important principle in Agile is simplicity and limiting a solution to what is “just barely good enough” to solve the problem.

We all know that in many situations in the past, project teams have gone beyond the basic requirements and “gold-plated” a solution. Excellence was perceived as going above and beyond the user requirements to develop a more complete solution, but going far beyond the user needs to develop a solution isn’t necessarily a good thing and can significantly increase the scope and complexity of the development effort.

There is an optimum point and beyond that point adding additional features has diminishing value and it requires close collaboration with the users to find where that optimum point is. A good technique is to start with the simplest and most basic solution possible and then add to it incrementally and iteratively only to the extent that it adds value to the user.

Requirements Discovery and Management

Requirements Management Practices

Prioritize requirements

Use a hierarchical approach

Use tools effectively

Use “spikes” to manage uncertainty

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Next, we're going to talk about some principles related to requirements management. In an Agile environment, requirements discovery and management go on concurrently so it is a bit difficult to separate the two; however, it is useful to make a distinction. These principles we're going to discuss in this area are:

- Prioritize requirements
- Use a hierarchical approach
- Use tools effectively
- Use spikes to manage uncertainty

We will discuss each of these in more detail in the following slides.

Agile Requirements Management Best Practices

1. Prioritize requirements

Prioritizing requirements has a number of benefits including:

Potential early delivery of high-value functionality

Possibly ending the project earlier than expected if a point of diminishing returns is reached



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Probably the most important requirements management principle in Agile is that requirements should be prioritized. Prioritizing the requirements has a number of benefits.

- Probably the most important benefit is that if you use an iterative and incremental development approach and the requirements are properly prioritized, you may be able to deliver some high value functionality very quickly without waiting for the rest of the solution to be delivered.
- Another big benefit is that, if the requirements are properly prioritized, you may reach a point of diminishing returns where the cost of developing additional functionality exceeds the value of the functionality being developed and the project might be terminated early with a significant savings in cost and schedule.

Agile Requirements Management Best Practices

2. Use a hierarchical approach

Organize requirements hierarchically to more effectively manage requirements

Simplifies the task of managing requirements

Makes it easier to see inter-relationships and inter-dependencies



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The next point is that from a requirements management perspective, it is best to use a hierarchical approach to managing requirements. This is particularly true for large, complex projects.

The value of doing this is that instead of managing thousands of requirements individually, it allows you to manage the requirements at a higher level. For example, if requirements are organized into Epics and User Stories, instead of managing all the user stories individually, some of the management can be done at a higher level. I think you can see how that can prevent someone from getting “lost in the weeds” of trying to manage a large number of unstructured requirements. It also allows you to more easily see the inter-relationships and inter-dependencies among requirements more easily. For example, it may not make sense to develop some user stories that are part of an overall epic unless the other stories that are part of that epic are also developed at the same time.

Agile Requirements Management Best Practices

3. Use tools effectively

Visual tools are very useful early in the project lifecycle of initial definition of requirements

Later in the project lifecycle, online tools become essential for large complex projects



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The next principle is to use tools effectively. When you're early in the discovery phase, simple tools such as story maps are useful to help people begin to visualize how everything fits together and to provide a flexible approach to support brainstorming and to stimulate discussion. We will discuss story-mapping later in this module.

As you get further into the project; however, other tools become more essential for managing the requirements, particularly as you get into large, complex projects that may require multiple teams. Managing Agile requirements can be challenging because, if it is done right, the requirements are constantly changing, being further refined, and also being reprioritized. For that reason, online tools become essential to manage that process for anything other than very small single-team projects.

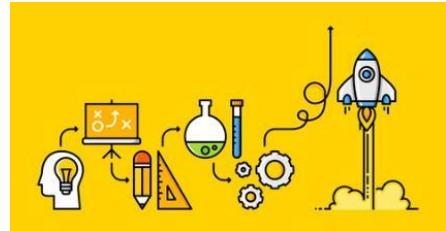
Agile Requirements Management Best Practices

4. Use “spikes” to resolve uncertainty

A “spike” is an experimental approach to better define requirements or to resolve uncertainty:

It could be prototyping something to demonstrate it to the user, or

Evaluating alternative design approaches



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The final practice I want to talk about is a “Spike”. A spike is an experimental approach to better define requirements or to resolve some kind of uncertainty. Here are a few examples:

- The users may be very uncertain in a particular area of what they want so it may make sense to do a quick prototype or wireframe to put some alternatives in front of them to narrow down what they want before committing to full-scale development of a particular approach
- There may be some level of technical uncertainty associated with a particular design approach. For example, there could be a choice between two different design approaches one of which is a relatively certain and proven approach that has low risk and another that is much higher risk but has significant additional benefits. If the benefits are significant of the second approach, it may be worth doing some additional evaluation of that approach to more accurately assess the risk.

One of the big advantages of a “spike” is that you can isolate and time-box this type of effort to limit the amount of time spent on it and to minimize the impact on the rest of the project

NEXT LECTURE...

THE ROLE OF A BUSINESS ANALYST IN AN AGILE PROJECT

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In the next lecture, we're going to talk about "The Role of a Business Analyst in an Agile Project".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

The Role of a Business Analyst in an Agile Project

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2

The next subject I want to talk about is the role of a business analyst in an Agile project

The Role of a Business Analyst in an Agile Project

In an ideal Agile environment:

There is no official role for a Business Analyst

The Product Owner is responsible for defining and communicating requirements in the form of user stories

In a real-world Agile environment:

That is not always possible:

For large projects, the work load on the Product Owner could be very large

For complex projects, additional analysis work may be needed to further analyze requirements and evaluate alternative approaches

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In an ideal environment, there is no role for a Business Analyst and the Product Owner is directly responsible for defining and communicating the requirements to the developers in the form of user stories. However, in the real world that is not always possible:

- For large projects, the work load on the Product Owner could be very large
- For complex projects, additional analysis work may be needed to further analyze requirements and to evaluate alternative approaches

Frequently, the Business Analyst will act as a facilitator in facilitating discussions between the developers and the Product Owner and business users to perform Product Backlog Grooming and to further elaborate and define requirements as the project progresses.



The Role of a Business Analyst (if any) in an Agile project should be a supporting role to enable and facilitate more effective communications with the development team

The Business Analyst should not become an intermediary to inhibit communications

However, the important points are that:

- The Business Analyst should play a supporting role to enable and facilitate more effective communications with the development team
- The Business Analyst should not become an intermediary and isolate the development team from the Product Owner and the business users and inhibit communications

Why Have Business Analysts in an Agile Project?

Some developers have difficulty eliciting requirements

Stakeholders have difficulty modeling and documenting their own requirements

Some level of analysis may be needed to analyze requirements prior to committing development resources alternative approaches

The Product Owner may need assistance and support

<http://agilemodeling.com/essays/businessAnalysts.htm>

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There are several reasons why the role of a Business Analyst might be needed in an Agile project:

- The first is that many developers are not necessarily skilled in eliciting requirements and communicating directly with stakeholders and users
- Second, the stakeholders themselves may have difficulty in modeling and documenting their own requirements
- Another reason is that some level of analysis may be needed to analyze requirements and/or alternative implementation approaches before committing development resources to the effort. That might help the team use development resources more effectively
- And, finally the Product Owner may need assistance and support. On large, complex projects, it can be very difficult for one person to fill the Product Owner role without assistance and support

Traditional Business Analysts Role

Scope the System

Translate Business Needs

Translate Technical Issues

Model and Document

<http://agilemodeling.com/essays/businessAnalysts.htm>

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This slide shows some of the typical roles of a Business Analyst in a traditional, plan-driven project. Some of these roles might be valid in an Agile environment to a lesser extent and some of these roles might also be performed by an Agile Project Manager with the right skills.

- The first is to scope the system. During the initial phase of a project which is often called “iteration 0” or simply the “inception phase”, a Business Analyst may be the only development staff assigned to the project. At this point, they will work with key project stakeholders to formulate and communicate the business vision, to envision initial requirements and to scope the project. Their fundamental goal is to get the project focused early by translating the initial, high-level vision into something realistic. They may also help to identify potential areas of automation and even to aid in reengineering the underlying business process.
- The next function they might perform is to translate the business needs. A major responsibility of business analysts is to work with project stakeholders to translate their requirements into something that developers can understand as well as to translate the resulting questions that the developers might have into something that the stakeholders can understand. This is an iterative process throughout the project and an important part of this is the distillation of different messages of various project stakeholders into a single consistent vision. This task often involves significant negotiation and political maneuvering. In this respect, a Business Analyst might act as a knowledge integrator. Furthermore, Business Analysts have often found themselves spending significant time in meetings therefore saving the rest of the development team from this inefficient use of their time.
- Another Business Analyst function is to translate technical issues. Business Analysts will also explain technical or architectural complexities to project stakeholders and Business Analysts often explain what the developers are doing and why they need to do it including explanations of the basis of schedules and estimates.
- And, finally, a role of the Business Analyst is to model and document. Business Analysts will often work with project stakeholders to identify, model, and then document their requirements and business domain details.

Traditional Business Analysts Role

Act as a Communications Broker

Political Mentor

Test and Validation

Represent Stakeholders

<http://agilemodeling.com/essays/businessAnalysts.htm>

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Here are two additional roles that might typically be performed by a Business Analyst in a traditional plan-driven environment:

1. **Act as a communication broker** – Business Analysts typically have very good connections within the business community and therefore are in a position to help development teams find the right people to work with.
2. **Political mentor** – Business Analysts often help project teams through the political minefields within their organizations, particularly when the Business Analyst has worked within the same organization for several years.
3. **Test and validation** – Business Analysts will work with project stakeholders to validate their requirements and analysis models via techniques such as reviews, walkthroughs, and play acting. Business Analysts will often aid in writing user acceptance test (UAT) cases and will be a liaison between project stakeholders and your testing organization during UAT.
4. **Represent stakeholders** – When project teams don't have direct access to their project stakeholders, clearly not a good situation, Business Analysts will act as "stakeholder surrogates". Typically developers will treat a BSA as the "customer" from which requirements, domain information, and business priorities are provided. The Business Analyst, in turn, will work with the stakeholders to obtain information

and to verify decisions.



Many of these traditional roles may still be needed to a lesser extent in an Agile environment and might be performed either by a Business Analyst, an Agile Project Manager, or a combination of both

The key point is that:

Many of these traditional roles may still be needed to a lesser a more limited extent in an Agile environment and, if they are, they might be performed either by a Business Analyst, an Agile Project Manager, or a combination of both depending on the scope and complexity of the effort.

Potential Agile Business Analyst Role Summary

Assist the Product Owner by:

1. Analyzing a broadly-defined area and using functional decomposition to
2. Define high-level epics and stories and
3. Create a well-organized, value-driven framework to provide the required business value in the Product Backlog

The Role of a Business Analyst in an Agile Project

<http://managedagile.com/2013/04/20/the-role-of-a-business-analyst-in-an-agile-project/#sthash.3H5WJCJT.dpuF>

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In summary, if a Business Analyst is used in an Agile project, the primary functions are to support the Product Owner by:

- Analyzing a broadly-defined area and using functional decomposition to define high-level epics and stories to create a well-organized, value-driven framework to provide the required business value in the Product Backlog. If the stories and epics follow a logical functional hierarchy it provides a mechanism for better understanding the relationship of the stories and epics to each other and for satisfying overall business goals.

Potential Agile Business Analyst Role Summary

Assist the Product Owner by:

4. Writing individual stories that are very clear and concise and are easy to understand and implement by the development team
5. Identifying related user stories and epics, grouping them into themes as necessary and documenting the interrelationship and associated business process flows as necessary

The Role of a Business Analyst in an Agile Project
<http://managedagile.com/2013/04/20/the-role-of-a-business-analyst-in-an-agile-project/#sthash.3H5WJCJT.dpuF>

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In addition, the Business Analyst may assist the Product Owner by:

- Writing individual stories that are very clear and concise and are easy to understand and implement by the development team. Writing effective user stories is a skill that is often taken for granted. What is often overlooked in good stories is the “why” or the “so that” clause that expresses the business value the story is intended to provide. A good BA can provide that perspective that is difficult for a developer to provide.
- Identifying related user stories and epics, grouping them into themes as necessary and documenting the interrelationship and associated business process flows as necessary. The interrelationship of user stories and epics should be well-understood and the implementation of stories across different functional areas may require some planning and coordination so that they are consistently implemented. This overall framework can provide a mechanism for easily identifying any inconsistencies and/or missing functionality.



On large projects or programs , there may be a need to integrate the needs of related projects as well as the needs of a number of different stakeholders to produce an overall solution

One additional point is that:

On large projects or programs , there may be a need to integrate the needs of related projects as well as the needs of a number of different stakeholders to produce an overall solution and that is another area where a Business Analyst might assist the Product Owner in helping to achieve that integration.

NEXT LECTURE... USER PERSONAS

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12

In the next lecture, we're going to continue our discussion on Agile Requirements Definition Practices and we're going to talk about "User Personas".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Agile User Personas

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2

The next subject I want to talk about is “User Personas”

What Is a User Persona?

A “User Persona” is a description of a specific type of user that impacts the requirements

A “User Persona” can be as detailed as necessary to differentiate and capture the characteristics of individual users that might have a different impact on the system

It is useful to identify “User Personas” as specifically as possible

A User Persona helps the team visualize that user and focus their efforts around their needs

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A “User Persona” is a practice that is used in Agile for personalizing user requirements. However, it really is a general process that can be used in any kind of development effort. A “User Persona” is a description of a specific type of user that impacts the requirements

The idea behind a “User Persona” is that many traditional requirements management practices are impersonal...they result in a large requirements document with lots of specific requirements that the system must meet but it may not be clear who those requirements are designed to satisfy. Agile puts a strong emphasis on providing value to the user and also has a strong emphasis on engaging the user directly in the project to provide feedback and inputs as the project progresses. Organizing the project requirements around users puts more focus on understanding the value that the project provides and who the recipient of that value is.

A “User Persona” can be as detailed as necessary to differentiate and capture the characteristics of individual users that might have a different impact on the system

To facilitate that process, it is useful to identify “User Personas” as specifically as possible so that the development team can target their development efforts at the needs of those specific users. A “User Persona” could be a specific category of user or it could even be a specific user, but in either case, it is useful to model that user’s personality and specific interests as a hypothetical “User Persona”.

A User Persona helps the team visualize that user and focus their efforts around their needs. The user persona could be either real or a fictitious representation of a real user.

What Is a User Persona?

Picture & Name	Details	Goal
What does the persona look like? What is its name? Choose a picture and a name that are representative, and that allow you to develop sympathy for the persona	What are the persona's relevant characteristics and behaviors? Consider demographics, job, lifestyle, spare time activities, attitudes, and common tasks, for instance	<ul style="list-style-type: none">• Why would the persona want to buy or use the product?• What problems should the product solve?• What benefits does the persona want to achieve?• If there are multiple problems or benefits, identify the main one and put it at the top

Pichler, Roman, A Persona Template for Agile, <http://www.romanpichler.com/blog/persona-template-for-agile-product-management/>

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This slide shows a general format for organizing user personas:

- The user persona is typically given a name and a picture to make it real. The user might be either a representation of a real person such as "Susan Smith" or a more hypothetical generalization of a category of person. For example, "Jim the Accountant" might represent a fictional characterization of a group of people who are all accountants.
- There is a short description of some personality characteristics associated with the user. For example, those characteristics might include demographics, job, lifestyle, spare time activities, attitudes, and common tasks, for instance. Again, the goal is to personalize the system as much as possible around the unique needs of each user. By contrast, a traditional plan-driven requirements process would be very dry and functional and system-oriented. It typically would focus on the functional requirements that the system must perform without attempting to
- There is a short summary of the goal that user needs to achieve from a business perspective. The goal might include:
 - Why would the persona want to buy or use the product?
 - What problems should the product solve?
 - What benefits does the persona want to achieve?
 - If there are multiple problems or benefits, identify the main one and put it at the top

User Persona Example

Picture & Name	Details	Goal
 Peter	<p>Works as a Product Manager for a mid-sized company</p> <p>Is 35 years old and holds a marketing degree</p> <p>Has experience working as a Product Owner with software products on Agile teams</p> <p>Has had some Scrum training</p>	<ul style="list-style-type: none">Has managed mature products successfully. Now faces the challenge of developing a brand-new productWants to leverage his Agile knowledge but needs a tool to help him create an innovative product using Agile techniques

Pichler, Roman, A Persona Template for Agile, <http://www.romanpichler.com/blog/persona-template-for-agile-product-management/>

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Here's an example of a user persona. It attempts to personify a requirement so that a development team can visualize how a real user would use a product and what problem it will solve for the user. In this case, the user is a person named "Peter" who might either be a real person or a general personification of a group of people with similar interests and goals.

The background behind Peter is that

He works as a Product Manager for a mid-sized company.

He is 35 years old and holds a marketing degree.

He has experience working as a Product Owner with software products on Agile teams.

He has had some Scrum training.

Probably the most important part of the user persona is the business perspective. His primary challenges and goals are:

He has managed mature products successfully and he now faces the challenge of developing a brand-new product.

He wants to leverage his Agile knowledge but needs a tool to help him create an innovative product using Agile techniques

As you can see in this example, the user persona is designed to help the development team visualize the user as a real person although the person depicted in the user persona may not be a real specific user but a characterization of a group of users with common characteristics and needs.

NEXT LECTURE... USER STORIES AND USER STORY EXAMPLES

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6

In the next lecture, we're going to continue our discussion on Agile Requirements Definition Practices and we're going to talk about "User Stories and User Story Examples".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

User Stories

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2

The next subject I want to talk about is “User Stories”

What Is a “User Story”

User stories provide an easy-to-understand and simplified way of stating requirements that is commonly used with many Agile methodologies

A user story is a high-level definition of a requirement, containing just enough information so that the developers can produce a reasonable estimate of the effort to implement it

User Stories are a very succinct way of defining requirements in Agile.

- They provide an easy-to-understand and simplified way of stating requirements that is commonly used with many Agile methodologies
- A user story is a high-level definition of a requirement, containing just enough information so that the developers can produce a reasonable estimate of the effort to implement it



User stories are intentionally designed to be brief and are intended to be a “placeholder for a conversation”

They describe “what” is needed, not “how” it should be implemented

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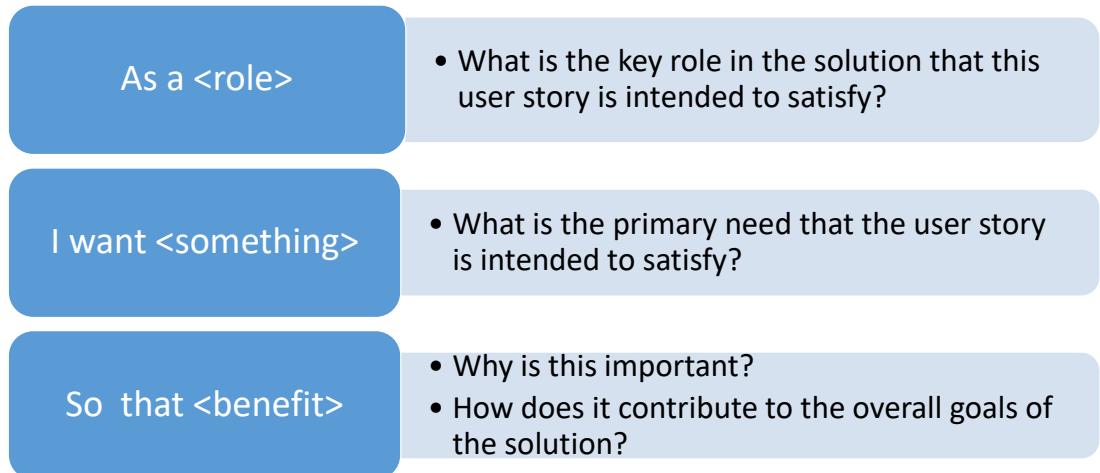
A key point is that user stories are intentionally designed to be brief and are intended to be a “placeholder for conversation”.

They typically may not contain a sufficient amount of information to provide detailed direction to the developers of how it should be implemented. They describe “what” is needed at a high level.

Developers are expected to work out the details of how it will be implemented through direct face-to-face communication with the users and stakeholders.

User stories provide a way of breaking up a project into individual work items that can provide a way of estimating and tracking the work to be done

User Story Format



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This slide shows the typical format for writing user stories. There are three elements of this format:

- The first element is “As a <role>”
 - What is the key role in the solution that this user story is intended to satisfy?
- The second element is “I want <something> ”
 - What is the primary need that the user story is intended to satisfy?
- And the final element is “So that <benefit>”
 - Why is this important? How does it contribute to the overall goals of the solution? This is probably the most important element of the user story because it keeps the focus on the “Why” or the goals of the solution.

User Story Example

As a student

I want to purchase my monthly parking passes online

So that I can save time

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This slide shows an example of a simple user story. It says:

- As a student
- I want to purchase my monthly parking passes online
- So that I can save time

The first statement identifies the role that the user is intended to satisfy as a “Student”. This user story might be backed up by a persona that better defines who a “Student” is and it might even be more specific in terms of specific kinds of students to further differentiate user needs. For example, it might say “As James the busy high-tech student” or “As Susan the technically-challenged student” and each of those roles might have slightly different needs.

The second statement defines the need as “getting a parking pass online”. That’s the need that the user story must satisfy

The final statement says “So that I can save time”. That statement defines the “Why” of why the user story is important which should give the developer some insight into why it is important which might influence the way the user story is implemented.



An important aspect of user stories is that they are written in functional terms

They define an expected result and don't tell the developer how to design the software to achieve that result

A very important aspect of user stories is that they are written in functional terms – they define an expected result and don't tell the developer how to design the software to achieve that result

Characteristics of User Stories

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The next subject I want to talk about is the “Characteristics of Good User Stories”

Three C's – Basic Components of User Stories

Card:

- The user story has been documented using some kind of physical token giving tangible and durable form to what would otherwise only be an abstraction

Conversation:

- Conversation has taken place at different times and places during a project between the various people to reach mutual understanding on what is needed

Confirmation:

- There is confirmation (the more formal the better), that the objectives the conversation revolved around have been reached

Three C's <http://guide.agilealliance.org/guide/threecs.html>

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There is a popular mnemonic called the “Three C’s” that describes the basic characteristics of a use story:

The first is Card:

It means that the user story has been documented using some kind of physical token giving tangible and durable form to what would otherwise only be an abstraction.

Next is Conversation:

It means that conversation has taken place at different time and places during a project between the various people to reach mutual understanding on what is needed.

Confirmation:

There is confirmation (the more formal the better), that the objectives the conversation revolved around have been reached

We will discuss each of these characteristics in more detail next.

Three C's – Basic Components of User Stories

Card:

- The user story has been documented using some kind of physical token giving tangible and durable form to what would otherwise only be an abstraction

In the early days of Agile, it was very common to use 3x5 cards to hold user stories

In today's world, that approach has serious limitations for large, complex projects and distributed teams

Online tools are more commonly used today to hold user stories

The broader meaning of the word "card" is that the story is succinct enough to fit on a 3x5 card which means that it is not overly verbose

Let's discuss the "card" attribute first. In the early days of Agile, the typical practice was to write user stories on 3X5 cards and put them on a white board where they could be seen by everyone on the team and the cards could be physically moved around to change priorities or to reflect a change in status. That's the origin of the "Card" in the three-c's; however, the practice of using a physical card for user stories has some significant limitations for large complex projects and distributed teams so the practice of using cards for user stories is not widespread any more. Online tools are more commonly used today to hold user stories. The broader meaning of the word "card" is that the story is succinct enough to fit on a 3X5 card which means that it is not overly verbose.

Three C's – Basic Components of User Stories

Conversation:

- Conversation has taken place at different time and places during a project between the various people to reach mutual understanding on what is needed

What is written in the user story does not tell the whole story

It is dependent on further conversation to elaborate what is needed

A user story is considered to be a “placeholder for conversation”

The “conversation” attribute means that conversation has taken place to reach mutual understanding on what is needed. However, it is also a reflection that what is written in the user story on the card or other format does not tell the whole story.

What is written in the user story is not meant to be sufficient to totally describe the need and the potential solution - a user story is considered a “Placeholder for conversation” and it is understood that a conversation has taken place to arrive at what is written in the user story and more conversation will take place to further elaborate on what is written in the user story.

Three C's – Basic Components of User Stories

Confirmation:

- There is confirmation (the more formal the better), that the objectives the conversation revolved around have been reached

What is written in the user story is subject to confirmation

Mere approval of a user story is not sufficient to confirm that it really meets the need

The word “confirmation” means that there has been confirmation (the more formal the better), that the objectives the conversation revolved around have been reached and the users agree that what is written in the user story correctly reflects the need to be satisfied.

However, the broader interpretation of the word “confirmation” is that what is written in the user story is subject to confirmation by putting something in front of the user to verify that it satisfies the need. In other words, mere approval of a user story is not sufficient to confirm that it really meets the need.

INVEST - Characteristics of Good User Stories

Independent:

- Stories should be as independent as possible

Negotiable:

- A story is not a contract. A story **IS** an invitation to a conversation

Valuable:

- If a story does not have discernible value it should not be done

Estimable:

- A story has to be able to be estimated or sized so it can be properly prioritized

Small:

- Stories should be small enough so that they can be completed in a single sprint

Testable:

- Every story needs to be testable in order to be “done”

Invest in Good User Stories, <http://www.Agileforall.com/2009/05/14/new-to-Agile-invest-in-good-user-stories/>

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There's a mnemonic that is well-known in Agile called "INVEST" that is a useful way of defining the essential characteristics of good user stories.

- **Independent** - Stories should be as "Independent" as possible so that they can be worked on in any order...that will simplify the flow of stories through development and avoid bottlenecks that can be caused by having too many dependencies among stories
- **Negotiable** - Stories should be "Negotiable" – a story is a placeholder for conversation and some dialog is expected to take place to explore trade-offs associated with developing the story as efficiently and as effectively as possible
- **Valuable** - Stories should be "Valuable" – the value that a story is intended to produce should be clearly-defined so that the Product Owner can make an objective evaluation of the level of effort required versus the value to be gained from the story
- **Estimable** - "Estimable" is the next important characteristic – A story needs to be sufficiently-defined so that the team can develop a high-level estimate of the effort required for the story in story points
- **Small** - Stories should be relatively "Small" so that functionality can be developed and tested as incrementally as possible. Breaking the work into small chunks allows it to flow much more smoothly and allows the work to be distributed more evenly among the team while large efforts can easily lead to bottlenecks and inefficiencies in distributing work among the team
- **Testable** - Finally, stories should be "Testable" to determine if they have successfully fulfilled the value proposition that they are intended to fulfill. It's a good practice with Agile stories to write acceptance test criteria along with the stories to define the tests that they need to fulfill. The test criteria essentially take the place of more detailed specifications for what the story must do.

NEXT LECTURE...

REQUIREMENTS HIERARCHY, EPICS AND THEMES

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14

In the next lecture, we're going to continue our discussion on Agile Requirements Definition Practices and we're going to talk about "Requirements Hierarchy, Epics, and Themes".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Hierarchical Structure, Epics, and Themes

Epics

Themes

As you get into larger and more complex projects, you might have hundreds and perhaps even thousands of user stories and it becomes important to organize those stories to make them manageable. There are two tools that are commonly used in Agile for doing that: epics and themes. We will discuss how these can be used to organize user stories in this portion of the course.

Epics

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I want to briefly review the topic of “Epics”. We have previously discussed this subject under “Functional Decomposition”

What Is an “Epic”?

“Epics are containers for significant initiatives that help guide value streams toward the larger aim of the portfolio. In so doing, they drive much of the economic value for the enterprise”

<http://www.scaledagileframework.com/epic/>

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In an Agile environment, there are two very important terms that come into play in functional decomposition – epics and themes. This slide shows the definition of an “epic”:

“Epics are containers for significant initiatives that help guide value streams toward the larger aim of the portfolio. In so doing, they drive much of the economic value for the enterprise”

Epics are basically large user stories that need to be further broken down into smaller chunks before they are further developed.

Example of an Epic

“As a banking customer, I want to be able to easily make an on-line deposit of a check into my bank account through my iPhone® so that I can save the time required to send a check for deposit through the mail and I can have the money immediately credited to my checking account as soon as the deposit is completed electronically”.

This slide shows an example of an Epic:

“As a banking customer, I want to be able to easily make an on-line deposit of a check into my bank account through my iPhone® so that I can save the time required to send a check for deposit through the mail and I can have the money immediately credited to my checking account as soon as the deposit is completed electronically”.

The effort this requires is clearly too big to be accomplished in a single sprint and needs to be broken up into smaller chunks for estimation and implementation purposes.

Decomposing an Epic into User Stories

User Stories:

- **Scan a Check Image** - As an Electronic Banking Customer, I want to be able to scan an image of the front and back of a check into the iPhone® so that it can be deposited electronically
- **Enter Deposit Information** - As an Electronic Banking Customer, I want to be able to enter the deposit information associated with an electronic deposit so that the correct amount will be deposited into the correct bank account when the electronic deposit is processed
- **Submit Deposit** - As an Electronic Banking Customer, I want to be able to electronically submit a scanned check and deposit information to the bank for deposit so that I can save the time associated with sending deposits by mail
- **Receive Confirmation** - As an Electronic Banking Customer, I want to be able to receive confirmation of a completed electronic deposit so that I will know that the deposit was successfully processed

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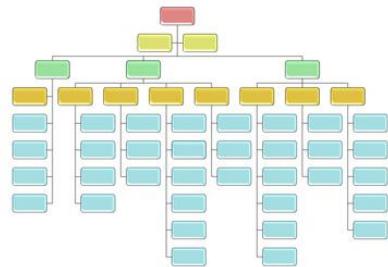
This slide shows how functional decomposition might be used to break down the previous epic into smaller user stories. The user stories might consist of:

- Scan a Check Image - As an Electronic Banking Customer, I want to be able to scan an image of the front and back of a check into the iPhone® so that it can be deposited electronically.
- Enter Deposit Information - As an Electronic Banking Customer, I want to be able to enter the deposit information associated with an electronic deposit so that the correct amount will be deposited into the correct bank account when the electronic deposit is processed.
- Submit Deposit - As an Electronic Banking Customer, I want to be able to electronically submit a scanned check and deposit information to the bank for deposit so that I can save the time associated with sending deposits by mail.
- Receive Confirmation - As an Electronic Banking Customer, I want to be able to receive confirmation of a completed electronic deposit so that I will know that the deposit was successfully processed

Benefits of Epics and Hierarchical Structure

Simplifies efforts to prioritize and organize stories

Helps to understand inter-relationships and inter-dependencies among stories



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There are several significant benefits of using epics and adopting a hierarchical structure to organize a large number of user stories:

- It simplifies efforts to prioritize and organize stories – Instead of trying to prioritize hundreds or perhaps even thousands of individual user stories, I can prioritize a much smaller number of epics and if I need to move requirements in the Product Backlog, I can easily move entire epics and the stories that they include rather than moving individual user stories around.
- It helps to understand inter-relationships and inter-dependencies among stories. I can easily see all of the detailed user stories that are essential to fulfill a higher-level epic.

Themes

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Next, I want to talk about “Themes” and how they are different from epics

What Is a “Theme”?

“A theme is a collection of related user stories”

<http://www.agilemodeling.com/artifacts/userStory.htm#Themes>

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This slide shows the definition of a theme. A theme is a collection of related user stories; however, there isn't necessarily a hierarchical relationship as there is with epics. Stories that are part of a common theme share some common characteristic such as alignment with a particular higher-level business objective. Themes can also be very broad in scope and can span multiple projects where epics would normally be limited to a single project.



Themes are not necessarily hierarchical like epics and might include epics as well as user stories

A key point about themes is that themes are not necessarily hierarchical like epics and might include epics as well as user stories

Examples of Themes

Functional organization of a University registration system:

Students

Course management

Transcript generation

Grade administration

Financial processing

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This slide shows an example of how stories and epics might be grouped into themes to reflect an area of functionality. This particular example shows a potential functional organization of a University Registration System. The epics and user stories might be organized by:

- Students
- Course management
- Transcript generation
- Grade administration
- Financial processing

A potential value of doing this might be to facilitate assignment of user stories to different teams for development or to make it easier for selected users and stakeholders to review epics and stories related to their area of responsibility.

Examples of Themes

Alignment with business objectives:

Improve employee productivity and morale

Improve operational efficiency

Increase customer retention

Simplify processes to reduce cycle time

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This slide shows an example of how themes might be used to group epics and user stories to show alignment with business objectives such as:

- Improve employee productivity and morale
- Improve operational efficiency
- Increase customer retention
- Simplify processes to reduce cycle time

The value of doing this might be to facilitate prioritizing the epics and user stories based on their alignment with satisfying the company's high-level business objectives

Examples of Themes

Grouping by releases:

Release 1

Release 2

Etc.

Another potential usage of themes is to group user stories and epics into releases or even groups of releases



A set of user stories might be organized by more than one different theme for different purposes; however, there would typically only be one hierarchical structure of epics

A set of user stories might be organized by more than one different theme for different purposes – for example, there is no reason why you couldn't organize epics and user stories by both functionality and alignment with business objectives as well as other themes; however, there would typically only be one hierarchical structure of epics which is generally by functionality.

A key distinction between an epic and a theme is that an epic is associated with a hierarchical functional decomposition and a theme is not.

NEXT LECTURE...

PRODUCT BACKLOG AND

PRODUCT BACKLOG GROOMING

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15

In the next lecture, we're going to continue our discussion on Agile Requirements Definition Practices and we're going to talk about the "Product Backlog and Product Backlog Grooming".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

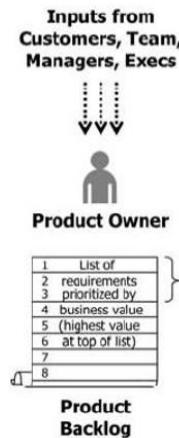
Product Backlog

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2

The next subject I want to talk about is the “Product Backlog”. The Product Backlog is a dynamic queue of stories and epics to be developed.

Product Backlog



The *product backlog* is an ordered list of "requirements" that is maintained for a product

It consists whatever needs to be done in order to successfully deliver a working software system

The items are ordered by the Product Owner based on considerations like risk, business value, dependencies, date needed, etc. The features added to the backlog are commonly written in story format

The product backlog is the "**what**" that will be built, sorted in the relative order in which it should be built¹

In addition to being ordered by priority, the Product Backlog will typically also be organized by release and may also have a hierarchical structure grouping stories with Epics

1. Scrum - [http://en.wikipedia.org/wiki/Scrum_\(development\)](http://en.wikipedia.org/wiki/Scrum_(development))

The Product Backlog typically consists of user stories and it is dynamic. The user stories are continuously groomed and prioritized over the course of a project. It is essentially a queue of work to be done. This slide shows a summary of key attributes of a Product Backlog:

- The *product backlog* is an ordered list of "requirements" that is maintained for a product
- It consists whatever needs to be done in order to successfully deliver a working software system
- The items are ordered by the Product Owner based on considerations like risk, business value, dependencies, date needed, etc. The features added to the backlog are commonly written in story format
- The product backlog is the "**what**" that will be built, sorted in the relative order in which it should be built¹
- In addition to being ordered by priority, the Product Backlog will typically also be organized by release and may also have a hierarchical structure grouping stories with Epics



The Product Backlog is an essential tool for managing requirements in an Agile project

The Product Backlog is dynamic and is continually changing as the project is in progress

The Product Backlog is an essential tool for managing requirements in an Agile project. It is essentially a “to-do” list of everything that needs to be done in the project and provides a way of tracking, prioritizing and organizing all work that needs to be done. It is the single authoritative source for defining the work to be done in the project.

The Product Backlog is dynamically and is continually changing as the project is in progress. Examples of changes would include:

Completing functionality

Adding new functionality

Adding bugs and technical user stories

Characteristics of the Product Backlog

Items in the backlog should produce value

Living document

Different levels of detail

No low-level tasks

Ordered and prioritized

Entries are estimated as necessary to support prioritization and planning

http://www.scrum-institute.org/The_Scrum_Product_Backlog.php

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This slide shows the characteristics of a good Product Backlog:

- Items in the backlog should produce value in some way. Entries without any customer value should not be included in the Product Backlog
- The Product Backlog should be a living document that is continuously updated as the project is in progress. Maintenance of the information in the Product Backlog can be a significant task. The Product Owner is primarily responsible for the information in the Product Backlog but he/she may be assisted in that role by the Scrum Master or a Business Analyst on large, complex projects
- Items in the Product Backlog may have different levels of detail depending on how close they are to going into development. The items in the Product Backlog are continuously refined and further defined as the project is in progress through a process called Product Backlog Grooming. Items that are closest to going into development will typically have the most detail associated with them and the items that are farthest away from going into development will typically have the least detail.
- Low-level tasks should not be included in the Product Backlog; however, most online tools that are used for Agile Project Management have the capability to associate tasks with items in the Product Backlog
- It is very important that the Product Backlog be ordered and prioritized because that is the way the work should be done and prioritizing the items will enable Product Backlog grooming to be done in synchronization with the way the work is being completed. Naturally, prioritization should be dynamic to reflect changes in priority as the project is in progress.
- Entries are estimated as necessary to support prioritization and planning; however, estimation is typically done at different levels. As items are entered into the Product Backlog, there is typically not a lot of detail associated with them and any estimates are likely to be only high-level and not very accurate. The purpose of estimation at that point is only to support high-level prioritization. As items move closer to going into development, the user stories are refined and more detail might be added. At that point, any estimates would typically be refined to reflect that and would be used to determine the capacity that could be taken into a release or a sprint.



There are different ways to implement a Product Backlog and there are different schools of thought on how it should be done

The way the Product Backlog is managed should be related to the level of uncertainty in the project.

There are different ways to implement a Product Backlog and there are different schools of thought on how it should be done.

At one extreme, there is a pure Agile view that the project should be totally adaptive and you shouldn't try to define the Product Backlog any more than 2-3 sprints into the future. That approach might work fine for some projects but a problem with that approach is that it doesn't provide a basis for planning the overall scope, costs, and schedule of a project and I don't know many projects that get a blank check to do something without some expectations about the cost and schedule. If there are some expectations about the cost and schedule of the project, you may have to define the Product Backlog more completely at least at a high level to evaluate the scope of the project to support those estimates. However, the ability to do that is obviously related to the level of uncertainty in the project.

You have to develop an approach for planning the requirements and managing the scope of the project that is appropriate for the project. I would say that the most significant factors in selecting an approach are:

1. The level of uncertainty in the project and the difficulty of defining the requirements for the project upfront, and
2. The need for estimating some kind of schedule and costs for the project.

Characteristics of the Product Backlog

No mandatory format to represent the Product Backlog. It can be:

An Excel spreadsheet

A text file

A database

A collection of index cards or Post-it notes

<http://guide.agilealliance.org/guide/backlog.html>

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There is no mandatory format to represent the Product Backlog. It can be:

- An Excel spreadsheet
- A text file
- A database
- A collection of index cards or Post-it notes



Because the Product Backlog plays such an important role in an Agile project, there should be one-and-only-one master copy and changes should be controlled in some way

An important point is that because the Product Backlog plays such an important role in an Agile project, there should be one-and-only-one master copy and changes should be controlled in some way.

Characteristics of the Product Backlog

The items in the Product Backlog are “atomic” in nature

Usually, the Product Backlog consists of epics and user stories

The Product Backlog should not be confused with a “requirements document”

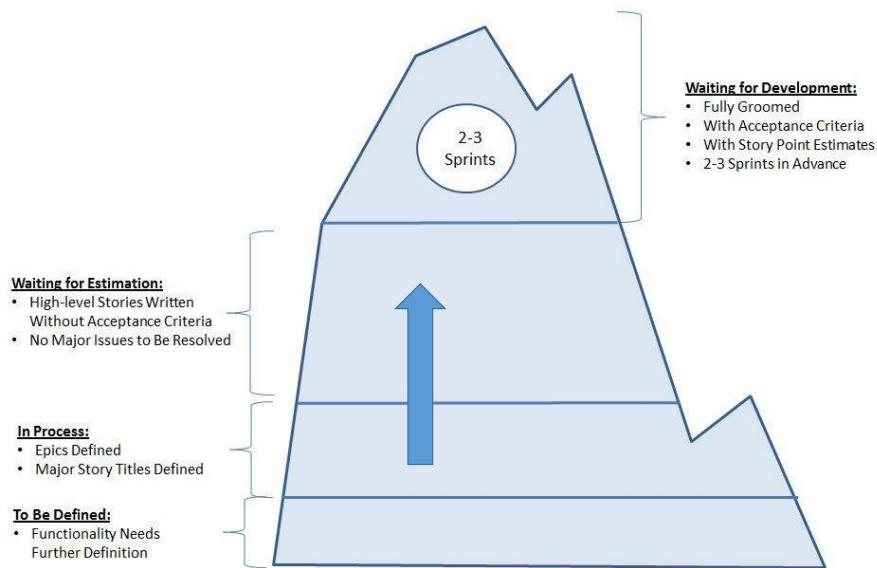
<http://guide.agilealliance.org/guide/backlog.html>

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- The items in the Product Backlog are “atomic” in nature as opposed to a narrative document where a single sentence could contain several distinct requirements
- There is no prescriptive way to make up the Product Backlog; however, the Product Backlog usually consists of epics and user stories. What’s important is that the items in the Product Backlog are atomic so that each item in the Product Backlog is easily identifiable and associated with a particular, well-defined user need
- The Product Backlog should not be confused with a “requirements document” although it is a repository for requirements there are some significant differences

Product Backlog Grooming



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This is a very general approach for thinking about how to organize the Product Backlog. Think of it as an “Iceberg” in which the items in the “iceberg” gradually make their way to the top as they become ready for development. The Product Backlog is “groomed” constantly throughout the project. Items closest to going into development should receive the most detailed attention while items farther down in the Product Backlog should receive less detailed attention.

The principles of “Rolling Wave Planning” are used and Items start out at the bottom of the backlog as being very roughly defined and the stories are progressively “groomed” as they move closer to development. “Grooming” is very important part of any Agile project that is often overlooked and not planned for as much as it should be. A good technique is for the development team to allocate some amount of time in each sprint so that the queue of stories to be developed never runs empty.

Agile is based heavily on “just-in-time” planning - obviously, you never want a development team waiting around for stories to be developed so you have to manage the grooming process to get stories ready for development as needed, but on the other hand, you don’t want to work any farther in advance than necessary because some of that effort might only need to be repeated once the stories are closer to being ready for development.

It is perfectly reasonable to develop a high-level backlog far enough out in time to develop an estimate of the scope, costs, and schedule of the project. It is a judgment call of how far it is reasonable to try to plan into the future. Many agilists will say that it’s a waste of time to plan any more than 2-3 sprints in advance, but if you have a need to estimate the costs and schedule of a project, you have to define the Product Backlog further out in time at a sufficient level to support those estimates and then elaborate the details later.



Product Backlog Grooming is a process that goes on continuously throughout the project and must be synchronized with the development effort

Developers should be involved in Product Backlog Grooming at some point

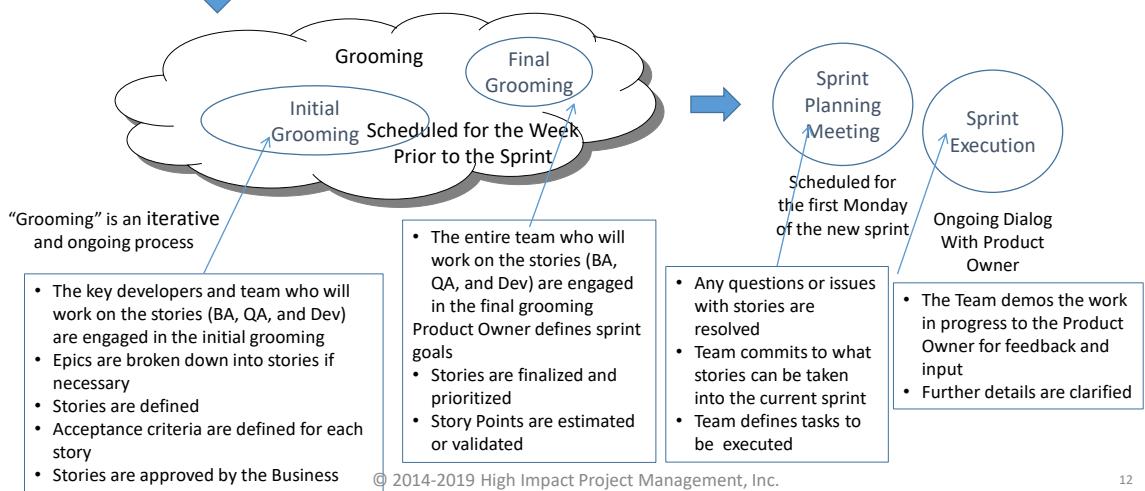
An important point is that Product Backlog Grooming is a process that goes on continuously throughout the project and must be synchronized with the development effort. The goal of the Product Backlog Grooming effort is to have stories ready “just-in-time” to start development and you should never get in a situation where the development team is sitting idle waiting for stories to start work on

Developers should be involved in Product Backlog Grooming at some point; however, the developers do not need to participate in the entire grooming process and it should be organized to minimize the impact on developer time. It is a big challenge to set priorities to balance the level of effort on doing development work and also participating in the Product Backlog grooming effort. What typically is done is to time-box some amount of time in every sprint for working on Product Backlog grooming for the upcoming work to be done so that it can be planned into the capacity of work to be done in the sprint.

Example Story Development and Grooming Process

Prior to grooming:

- Product Owner prioritizes areas to work on
- Functional areas are assigned to teams to work on further defining stories

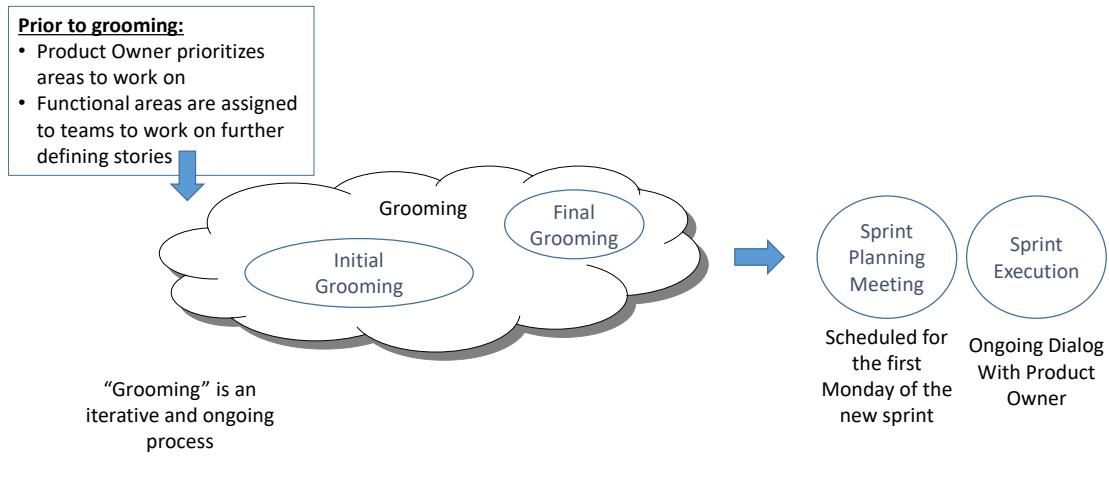


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This slide shows an example of how an overall Product Backlog Grooming process might work. This is an actual process I have used in a project I was responsible for. We'll go through this process in detail in the following slides.

Example Story Development and Grooming Process



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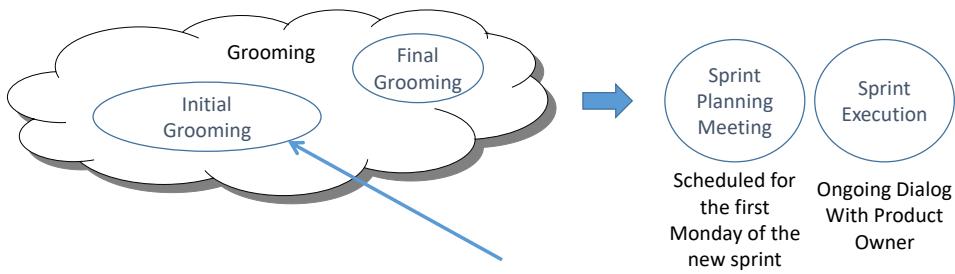
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Prior to beginning of the grooming process, the high-level project planning has been completed and a Product/Project Roadmap has been defined that normally defines the high-level goals, functionality, and epics:

- The Product Owner then prioritizes areas to work on, and
- Functional areas are assigned to teams to work on further defining stories

At this point, the stories may only be roughly defined, they may be incomplete and need further refinement. That will come later in the grooming process

Example Story Development and Grooming Process



- The key developers and team who will work on the stories (BA, QA, and Dev) are engaged in the initial grooming
- Epics are broken down into stories if necessary
- Stories are defined
- Acceptance criteria are defined for each story
- Stories are approved by the Business

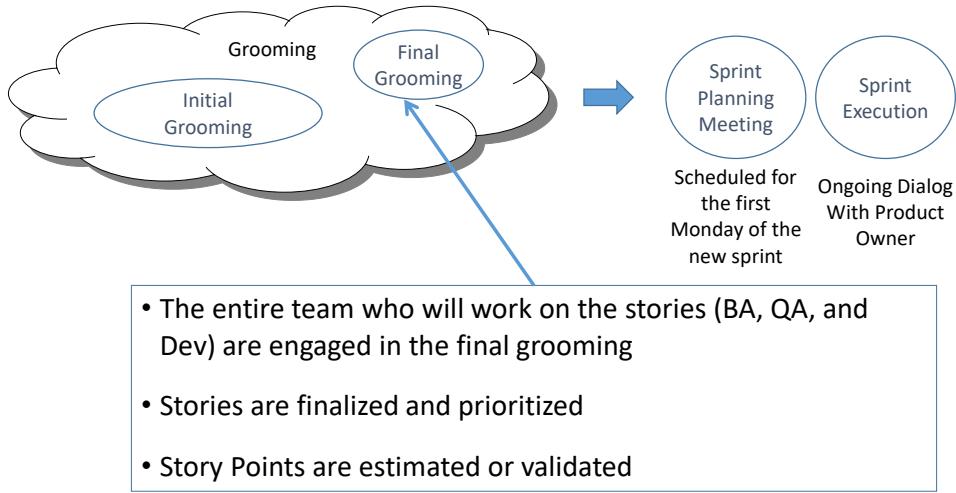
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In this particular example, the grooming process is broken down into phases. During the initial phase of the grooming process which takes place when stories are in the middle of the grooming effort. The stories aren't quite ready to go into development, but they are getting close to that stage. At that point:

- The key developers and team who will work on the stories (BA, QA, and Dev) are engaged in the initial grooming as necessary to provide inputs
- Epics are broken down into stories if necessary
- Stories are defined
- Acceptance criteria are defined for each story
- Stories are approved by the Business users

Example Story Development and Grooming Process



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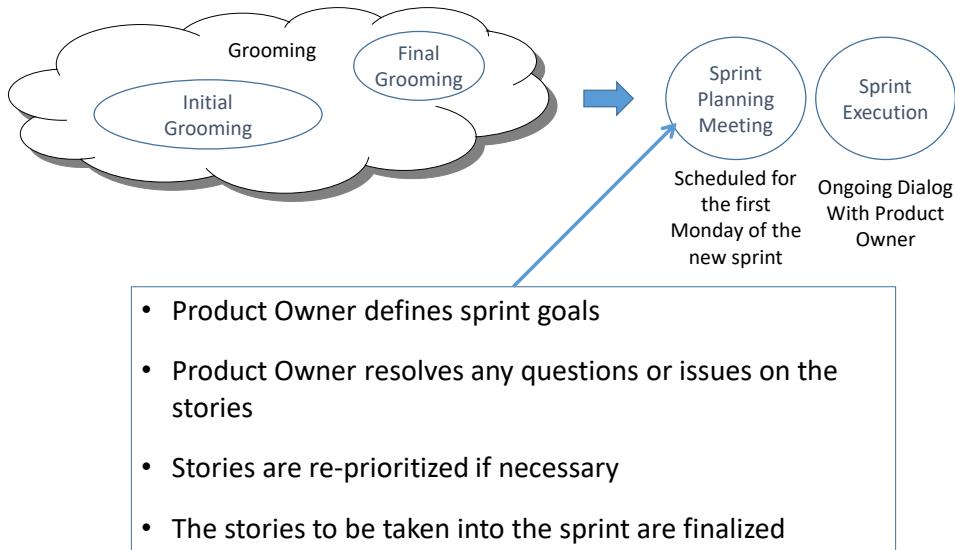
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Final Grooming takes place immediately prior to the stories going into development; however, it should be done far enough in advance to allow time to resolve any problems before the stories go into development and it also should be done to develop a buffer of stories to be developed that is 2-3 sprints ahead of the work to be done.

During final grooming:

- The entire team who will work on the stories (BA, QA, and Dev) are engaged in the final grooming at some point to review the stories and raise any questions or issues that need to be resolved before the stories are taken into development
- Stories are finalized and prioritized as necessary to be ready to go into development
- Story Points are estimated or validated to a sufficient level to plan capacity for the sprint

Example Story Development and Grooming Process



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There's also a final stage of Product Backlog grooming that takes place during the Sprint Planning meeting. At that point:

- The Product Owner defines sprint goals of what he/she would like to achieve in the sprint
- And the Product owner resolves any questions or issues on the stories
- A negotiation takes place between the team and the Product Owner to finalize the stories to be taken into the sprint and during that negotiation, there may be some re-prioritization of the stories to fit the capacity of the sprint

Then, once the sprint is in progress, there is also some dialog that takes place with the Product Owner and users to refine details of how stories will be implemented.

NEXT LECTURE... STORY MAPPING

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In the next lecture, we're going to continue our discussion on Agile Requirements Definition Practices and we're going to talk about "Story Mapping".

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

Story Mapping

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In this lesson, we're going to finish up our discussion of Agile Requirements with a discussion of Story Mapping

What Is “Story Mapping”?

“A technique that takes a user-centric perspective for generating a set of user stories. Each high-level user activity is decomposed into a workflow that can be further decomposed into a set of detailed tasks.

A two-dimensional representation of a traditional one-dimensional product backlog list.”

<http://www.innolution.com/resources/glossary/story-mapping>

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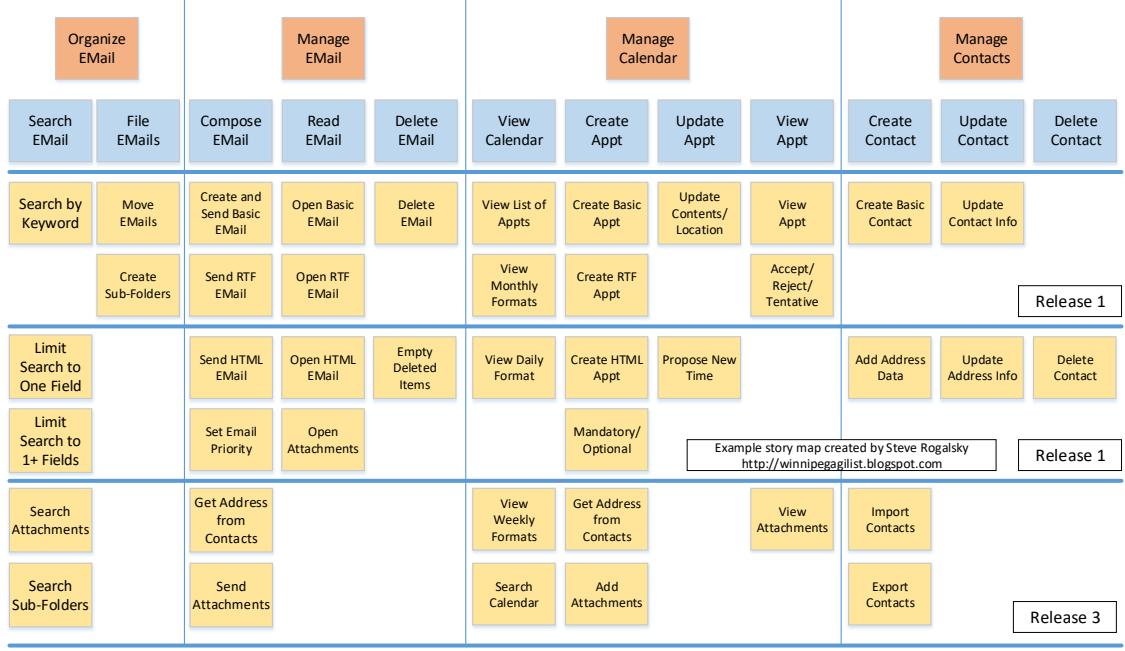
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In an Agile environment, story mapping is defined as “A technique that takes a user-centric perspective for generating a set of user stories. Each high-level user activity is decomposed into a workflow that can be further decomposed into a set of detailed tasks.

It is basically a two-dimensional visual representation of a traditional one-dimensional product backlog list”

The story mapping technique was first created by Jeff Patton.

Example Story Map



This slide shows an example story map that was created by Steve Rogalsky for an email system.

We will go through this story map in more detail in the following slides.

Example Story Map

The foundational building block of a story map is the **user task**

Organize
EMail

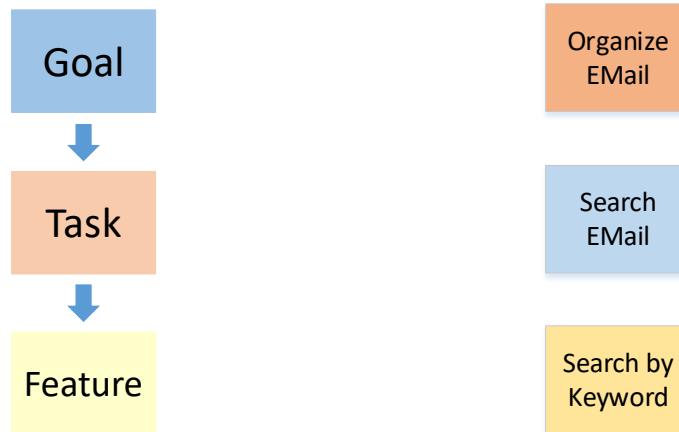
http://www.agileproductdesign.com/presentations/user_story_mapping/

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The foundational building block of a story map is the user task such as “Organize Email” as shown here.

Structure of a Story Map



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This slide shows how a story map is typically decomposed:

- At the top level, you start with some kind of goal, which is in this case “Organize Email”
- You then break that goal into tasks that are essential to achieve that goal. For example, in this case, the task is “Search Email”
- And, finally you break that down into system features that are needed to perform that task. For example, in this case, the feature is “Search by Keyword”

Characteristics of Tasks

Tasks require intentional action on behalf of a tool's user

Tasks have an objective that can be completed

Tasks decompose into smaller tasks

Tasks often cluster together into activities of related tasks

“Read an Email message” is a task

“Manage Email” is an activity

http://www.agileproductdesign.com/presentations/user_story_mapping/

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This slide shows some characteristics of tasks

- Tasks require intentional action on behalf of a tool's user
- Tasks have an objective that can be completed
- Tasks decompose into smaller tasks
- Tasks often cluster together into activities of related tasks

For example,

- “Read an Email message” is a task,
- “Manage Email” is an activity

User Tasks Translate into User Stories

Task

Search email

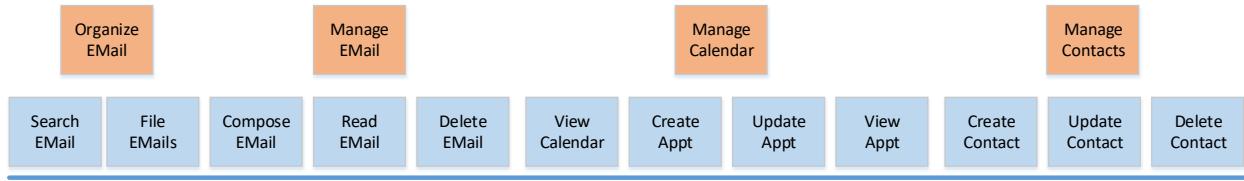
User Story

As an email user, I need the ability to search for emails by subject or by content so that I can find a prior email that I am interested in retrieving

User tasks translate easily into user stories as shown here. For example, the task of “Search Email” translates into this user story:

“As an Email User, I need the ability to search for Emails by subject or by content so that I can find a prior Email that I am interested in retrieving”

Example Story Map



Example story map created by Steve Rogalsky
<http://winnipegagilist.blogspot.com>

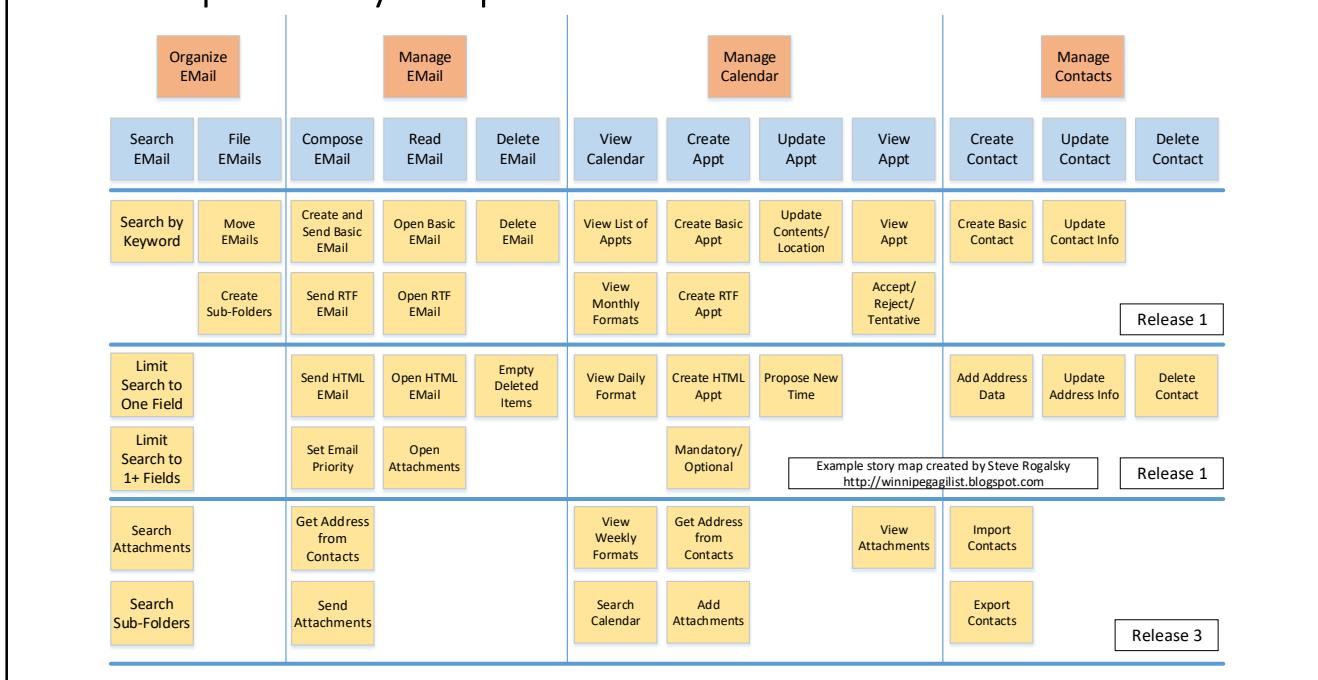
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A story map is usually created by gathering a number of users who understand the functions that the system must perform and asking them to use a brainstorming technique to put either Post-it notes or 3X5 cards on a wall to identify and group the functions that the system must perform.

It would typically start out with a set of high-level functions as shown here.

Example Story Map



The next steps would be to add more detailed functions under the major high-level functions and prioritize them into releases.



A good technique for prioritizing the functionality is to use what is called a “Walking Skeleton” approach

A good technique for prioritizing functionality is to use what is called a “Walking Skeleton” approach. This approach involves taking slices of the functionality associated with each major high-level functionality and going for breadth first before depth.

In the previous example, instead of developing all possible functionality associated with email, and then all possible functionality associated with calendaring, and then all possible functionality associated with contacts; its better to take a slice across each of those areas to demonstrate the overall functionality of the system. So the approach would start with some basic functionality in each of those areas that would not be complete and then that functionality would be expanded in each subsequent release.

Story Map Characteristics

There is no fixed format for story maps – the example I showed is typical

Colors can be used in different ways to highlight different types of items in the story map

Once the development is in progress, the story map can be updated to show progress

Most online Agile Project Management tools have the capability for electronic story maps

<http://winnipegagilist.blogspot.com/2012/03/how-to-create-user-story-map.html?m=1>

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Here's a few notes on story maps:

- There is no fixed format for story maps and there are different ways of doing story maps but the example I showed is typical
- Colors can be used in different ways to highlight different types of items in the story map
- Once the development is in progress, the story map can be updated to show progress
- Most online Agile Project Management tools have the capability for electronic story maps; however, for the initial creation of the story maps, a brainstorming technique using Post-it notes or 3X5 cards generally works best because it is a good way to get a number of people engaged in the creation of the story map. Once the map has been created, it can be converted to online electronic form to make it easier to maintain as the project progresses.

How to Create a Story Map

Form a group of 3-5 people who understand the purpose of the product or project

Start by gathering the major user tasks of the project/application in silence

Next ask the team to group the post-its in silence

Using another color of post-it, name each group and put the post-it on top of the group

Arrange the groups left to right in the order a user would typically complete the tasks

Now walk the skeleton to make sure you haven't missed any major user tasks or activities

With a finished framework for the map, you can add more detailed user stories below each user task before breaking your map into releases

Finally, do some user story slicing to make sure we have sliced the first release as thin as possible

<http://winnipegagilist.blogspot.com/2012/03/how-to-create-user-story-map.html?m=1>

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Form a group of 3-5 people who understand the purpose of the product. 3-5 seems to be the magic number. Any less and you might miss some ideas. If you add more people, it slows the process down and there are diminishing returns on the quality of ideas generated.

2. Start by gathering the major user tasks of the project/application in silence - the "things people do". Each person takes the same coloured post-it and silently writes down one user task per post-it. Once everyone has finished writing their post-its, have each person read their post-its aloud and place them on the table in front of the group. If anyone has duplicates they should be removed at this point.

Depending on the size of your application it can take 3-10 minutes to get all the major tasks, but you can watch the body language to see when they are done. You will see that the group goes from huddled in at the beginning to standing/leaning back at the end.

Likely each post-it starts with a verb. (eg. Compose E-mail, Create Contact, Add User, etc) These are the high level user stories called "User Tasks" which forms the "walking skeleton" of the map.

When they are done, point out to your team that in a few minutes they gathered most of the high level scope and that if they missed a user task or two, someone else probably didn't. This might be their first 'aha' moment for silent brainstorming.

3. Next ask the team to group the post-its in silence. Simply ask them to move things that are similar to each other closer to each other and things that are dissimilar to each other should be moved farther apart.

Use silent grouping simply because it is faster than grouping them out loud.

If duplicates are found, remove them.

Groups will form naturally and fairly easily.

Once again, body language will help you see when they are done - usually 2-5 minutes.

4. Using another colour of post-it, name each group and put the post-it on top of the group. This step can be done out loud.

5. Arrange the groups left to right in the order a user would typically complete the tasks.

If the group can't decide on an order between two or more tasks, it probably doesn't matter.

The groups are called "User Activities" which form the backbone of the map.

You should now have the first 2 rows of the user story map - something similar to this:

A1 A2 A3 (user activities = backbone)

T1 T2 T3 T4 T5 T6 T7 T8 T9 (user tasks = skeleton & timeline)

6. Now walk the skeleton to make sure you haven't missed any major user tasks or activities. You can walk through [user scenarios](#), or even bring in users and ask them to walk through their job functions to make sure everything is accounted for.

7. With a finished framework for the map, you can add more detailed user stories below each user task before breaking your map into releases. I like to use the same [silent brainstorming technique](#) to generate the initial set of stories for each user task and augment it with other techniques such as user scenarios and [personas](#). Once you have a good set of stories, then you can put your release lines in the map and ask your users to prioritize top to bottom.

I like to put the first release line on the map pretty high on the map so that it only allows for 2-3 user stories per user task in the first release. This has been an effective way to encourage prioritization and scoping.

Because all the stories end up on small post-its, you can forgo the traditional 'as a' format and just put the story title on the post-its. This will allow you to read the map a little easier.

8. Finally, I like to take all the user stories in the first release and do some serious [user story slicing](#) to make sure we have sliced the first release as thin as possible. As a guideline, you should strive to be able to create the whole app (at least one small user story slice for each user task) in the first iteration or two.

Benefits of a Story Map

It allows you to see the big picture in your backlog

It gives you a better tool for making decisions about grooming and prioritizing your backlog

It promotes silent brainstorming and a collaborative approach to generating your user stories

It encourages an iterative development approach where your early deliveries validate your architecture and solution

It is a great visual alternative to traditional project plans

It is a useful model for discussing and managing scope

<http://winnipegagilist.blogspot.com/2012/03/how-to-create-user-story-map.html?m=1>

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This slide shows the benefits from a story map:

- It allows you to see the big picture in your backlog by visualizing how the stories fit together in a hierarchical structure
- It gives you a better tool for making decisions about grooming and prioritizing your backlog. Story maps are designed to be dynamic and you can move the stories around easily in the map
- It promotes silent brainstorming and a collaborative approach to generating your user stories. Users can generate a story map relatively quickly by putting Post-it notes or 3X5 cards on a wall in a room
- It encourages an iterative development approach where your early deliveries validate your architecture and solution. You can deliver “slices” of the architecture in a planned way to demonstrate the overall functionality without delivering the entire solution in what is called a “Walking Skeleton” approach
- It is a great visual alternative to traditional project plans because it is designed to be dynamic and visually show how all the stories fit together
- And, it is a useful model for discussing and managing scope.

NEXT LECTURE... EXAMPLE CASE STUDY

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In the next lecture, we're going to discuss a small example case study

Agile Stakeholder Management and Agile Contracts



- Why Is Stakeholder Management Important?
- What Is Stakeholder Management?
- Stakeholder Management Process
- What's Different About Agile Stakeholder Management?
- Agile Contracts

Here's a summary of the topics we will discuss in this section:

- The first lesson is what Is the Impact of Agile? – in this lesson we'll talk about why Agile is having such a big impact on the way we do project management and try to help you better understand what that impact is
- The next lesson is What Is the Impact of Lean? Lean is something that is often lumped together with Agile because those two things are often highly inter-related but Lean is a very different set of forces that have a very different impact that needs to be understood
- Next I want to share with you a summary of an article I wrote on the subject of What Can We Learn from Physics?. There are many parallels between what is going on in the project management profession today and some of the fundamental changes that went on in the science of Physics that we can learn from
- And finally, in the last less on we're going to try to tie it all together and discuss What Does All This Mean for the Future of Project Management?

Why Is Stakeholder Management Important?

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In this lesson, we're going to talk about Agile Stakeholder Management. Stakeholder Management is often taken for granted in an Agile environment but it is one of the most critical functions of an Agile project manager and it is, without a doubt, one of the most important factors in determining the overall Agile Project Management approach.

Why Is Stakeholder Management Important?

A project is not successful unless it meets stakeholder's expectations

Traditional plan-driven project sometimes assume that simply meeting the defined requirements within the budgeted cost and schedule defines success

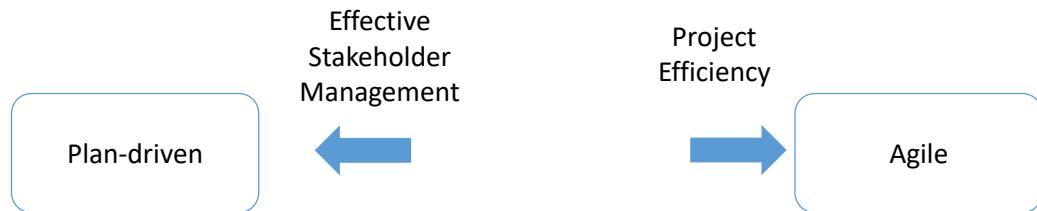
Agile projects sometimes assume that the Product Owner totally represents all stakeholder interests

First, let's talk about why stakeholder management is so important. A very basic tenet of project management is that "a project is not successful unless it meets stakeholder expectations". That's sounds very self-evident but stakeholder management is often taken for granted and doesn't get the attention that it deserves.

- Traditional plan-driven projects often make the mistake of assuming that simply meeting the defined requirements will be sufficient to make the project successful and that is often not the case. It's dangerous to assume that some simple requirements documents accurately reflect the needs of all important stakeholders
- In an Agile project, you can't assume that the Product Owner truly reflects the interests of all potential stakeholders in the project. The role of the Product Owner is designed to make the project execution more efficient by putting a representative of the business users directly in contact with the project team but it is very dangerous to assume that eliminates the need to talk directly to stakeholders outside of the project team. As an example there have been many Agile projects that have gotten totally consumed with developing an important application and completely neglected the need to engage others involved in the release process to successfully release and support the application once it is complete.

Why Is Stakeholder Management Important?

Stakeholder management is one of the most important factors to determine the project methodology



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When you're trying to decide what type of methodology to use for a project, stakeholder management is one of the most important factors to consider. In an Agile project, there is a natural tendency to choose a project approach that is well-suited to maximize the efficiency of the project but you might have to compromise that goal somewhat to come up with an approach that keeps the stakeholders engaged and satisfied.

Many times there is a lot of internal focus on making the development process as efficient as possible and that's important, but it's not enough. Having an efficient development process is not sufficient, in itself, to create a successful project. For example, there was a very large Agile implementation in the Boston area with a major financial services company. The teams were up-and-running and thought they were doing Agile very effectively but the senior management of the company was very dissatisfied because they felt they had lost touch with what was going on in the projects.



Stakeholder management should not be taken for granted - it requires planning

A key point is that stakeholder management should not be taken for granted. In large, complex projects, a defined and planned approach is needed to manage stakeholder expectations and, ideally, the stakeholders should buy into that approach and agree with it.

Why Is Stakeholder Management Difficult?

Sometimes, you need to deliver bad news

Sometimes, you have to say “No”

Your stakeholders may change over time

Their expectations may also change

All stakeholders may not agree with each other

<https://agilealliance.org/wp-content/uploads/2016/01/Stakeholder-Management-by-Drew-Jemilo-Agile2012.pdf>

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Stakeholder management can be a difficult thing to do for a number of reasons:

- Sometimes you need to deliver bad news that stakeholders weren't expecting. Hopefully, setting stakeholders' expectations upfront, educating them that there is some level of uncertainty in the project, and keeping them informed very openly and transparently will help mitigate these surprises of bad news
- Sometimes you have to learn to say “No”. Stakeholders can be very demanding and even unreasonable in their expectations. Keeping the most important stakeholders closely engaged in the project so that they are aware of the real-world constraints and issues that the project has to deal with should help them develop an understanding of why you sometimes have to say “No”
- Finally, the stakeholders in a project may change over time and/or their expectations might change as well and multiple stakeholders may not agree with each other

Major Stakeholder Management Failures

US Army LAMP-H Project

“Some stakeholders thought that the LAMP-H should be capable of carrying two M-70 tanks, a payload of approximately 140 tons, at a relatively low airspeed”

“Other stakeholders argued that it should have a lower payload and be able to fly at a greater airspeed”

Many stakeholders disagreed on the mode of propulsion of the unit

“Along with all this diversity of opinion from various project stakeholders, there was also wide disagreement as to how many LAMP-H units should be purchased and at what unit price”

<https://people.eecs.ku.edu/~hossein/811/Papers/stakeholder-management.pdf>

End-result: Project was canceled because stakeholders could not reach agreement

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There have been many well-documented situations where projects failed due to either inadequate or ineffective stakeholder management. One example is the US Army LAMP-H project. The goal of this project was to produce an amphibious assault vehicle for the US Army. From the very beginning, this project was fraught with problems due to conflicting goals and direction from stakeholders:

- “Some stakeholders thought that the LAMP-H should be capable of carrying two M-70 tanks, a payload of approximately 140 tons, at a relatively low airspeed”
- “Other stakeholders argued that it should have a lower payload and be able to fly at a greater airspeed”
- Many stakeholders disagreed on the mode of propulsion of the unit
- “Along with all this diversity of opinion from various project stakeholders, there was also wide disagreement as to how many LAMP-H units should be purchased and at what unit price”

The end result was that the project was canceled because stakeholders could not reach agreement

Major Stakeholder Management Failures

Boeing Supersonic Transport Aircraft

“One reason that the Supersonic Transport program failed in the United States was that the managers had a narrow view of the essential players and generally dismissed the key and novel role of the environmentalists until it was too late”

<https://www.pmi.org/learning/library/project-stakeholder-management-5216>

End-result: Project was canceled because of the potential environmental impact

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Another example is the US Supersonic Transport aircraft development that was initiated by Boeing some years ago:

“One reason that the Supersonic Transport program failed in the United States was that the managers had a narrow view of the essential players and generally dismissed the key and novel role of the environmentalists until it was too late”

The project was ultimately canceled after a very large investment of research and development funds to try to develop a new SST. It's very likely that a more thorough stakeholder management effort would have highlighted this potential problem much earlier in the development process

Other Stakeholder Management Failures

US Financial Services Company

What Went Wrong	Solution
<p>The company's senior executives saw the Agile process as having significant benefits to make IT development go faster; however, they saw it as an IT development process only and didn't see the benefits of investing beyond that level</p> <p>Impact: Partial implementation of Agile that didn't take full advantage of the benefits it can provide</p>	<p>It's important to set everyone's expectations early on about the level of commitment required to make Agile successful to fully realize the benefits</p>

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I want to quickly go through a few more current examples of stakeholder management failures

The first one was associated with a major US Financial Services Company

The company's senior executives saw the Agile process as having significant benefits to make IT development go faster; however, they saw it as an IT development process only and didn't see the benefits of investing beyond that level

As a result, the implementation of Agile was somewhat limited, superficial, and mechanical and didn't take full advantage of the benefits it can provide

In this kind of situation, it's important to set everyone's expectations early about the level of commitment required to make Agile successful to fully realize the benefits. In this particular situation, the senior executives saw Agile as a "silver bullet" and saw only the benefits without fully realizing the level of commitment to make it work.

Other Stakeholder Management Failures

Another US Financial Services Company

What Went Wrong	Solution
<p>The project teams were fully involved with implementing Agile at the team level and producing results but failed to keep senior management informed of what they were doing</p> <p>Impact: Senior management of the company was disappointed in the Agile implementation because they felt that they have lost touch with what was going on in the projects</p>	<p>It's important to keep all levels of management engaged and keep them informed</p>

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In another major US Financial Services Company

The project teams were fully involved with implementing Agile at the team level and producing results but failed to keep senior management informed of what they were doing

The impact was that Senior management of the company was disappointed in the Agile implementation because they felt that they have lost touch with what was going on in the projects.

In this kind of situation, It's important to keep all levels of management engaged and keep them informed. You want your teams to be empowered and self-organizing but they shouldn't become so independent that outside management is left outside of the loop.

Other Stakeholder Management Failures

Major Far-east Manufacturing Company

What Went Wrong	Solution
<p>The project teams failed to engage the appropriate IT production staff in the development of a major production application</p> <p>Impact: When it came time to release the application to production, it could not be released</p>	<p>In large enterprise-level projects, it is particularly important to keep people who are outside of the project engaged in order to successfully release software</p>

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The next one was associated with a major far-east manufacturing company:

The project teams failed to engage the appropriate IT production staff in the development of a major production application

The impact was that when it came time to release the application to production, it could not be released and the project was significantly delayed while the necessary coordination with the release process was established.

In large enterprise-level projects, it is particularly important to keep people who are outside of the project engaged in order to successfully release software. In this particular situation, if the need for this coordination had been realized earlier, the delay in releasing the project to production would not have been necessary.

Common Stakeholder Management Mistakes

Identifying and prioritizing the wrong stakeholders

- “If you misread the importance of a stakeholder to a project, then it is impossible to objectively and accurately evaluate their opinions on how a project should progress”

Being unrealistic with your key stakeholders

- “Project managers are notorious for overpromising on a project and under-delivering”

Failing to develop a stakeholder communication plan

- “Take the time to break out what each stakeholder is interested in, and what challenges you face with them”

<https://blog.capterra.com/mistakes-all-project-managers-make-with-their-stakeholders/>

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This slide shows some common stakeholder management mistakes:

- Identifying and prioritizing the wrong stakeholders
 - “If you misread the importance of a stakeholder to a project, then it is impossible to objectively and accurately evaluate their opinions on how a project should progress”
- Being unrealistic with your key stakeholders
 - “Project managers are notorious for overpromising on a project and under-delivering”
- Failing to develop a stakeholder communication plan
 - “Take the time to break out what each stakeholder is interested in, and what challenges you face with them”



Stakeholder management is one of the most important functions of a project manager

The key point that should be apparent from this is that Stakeholder management is one of the most important functions of a project manager. There have been many projects that might have completed the deliverables on time and on budget but failed to engage the appropriate stakeholders in the process to make sure that the project met their expectations.

It is also one of the most neglected and overlooked areas in a pure Agile project and one of the more important reasons why a hybrid approach might be necessary. You just can't optimize the development process to be efficient and go fast without considering how the key stakeholders will be kept engaged.

NEXT LECTURE... WHAT IS STAKEHOLDER MANAGEMENT?

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In the next lecture, we're going to discuss What is Stakeholder Management

What Is Agile Stakeholder Management?

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In this lesson, we're going to talk about What Is Agile Stakeholder Management. As I have mentioned, Stakeholder Management is, without a doubt, one of the most important factors in determining the overall Agile Project Management approach

What Is a Stakeholder?

"A stakeholder is either an individual, group or organization who is impacted by the outcome of a project"

"They have an interest in the success of the project, and can be within or outside the organization that is sponsoring the project"

<https://www.projectmanager.com/blog/what-is-a-stakeholder>



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This slide shows a definition of what a stakeholder is.

"A stakeholder is either an individual, group or organization who is impacted by the outcome of a project."

"They have an interest in the success of the project, and can be within or outside the organization that is sponsoring the project."



The need for stakeholder management is often overlooked in an Agile project

The need for stakeholder management is often overlooked in an Agile project. It is often assumed that the Product Owner can represent the needs of all the business sponsors and the developers can just talk directly to the business users to better understand their needs and interests.

There are a couple of potential problems with that. For one, in many large, complex enterprise-level projects; the number of stakeholders can be very large and it may be almost impossible for a Product Owner to adequately represent all of those interests without some assistance and a plan to identify who those people are and what needs to be done to successfully manage their interests and expectations.

In addition, typically neither the Product Owner or the people on the development team are trained in stakeholder management so that there is a distinct risk that whatever effort is done is likely to be very ad-hoc, un-planned, and not well-coordinated.

Types of Stakeholders

Positive Stakeholders

“A positive stakeholder sees the project’s positive side and is benefitted by its success. These stakeholders help the project management team to successfully complete the project”

Negative Stakeholders

“On the other hand, a negative stakeholder sees the negative outcome of the project and may be negatively impacted by the project or its outcome. This type of stakeholder is less likely to help your project be completed successfully”

<https://pmstudycircle.com/2012/03/stakeholders-in-project-management-definition-and-types/>

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It's important to recognize that there can be both positive stakeholders and negative stakeholders:

“A positive stakeholder sees the project’s positive side and is benefitted by its success. These stakeholders help the project management team to successfully complete the project.”

“On the other hand, a negative stakeholder sees the negative outcome of the project and may be negatively impacted by the project or its outcome. This type of stakeholder is less likely to help your project be completed successfully.”

Importance of Stakeholder Management

Stakeholder management is one of the most important functions of any project manager

For any project to be successful, it has to be successful in the eyes of the stakeholders

Positive Stakeholders

- Ensure that their expectations will be satisfied

Negative Stakeholders

- Keep them satisfied that their interests are being adequately considered.

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An important point is that “Stakeholder management is one of the most important functions of any project management”

For any project to be successful, it has to be successful in the eyes of the stakeholders. For that reason, it is extremely important to manage the expectations of the positive stakeholders to ensure that their expectations will be satisfied. For example, the business sponsors who are paying for the project many times develop unrealistic expectations of the benefits that the project will deliver and/or what it will cost and the time it will take to finish the project. It is very important to accurately set these expectations or you may wind up with disappointed stakeholders even though you might view the project as being successful.

In addition, you have to keep people who might be negatively impacted by the project satisfied that their interests are being adequately considered. For example, a support group that is responsible for supporting the project deliverables after they are released might be concerned that the support group may not be adequately trained to support the application once it is released. It is very important to address their concerns.

Types of Stakeholders

Internal Stakeholders

- The business sponsor
- An internal customer or client
- The project team
- Management of related organizations

External Stakeholders

- An external customer or client (if project arose due to a contract)
- An end user of a product
- A supplier or subcontractor
- The government

<https://pmstudycircle.com/2012/03/stakeholders-in-project-management-definition-and-types/>

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There are two major types of stakeholders

- Internal Stakeholders are internal to the organization that is doing the project. Examples might include:
 - The business sponsor who is paying for the project
 - An internal customer or client (if the project arose due to an internal need of an organization)
 - The project team who is responsible for the project deliverables needs to be kept satisfied that their contributions are being respected and they have been given an appropriate level of empowerment and support to be successful
 - Management of related organizations – this could include functional managers who are responsible for managing the people assigned to the project or managers of support organizations who are responsible for supporting the project deliverables
- External Stakeholders are external to the organization that is developing the project. Examples might include:
 - An external customer or client (if project arose due to a contract)
 - An end user of a product that is being sold to customers
 - A supplier or subcontractor who the project is dependent on
 - The government that may have regulations that need to be satisfied

NEXT LECTURE...

STAKEHOLDER MANAGEMENT PROCESS

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In the next lecture, we're going to discuss a widely-used stakeholder management process

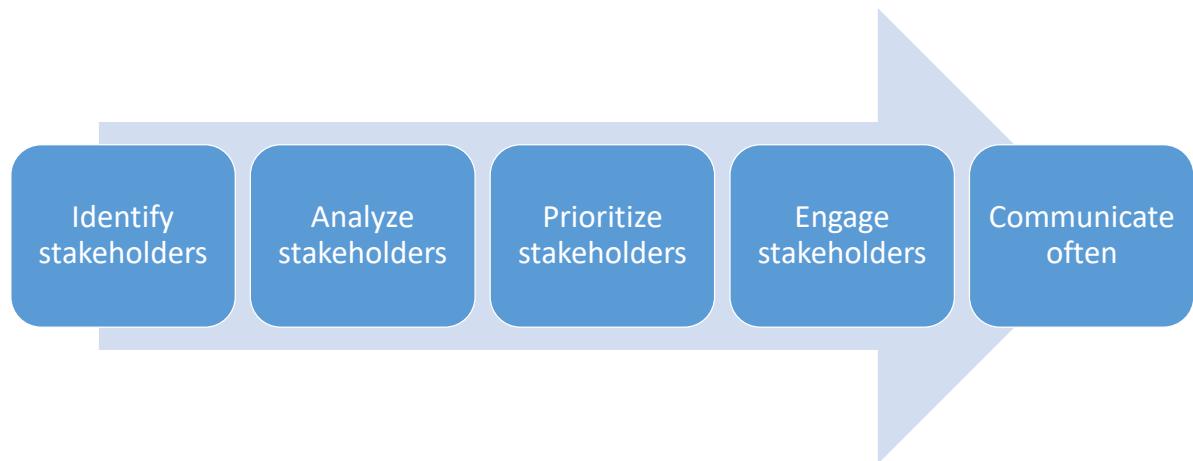
Stakeholder Management Process

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In this lesson, we're going to talk about a commonly-used process for Agile Stakeholder Management

Stakeholder Management Process



<https://agilealliance.org/wp-content/uploads/2016/01/Stakeholder-Management-by-Drew-Jemilo-Agile2012.pdf>

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This slide shows a process for stakeholder management:

“Stakeholder management is a set of techniques that harnesses the positive influences and minimizes the effect of the negative influences of stakeholders. It comprises five main steps:

- Identify who the stakeholders are
- Analyze stakeholders and prioritize stakeholders to assess their interest and influence;
- Engage stakeholders and develop communication management plans to identify how their engagement will be maintained in the project
- Abide by the agreement with stakeholders to ensure that they remain satisfied and communicate often to periodically review performance against their expectations

Identify and Analyze Stakeholders

Who are the stakeholders who will be impacted by the project?

“How will they be affected by the work?

Will they be openly supportive, negative or ambivalent?

What are their expectations and how can these be managed?

Who and/or what influences the stakeholder’s view of the project?

Who would be the best person to engage with the stakeholder?”

<https://www.apm.org.uk/body-of-knowledge/delivery/integrative-management/stakeholder-management/>

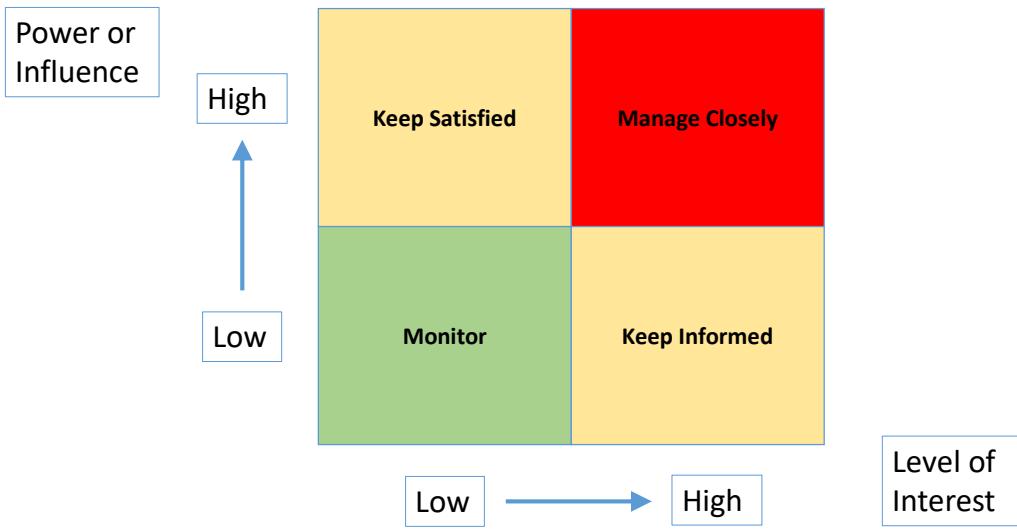
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This slide shows some questions to consider when identifying and analyzing stakeholders

- Who are the stakeholders who will be impacted by the project?
- “How will they be affected by the work?
- Will they be openly supportive, negative or ambivalent?
- What are their expectations and how can these be managed?
- Who and/or what influences the stakeholder’s view of the project?
- Who would be the best person to engage with the stakeholder?”

Stakeholder Analysis and Prioritization



https://www.mindtools.com/pages/article/newPPM_07.htm

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This slide shows a commonly-used technique for stakeholder analysis and prioritization that breaks up stakeholders into four quadrants based on two factors:

- Their relative power or influence over the project
- Their level of influence in the project

Here's a summary of each quadrant:

- The first quadrant is low influence and low interest and the strategy for stakeholder management for this quadrant might be just to monitor the people in this quadrant to see if their power or interest level changes that might cause them to need additional attention
- The next quadrant is high power or influence but low interest. These are people who can have a lot of potential impact on the project if they are aroused but they have a low level of interest. The strategy with the people in this quadrant would be to keep them satisfied but since they have a low level of interest in the project, you don't want to bore them with excessive communications
- Next is High interest with low power or influence. These people need to be kept informed to ensure that they remain satisfied
- The final quadrant is high interest with high power. This is obviously the most important quadrant that needs a lot of attention and the people in this quadrant need to be managed very closely

Understand Your Stakeholders

What financial or emotional interest do they have in the outcome of your work?

What motivates them most of all?

What information do they want from you, and what is the best way of communicating with them?

What is their current opinion of your work?

If they aren't likely to be positive, what will win them around to support your project?

If you don't think that you'll be able to win them around, how will you manage their opposition?

Who else might be influenced by their opinions? Do these people become stakeholders in their own right?

https://www.mindtools.com/pages/article/newPPM_07.htm

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This slide shows some good techniques for understanding your stakeholders:

- What financial or emotional interest do they have in the outcome of your work? Is it positive or negative?
- What motivates them most of all?
- What information do they want from you, and what is the best way of communicating with them?
- What is their current opinion of your work? Is it based on good information?
- If they aren't likely to be positive, what will win them around to support your project?
- If you don't think that you'll be able to win them around, how will you manage their opposition?
- Who else might be influenced by their opinions? Do these people become stakeholders in their own right?

Stakeholder Engagement

Manage stakeholder communications

Communicate frequently and effectively

Follow a defined process for the project

Uncover and dispel any misplaced assumptions or myths

<https://www.projectmanager.com/blog/what-is-a-stakeholder>

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This slide shows some useful tips for engaging stakeholders

First, manage stakeholder communications – you should define how you will communicate with all the potential stakeholders and the most important stakeholders should agree with the plan to ensure that they will be kept satisfied. The process for managing communications should be open and transparent

Second, communications should be frequent and effective. Sometimes this can be done with project management tools but it is important to tailor the information to the needs of the audience

Third, there should be a well-defined process for how the project will be managed and the most important stakeholders should understand what that process is, how it will work, and what interactions might be expected of them as the project is in progress

Finally, it's important to be proactive and uncover and dispel any misplaced assumptions or myths that stakeholders might have about the project. Stakeholders many times develop misplaced assumptions about a project. For example, they may assume that the project is going to take half as long as it is actually going to take and cost half as much. The best way to dispel some of these myths and misplaced expectations is with a written charter document to accurately set stakeholder's expectations.

NEXT LECTURE...

WHAT'S DIFFERENT ABOUT

AGILE STAKEHOLDER MANAGEMENT?

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In the next lecture, we're going to discuss What's Different About Agile Stakeholder Management?

What's Different About Agile Stakeholder Management?

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In this lesson, we're going to talk about what's different about stakeholder management in an Agile environment

Agile Requires a Collaborative Relationship

Traditional Plan-driven Approach
(Contractual-style Relationship)



Agile Approach
(Collaborative Relationship)



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One of the biggest differences in an Agile environment is that in a traditional plan-driven project, there is more of a contractual-style relationship between the customer and the project team. There is normally some amount of negotiation that goes on to arrive at a well-defined set of requirements that the customer approves and the project team commits to delivering those requirements within a given time and budget.

An Agile environment requires more of a collaborative relationship based on a spirit of trust and partnership between the customer and the project team. Instead of having a well-defined set of requirements and a contract to deliver those requirements, the customer and the project team agree on the general scope and vision for the project and agree to work collaboratively to further define detailed requirements as the project is in progress.



An Agile process won't work without a commitment by the customer to actively engage in the project in a spirit of collaboration, trust, and partnership

If a customer isn't willing or able to do that, it may require more of a hybrid approach or a plan-driven approach to effectively manage the relationship with the customer

The key point is that an Agile process won't work without a commitment by the customer to actively engage in the project in a spirit of collaboration, trust, and partnership. If a customer isn't willing or able to do that, it may require more of a hybrid approach or a plan-driven approach to effectively manage the relationship with the customer.

However, I want to emphasize as I have said many times that this isn't a binary and mutually-exclusive choice between Agile and Waterfall as many people seem to think. Many times, a hybrid approach between these two extremes that blends an Agile approach and a plan-driven approach in the right proportions to fit the situation makes a lot of sense.

A Plan-driven Relationship May Be More Planned and Formal

Traditional Plan-driven Approach

- Customer is not directly engaged in the project
- Greater possibility for misunderstandings
- Might require more planning and formality

Agile Approach

- Direct participation by the customer in the project can eliminate potential misunderstandings
- Might require less formality and planning

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In a traditional plan-driven environment, there may be a greater possibility for misunderstandings because the customer is typically not directly involved in the project and the project relies heavily on documentation to set and manage expectations. That approach requires more planning and formality and is prone to misunderstandings.

In an Agile environment, because the customer is much more directly engaged in the project and communication is much more regular, there may be less of a need for formality and planning.

Stakeholders Have Both Rights and Responsibilities

Rights	Responsibilities
<ul style="list-style-type: none">• Receive good-faith estimates• Respect for their interests• Be educated on factors effecting estimates and results• Be informed of the team's progress• Understand the development process and how they fit in	<ul style="list-style-type: none">• Remain engaged in the project to provide feedback and inputs• Collaborate with the Product Owner and Project Team• Provide timely decision-making where necessary• Help develop a spirit of trust and partnership

<https://agilealliance.org/wp-content/uploads/2016/01/Stakeholder-Management-by-Drew-Jemilo-Agile2012.pdf>

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Another big difference about stakeholder management in an Agile environment is that stakeholders have both rights and responsibilities and they are expected to be actively engaged in the project. This slide shows a summary of some of the more important rights and responsibilities.

Some of the more important rights of stakeholders are:

- They have a right to receive good-faith estimates
- They have a right to have their interests understood and respected
- They should be educated on factors effecting estimates and results
- They should be kept informed of the team's progress
- Finally, they should understand the development process and how they fit in

On the other hand, they also have responsibilities which include:

- Remaining engaged in the project to provide feedback and inputs
- Collaborating with the Product Owner and Project Team
- Providing timely decision-making where necessary
- And helping to develop a spirit of trust and partnership

Eight Tips for Agile Stakeholder Management

Secure sponsorship

- “Don't start your agile project without securing sponsorship from stakeholders' leadership and management”

Spend adequate time on setup

- “On an agile project, you must go slowly to go fast”

Protect the developers' bill of rights

- “The rights of all data scientists and other developers must be ferociously guarded”

Protect the customers' bill of rights

- “Your stakeholders have rights too, and they should be protected just as vigilantly”

<https://www.techrepublic.com/article/8-foolproof-stakeholder-management-tips-for-agile-projects/>

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I want to go over eight tips for effective stakeholder management in an Agile environment from a Tech Republic article that I thought was very good:

1. **Secure sponsorship**

Don't start your agile project without securing sponsorship from stakeholders' leadership and management.

2. **Spend adequate time on setup**

On an agile project, you must go slowly to go fast. It's somewhat of a paradox, but it's absolutely true. If you don't prepare people for what to expect, you'll have a lot of problems with stakeholders during execution. When planning the execution of an agile project, reserve enough time for awareness and education.

3. **Protect the developers' bill of rights**

The rights of all data scientists and other developers must be ferociously guarded. This idea extends from the Extreme Programming days, when the developers' bill of rights was documented and sacrosanct. Among these rights are: the right to have open and immediate communication with the stakeholder, the right to update and own their duration estimates, and the right to own their day-to-day schedule. Stakeholders can be very demanding and even unreasonable and an Agile Project Manager needs to protect them from that if necessary.

4. **Protect the customers' bill of rights**

Your stakeholders have rights too, and they should be protected just as vigilantly. Among these rights are: the right to choose which user stories take priority, the right to get the most value out of every development day, and the right to cancel the project at anytime and be left with a working system that's better than when they started.

Eight Tips for Agile Stakeholder Management

Give them a job

- The best way for stakeholders to know what's happening is to put them in the middle of development with a real assignment

Make sure they attend required meetings

- They have a responsibility to attend, and you cannot let them off the hook. It's another way to keep them plugged in so they don't build those false expectations

Prepare to defend unusual practices

- You must always be prepared to defend unusual agile behaviors like lightweight documentation, and no firm commitment on scope

Foster a culture of honesty and trust

- Above all, there must be a culture of trust. In the absence of trust, agile breaks down quickly

<https://www.techrepublic.com/article/8-foolproof-stakeholder-management-tips-for-agile-projects/>

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Here are the remainder of the eight tips:

5. Give them a job

The best way for stakeholders to know what's happening is to put them in the middle of development with a real assignment. If stakeholders unplug when they think requirements are done, that can be a problem. They lose contact with the day-to-day issues that crop up and as their expectations stray from reality, their frustration can increase when false expectations aren't met. The best way to avoid this is to give them a real job that contributes to the solution — that keeps them consistently plugged into what's going on..

6. Make sure they attend every required meetings

They have a responsibility to attend, and you cannot let them off the hook. It's another way to keep them plugged in so they don't build those false expectations.

7. Prepare to defend unusual practices

You must always be prepared to defend unusual agile behaviors like lightweight documentation, and no firm commitment on scope

8. Foster a culture of honesty and trust

Above all, there must be a culture of trust. In the absence of trust, agile breaks down quickly. Lack of trust causes developers to sandbag hours, and stakeholders to negotiate with developers on feature completion date.

NEXT LECTURE... AGILE CONTRACTS

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In the next lecture, we're going to discuss Agile Contracts

Agile Contracts

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In this lesson, we're going to talk about Agile Contracts. An Agile contract can be thought of as a special case of Agile Stakeholder Management

What Is an Agile Contract?

In an Agile contract, there is some kind of commitment for delivering the results of a project using an Agile development approach



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This slide shows my definition of an Agile Contract. Basically, an Agile contract is one in which there is some kind of commitment for delivering the results of a project using an Agile development approach.

Many people will say that having a firm contract with an Agile development approach is inconsistent. It is somewhat inconsistent with a pure Agile development approach to have a firm commitment but it can definitely be made to work using a hybrid approach.

How Can That Be?

Firm
Contractual
Requirements



Flexibility and
Adaptivity



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At first glance this may seem to be an impossible situation – how can you have firm contractual requirements to deliver something and still have some level of flexibility and adaptivity to define what you deliver? There are obviously some conflicting goals at work here.

How Can That Be?

Traditional Contract

Deliverables are well-defined and cost and schedule are fixed

Agile Contract

There is some flexibility to renegotiate these items as the project is in progress

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In a traditional contract, the deliverables are well-defined and the cost and schedule for completing the project may be fixed.

In an Agile contract, there is some flexibility in either the requirements to be delivered and/or the cost and schedule for delivering those requirements.

There are various ways of managing that kind of effort depending on the nature of the contract. We'll talk more about the various ways of implementing Agile contracts in the following slides.



There has to be somewhat of a collaborative relationship between the customer and the project team based on a spirit of trust and partnership to make this work

The most important point is that there has to be somewhat of a collaborative relationship between the customer and the project team based on a spirit of trust and partnership to work together to make this a win/win for both parties. If there is more of an adversarial relationship, an Agile contracting approach just won't work and more of a traditional contracting approach may be necessary that is based on typical plan-driven project management with formalized change control.

Types of Agile Contracts

Time and Materials (T & M)

The cost and schedule for completing the project are not fixed

Protects the supplier but doesn't provide any protection for the customer

The customer is fully exposed to the entire risk, while the supplier shares none of that risk

A variant of this type of contract is a “Capped Time and Materials” contract

<https://scrumology.com/an-overview-of-agile-contracts/>

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Time and materials contracts (which are commonly called T&M) are widely-used because they are relatively easy to implement. In a time-and-materials contract, the cost and schedule for completing the project are not fixed. There may be some kind of estimate given to the customer, it is not a firm estimate and the customer agrees to absorb whatever the actual costs of the project are

This type of contract protects the supplier but doesn't provide any protection for the customer. The customer is fully exposed to the entire risk, while the supplier shares none of that risk

A variant of this type of contract is a “Capped Time and Materials” contract. These are contracts that are *T & M* up until a fixed agreed upon upper bounds (or cap). *Capped T & M* contracts provide benefit to the supplier early on by fully covering their expense; but also provide benefits to the customer towards the end of the project by providing a limit to the total exposure. What typically happens in this situation is that the scope of the contract is somewhat negotiable and the customer and supplier renegotiate the priorities of some of the requirements at the end in order to stay within the overall cost cap that has been agreed on.

Types of Agile Contracts

Incremental Delivery

Incremental Delivery contracts are structured with regular inspection points

At each inspection point, the customer makes a decision; they can continue with the development of the product or they can stop development

In stopping development, the customer can push the product into production and save the remaining balance of the contract

This style of contract works quite naturally for Agile teams because they simply work in an iterative fashion until the point of inspection

<https://scrumology.com/an-overview-of-agile-contracts/>

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Another contracting model that works well with an Agile approach is an incremental delivery model.

Incremental Delivery contracts are structured with regular inspection points

At each inspection point, the customer makes a decision; they can continue with the development of the product or they can stop development.

In stopping development, the customer can push the product into production and save the remaining balance of the contract.

This style of contract works quite naturally for Agile teams because they simply work in an iterative fashion until the point of inspection.

Types of Agile Contracts

Cost-targeted Contracts

With *Cost Targeted* contracts both parties agree on a realistic final price of the product

Then, if the supplier comes in under budget then both parties share the benefit of those savings

However, if the supplier goes over budget then both companies pay some penalty

The amount of benefit or penalty that a company has to pay is usually inline with the ratio of the two companies

<https://scrumology.com/an-overview-of-agile-contracts/>

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Another type of contract that is less widely-used is a Cost-targeted contract.

- With Cost Targeted contracts both parties agree on a realistic final price of the product.
- Then, if the supplier comes in under budget then both parties share the benefit of those savings.
- However, if the supplier goes over budget then both companies pay some penalty.
- The amount of benefit or penalty that a company has to pay is usually inline with the ratio of the two companies

An Example – “Money for Nothing; Change for Free”

“Change for Free”

The “Change for Free” clause is based on the idea that the customer can make any change they want provided that the total contract work is not changed

This allows new features to be added provided that lower priority items are removed from the project

I have documented a case study in my book on how General Dynamics, UK successfully used this approach on a large government contract in the UK

<https://www.scruminc.com/agile-contracts-money-for-nothing-and/>

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Jeff Sutherland who is one of the original founders of Scrum has come up with a very interesting combination of these approaches that he calls “Money for Nothing; Change for Free”

- The “Change for Free” clause is based on the idea that the customer can make any change they want provided that the total contract work is not changed
- This allows new features to be added provided that lower priority items are removed from the project
- I have documented a case study in my book on how General Dynamics, UK successfully used this approach on a large government contract in the UK. We will discuss examples of this in the next module on hybrid Agile models.

“Change for Free”



Here's a graphic that shows how that might work. A customer has a contract for development of certain must-have features; however, after the project is in progress, he/she realizes that there is a new feature that needs to be added. The contractor agrees to take on the new feature provided that a feature of equivalent effort is removed.

An Example – “Money for Nothing; Change for Free”

“Money for Nothing”

“The “Money for Nothing” clause recognizes the fact that in many projects, the customer always asks for everything that they could possibly need

If you prioritize those items and deliver the highest priority items first, at some point you will reach a point of diminishing returns where the cost of developing incremental features exceeds the value that those features provide

This clause allows the customer to cancel the contract at that point and save 80% of the cost that would have been spent to complete the remaining items

However, the contractor receives a fee of 20% of the cost for early cancellation which makes it a win/win for both the customer and the supplier

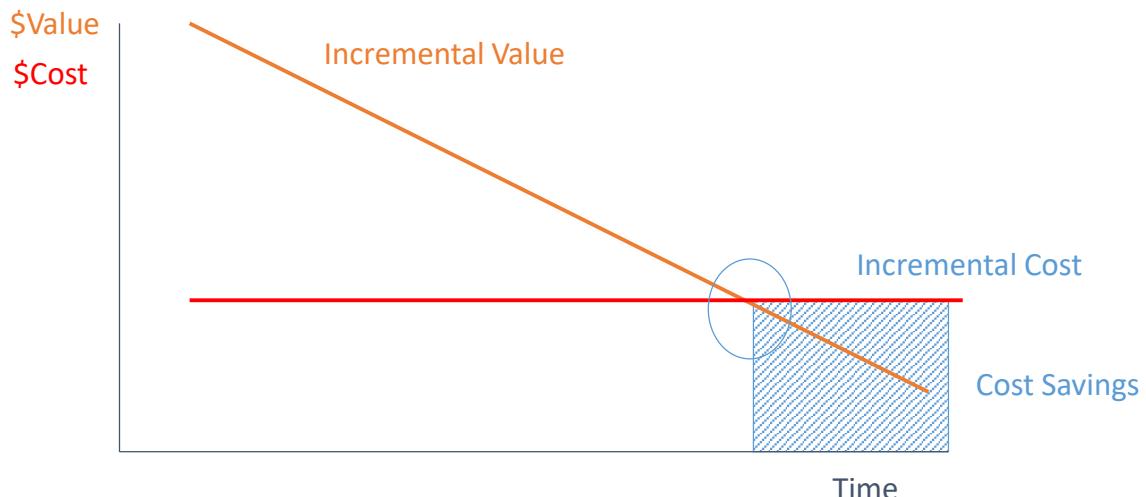
[https://www.scruminc.com/agile-contracts-money-for-nothing-and/](https://www.scruminc.com/agile-contracts-money-for-nothing-and-change-for-free/)

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- “The “Money for Nothing” clause recognizes the fact that in many projects, the customer always asks for everything that they could possibly need
- If you prioritize those items and deliver the highest priority items first, at some point you will reach a point of diminishing returns where the cost of developing incremental features exceeds the value that those features provide.
- This clause allows the customer to cancel the contract at that point and save 80% of the cost that would have been spent to complete the remaining items;
- However the contractor receives a fee of 20% of the cost for early cancellation which makes it a win/win for both the customer and the supplier.

“Money for Nothing”



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This slide shows a graphic of how that might work. If the requirements are properly prioritized and the highest value items are developed first, you will see that the incremental value of each incremental feature that is developed will diminish but the incremental cost of developing each feature may be more-or-less the same.

What frequently happens is that, at some point, you reach a point of diminishing returns where the incremental costs of developing features exceeds the incremental value that those features provide. It is at that point that the customer might decide that there is no need to develop the remaining features and the anticipated cost of developing those features will be saved and shared with the contractor.



We will discuss the implementation of this in more detail in the next module on hybrid Agile models

We will discuss the implementation of this in more detail in the next module on hybrid Agile models.

Summary of Key Points

Stakeholder management is one of the most important functions of a project manager

Many projects have failed in meeting stakeholder expectations

Agile Stakeholder Management relies heavily on a close collaborative relationship with stakeholders where they directly participate in the project

The process for stakeholder management in an Agile environment is generally the same but may not need to be as formal.

Here's a summary of some key points we've talked about related to agile stakeholder management and agile contracts:

Stakeholder management is one of the most important functions of a project manager

- If a project doesn't meet stakeholder expectations, it can't be considered successful even if it met cost and schedule goals

Many projects have failed in meeting stakeholder expectations

- Some of the major mistakes are:

- Identifying and prioritizing the wrong stakeholders
- Being unrealistic with your stakeholders
- Failing to develop a stakeholder communication plan

Agile Stakeholder Management relies heavily on a close collaborative relationship with stakeholders where they directly participate in the project

- That can simplify the stakeholder management problem somewhat, but that doesn't alleviate the need for doing stakeholder management. The need for stakeholder management is frequently neglected in Agile projects. For example, many times a development team will completely develop a software application and fail to make any contact with the groups who are required to release and support it.

The process for stakeholder management in an Agile environment is generally the same but may not need to be as formal.

- The process requires Identifying, analyzing, prioritizing and engaging stakeholders and then frequent communications to keep them informed.

Summary of Key Points

A good technique for stakeholder prioritization is to group them into quadrants based on (1) their level of influence and (2) their level of interest

The relationship with stakeholders will be a major factor in determining the project approach

Agile contracts can be considered a special case of stakeholder management

A good technique for stakeholder prioritization is to group them into quadrants based on (1) their level of influence and (2) their level of interest

The relationship with stakeholders will be a major factor in determining the project approach.

- Agile requires a collaborative approach based on a spirit of trust and partnership and it also requires an active commitment by stakeholders to participate in the project. If the stakeholders are not willing to enter into that kind of relationship or make that kind of commitment, an Agile approach won't work and either a hybrid approach or a traditional plan-driven approach may be necessary. The key point is that you can't just implement Agile to optimize the efficiency of the project delivery process without considering the impact on stakeholders.

Agile contracts can be considered a special case of stakeholder management.

- The principles are essentially the same; however, it may be more difficult depending on the terms of the contract

NEXT LECTURE...

DISTRIBUTED PROJECT MANAGEMENT

IN AN AGILE ENVIRONMENT

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In the next lecture, we're going to start a new section on Distributed Project Management in an Agile environment

Distributed Project Management in an Agile Environment



- Distributed Project Management
- The Role of a Developer
- The Role of the Product Owner
- The Role of a Scrum Master

In this lesson, we're going to start a new section on Distributed Project Management in an Agile Environment. Here's a summary of the topics we will discuss in this section:

- The first lesson is what Is Distributed Project Management? – What are the differences and why are they different
- Next we will discuss the different team-level roles in an Agile project and how these roles have absorbed some of the functions that might normally be done by a project manager in a traditional plan-driven environment. These roles include:
 - The role of a developer
 - The role of the Product Owner, and
 - The role of the Scrum Master

Distributed Project Management

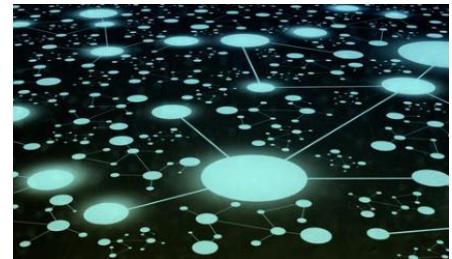
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In this lesson, we're going to talk about the concept of "distributed project management" which will help you understand why it makes sense to distribute the project management roles at the team level among people on the Agile team rather than have them all done by a Project Manager.

Distributed Project Management

In an Agile environment, there is actually a lot of project management going on although you may not find anyone called a “Project Manager” at the team level



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Before we get into talking about some of the other roles in an Agile project, I want to recap a few important points about how project management is fundamentally different in an Agile environment.

In an Agile environment, there is actually a lot of project management going on although you may not find anyone called a “Project Manager” at the team level. It’s a different kind of project management that is more flexible and adaptive and many of the functions that might typically be performed by someone called a project manager have been distributed among members of the team.



For many people, there is a strong stereotype that “project management” is something that is only done by a “Project Manager” and that is not necessarily the case any more.

This is a new concept that is important to understand – for many people, there is a strong stereotype that “project management” is something that is only done by a “Project Manager” and that is not necessarily the case any more.

Primary Project Management Emphasis

What's Different?

Plan-driven Project Management	Agile Approach
Planning and control to achieve cost and schedule goals	Maximize the overall value of the project

Why Is It Different?

Typical plan-driven approach doesn't work well in an uncertain environment where it is difficult if not impossible to define detailed requirements upfront

There have been many projects that have met their cost and schedule goals but failed to deliver an appropriate level of business value

I want to talk about some of the ways that the overall project management approach is different in an Agile environment and why it is different. The first area is in the primary project management emphasis.

- In a traditional plan-driven project management environment, the requirements are fixed and the primary emphasis is on planning and control to achieve predictability over cost and schedule dates. That has been the prevailing model of project management for a long time
- An Agile approach does not assume the requirements to be fixed, puts the overall emphasis on creating value, and encourages changes that add value.

There are a number of reasons why a different approach is needed in an Agile environment:

- The primary problem with the traditional plan-driven approach is that it doesn't work well in an uncertain environment where it is difficult, if not impossible, to predict the requirements in detail prior to the start of the project.
- Also, there have been many situations where a project has met its cost and schedule goals but failed to deliver an appropriate level of business value



Meeting cost and schedule goals is only component of value and not necessarily the most important component

A broader focus on delivering business value makes a lot of sense

This doesn't mean that meeting cost and schedule goals are not important but it is only one component of value and it may not be the most important goal. The importance of meeting cost and schedule goals will vary from one project to the next.

It should be apparent that a broader focus on delivering business value makes a lot of sense in the highly uncertain world that we live in today.

Client Relationship

What's Different?

Plan-driven Project Management	Agile Approach
Contractual Relationship	Collaborative Relationship

Why Is It Different?

The contractual relationship in a plan-driven environment is important to control and manage any changes in scope

A more collaborative relationship is essential in an Agile environment to work jointly to maximize the value of the project in an uncertain and dynamic environment

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- The next major difference is in the relationship with the client.
- A typical plan-driven project has a contractual relationship with the client to deliver the defined requirements within the budgeted cost and schedule.
- An Agile project has more of a collaborative relationship with the client to work together to maximize the value of the project to the client.

There are a number of reasons why a different approach is needed in an Agile environment:

- The contractual relationship in a plan-driven environment is important to control and manage any changes in scope where predictability over costs and schedules is important
- A more collaborative relationship is essential in an Agile environment to work jointly to maximize the value of the project in an uncertain and dynamic environment



The customer has to be amenable to whatever approach is selected and should openly buy-off on it

This is not a binary choice -It is very possible for a hybrid approach to have some contractual commitments but also be collaborative

There are two key points that I want to make on this:

- First, The customer has to be amenable to whatever approach is selected and should openly buy-off on it – achieving an open and transparent relationship with a customer that is based on a spirit of trust, partnership and collaboration can be a difficult thing to do
- I also want to emphasize that this is not a binary choice between a contractual relationship and a collaborative relationship and it is very possible for a hybrid approach to have some contractual commitments but also be collaborative

Communications

What's Different?

Plan-driven Project Management	Agile Approach
All communications is controlled through the project manager	Open and transparent communications directly with the project team

Why Is It Different?

There is less of a need to control changes to requirements and project scope

Developers are expected to talk directly to users to better understand requirements as the project is in progress

The project team is expected to share project status information openly with the client so that the client is actively involved in the management of the project

The next major area of difference is in communications.

- In a typical plan-driven environment, communications is controlled with the Project Manager as a focal point for all communications
- In an Agile environment, it is important for communications to be open and transparent.

There are a number of reasons why a different approach is needed in an Agile environment:

- There is less of a need to control changes to requirements and project scope and flexibility and adaptivity is needed to meet uncertain customer needs
- Developers are expected to talk directly to users to better understand requirements as the project is in progress and
- The project team is expected to share project status information openly with the client so that the client is actively involved in the management of the project



An important goal is to create an environment of shared responsibility with the customer

Another important goal is to avoid the “bottleneck” effect that happens when all communications must go through a project manager

An important goal of the communications approach is to create an environment of shared responsibility with the customer. An Agile project requires a spirit of trust and partnership with the customer and that requires a very different communications approach.

Another important goal is to avoid the “bottleneck” effect that happens when all communications must go through a project manager

Overall Responsibility

What's Different?

Plan-driven Project Management	Agile Approach
Project Manager is responsible for the project	The entire team is responsible for the success of the project
Responsibilities for tasks are assigned and clearly-defined	The project team is intended to be self-organizing and plan and manage all tasks

Why Is It Different?

Flexibility and adaptivity is needed for everyone on the team to take some responsibility

An empowered team is typically much more effective and produces better results

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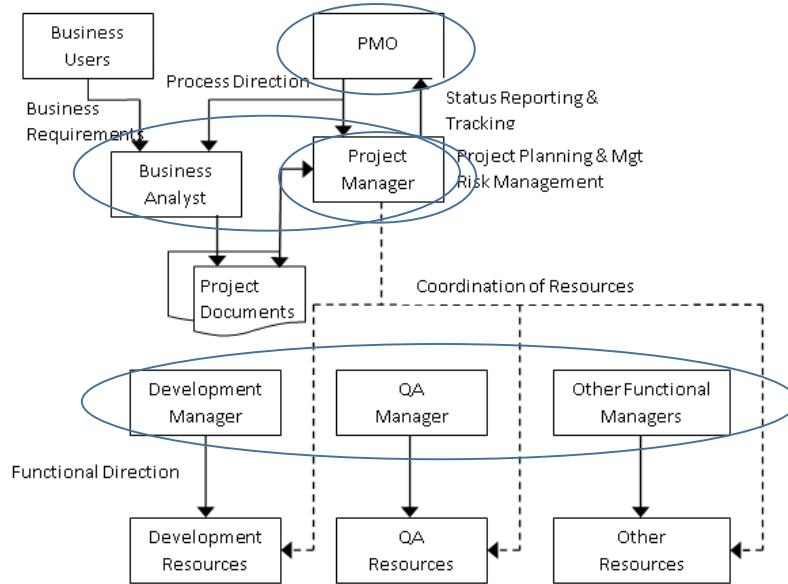
The last major area of difference is in the way overall responsibility for the project is managed.

- In a typical plan-driven environment, a designated project manager is responsible for the success or failure of the project and he/she does most of the planning and management of project activities to ensure that the project is successful
- In an Agile environment, the entire team is responsible for the success of the project.
- In a typical plan-driven environment, responsibilities for tasks are typically assigned and clearly defined
- In an Agile environment, the project team is intended to be self-organizing and plan and manage all tasks

There are a number of reasons why a different approach is needed in an Agile environment:

- Flexibility and adaptivity require more decentralized and distributed management where everyone on the team takes some level of responsibility for their own work and for the work of the team as a whole
- An empowered team where everyone on the team feels some responsibility for the success of the project builds morale and is typically more effective and produces better results

Typical Plan-driven Organization Structure



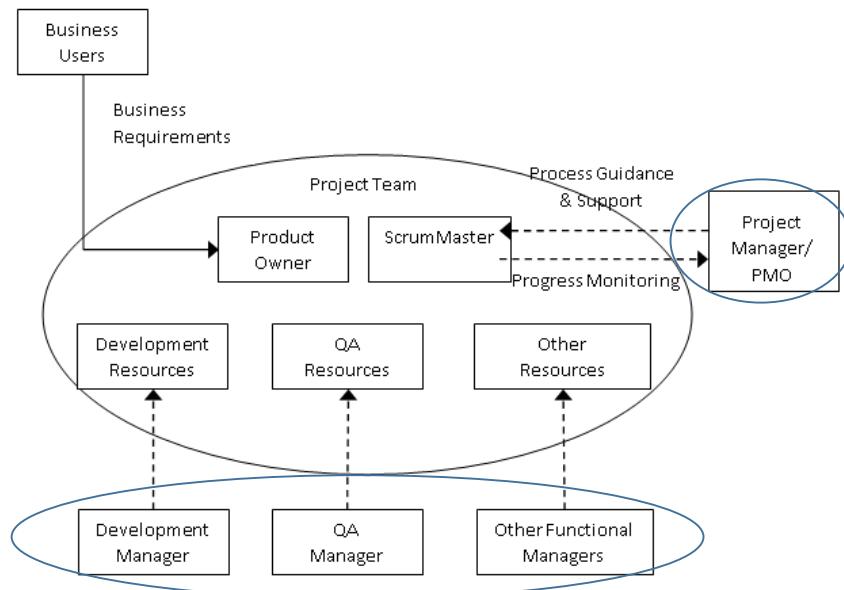
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This slide shows a typical model of how project management operates in a traditional plan-driven organization. This type of organization structure is optimized around planning and control where the Project Manager is the primary person responsible for the management of the project. There may also be a PMO involved that has overall responsibility for managing a portfolio of projects.

- The Project Manager and the Business are essentially intermediaries between the business users and the project team
- Functional manager such as Development Managers and QA Managers have direct responsibility for management of the people working on the project team, the project team is very loosely-knit, and may not be totally committed to the project

It's easy to see how this overall organization structure can become cumbersome and bureaucratic because it is so heavily optimized around planning and control rather than around flexibility and adaptivity. This kind of structure can severely stifle creativity and innovation.

Agile Organization Structure



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This slide shows what a more Agile organization structure might look like. You will note that a lot of the complexity and bureaucracy of management overhead has been broken down, people are dedicated to the project team, and there is a lot more direct communications between the business users and the project team.

Another major difference is that the project team is expected to be self-organizing with much less management by functional managers

In this environment, if there is a project manager involved at all, he/she might play more of a consultative or advisory role rather than a controlling role at the team level or he/she could provide a higher-level role for larger and more complex projects requiring multiple teams or requiring more of a hybrid Agile Project Management approach



This is not a binary and mutually-exclusive choice between an Agile approach and a traditional plan-driven project management approach

One point that I've made repeatedly in my training is that this is not a binary and mutually-exclusive choice between an Agile approach and a traditional plan-driven project management approach (what many people loosely call Waterfall)

For simplicity in this discussion, I've shown it as if it was a binary choice; but, of course, you should realize that it is not that simple. The real-world many times requires a blend of these two approaches.

NEXT LECTURE...

THE ROLE OF A DEVELOPER IN AN AGILE ENVIRONMENT

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In the next lecture, we're going to talk about the role a developer in an Agile environment and how that role has absorbed functions that might normally be performed by a Project Manager

The Role of a Developer In an Agile Environment

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In the next few lessons, we're going to talk about how project management roles are typically distributed among the members of a team in an Agile project. The first role to talk about is the role of a Developer in an Agile environment.

Additional Developer Responsibilities

The role of a developer in an Agile environment is much more than writing code

A developer in an Agile environment is expected to perform some functions that might normally be performed by either a Project Manager or a Business Analyst in a traditional plan-driven environment



- The most important point that I want to make in this lesson is that the role of a developer in an Agile environment is much more than writing code
- A developer in an Agile environment is expected to perform some functions that might normally be performed by either a Project Manager or a Business Analyst in a traditional plan-driven environment

Developer Project Management Responsibilities

Take responsibility for planning and managing individual developer tasks

- Estimate the amount of work to be done
- Plan and manage the completion of the work
- Take responsibility for the quality of the software developed
- Take overall responsibility for “shepherding” the story through the process
- Track and report progress at Daily Scrums and other forums

Share responsibility for the overall team results

- Work effectively as a team member to build a high performance, cohesive team
- Integrate related efforts within the team to build an overall solution

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This slide shows some of the tasks that a developer would normally be expected to perform in an Agile environment that might normally be performed by a project manager in a traditional plan-driven project management environment

- Developers are expected to take responsibility for planning and managing individual developer tasks which would include:
 - Estimate the amount of work to be done
 - Plan and manage the completion of the work
 - Take responsibility for the quality of the software developed
 - Take overall responsibility for “shepherding” the story through the process all the way to (and including) UAT. The developer responsible for the story should lead the presentation of the completed story to the Product Owner in UAT (or Sprint Review)
 - Track and report progress at Daily Scrums and other forums
- Beyond these individual responsibilities, all developers are expected to share responsibility for the overall team results which would include:
 - Working effectively as a team member to build a high performance, cohesive team
 - Integrating related efforts within the team to build an overall solution



Some developers are just not interested in taking on this additional responsibility

An important point to note particularly for companies that are transitioning from a traditional plan-driven environment where developers have typically not had to perform these additional responsibilities is that some developers are just not interested in taking on this additional responsibility.

What that means is that in making a transition to Agile, some developers just may not make the cut for this reason. At a very minimum it will require developers to have some training to take on these responsibilities.

Developer Business Analysis Responsibilities

Requirements Definition

Work directly with the Product Owner to clarify and further define the details of how stories should be implemented

Understanding the business purpose of the story and define and analyze possible alternative ways of satisfying the business purpose of the story

Provide support to the Product Owner and business users in helping to write and refine user stories and to groom the Product Backlog

The next area that developers are expected to take on is related to requirements definition. These are functions that might be performed by a Business analyst in a traditional plan-driven environment:

- Working directly with the Product Owner to clarify and further define the details of how stories should be implemented
- Understanding the business purpose of the story and defining and analyzing possible alternative ways of satisfying the business purpose of the story
- Providing support to the Product Owner and business users in helping to write and refine user stories and to groom the Product Backlog



Some developers are just not very good at talking to business users about their requirements

An important point is that some developers are just not very good at talking to business users about their requirements. Some just don't like doing it and they may or may not be good at what it takes to elicit requirements from users.

For example, in the real world, it is not uncommon for a Business Analyst to help a developer perform some of these functions. We will discuss that further in the next lesson.

Other Developer Responsibilities

Process Knowledge and Process Improvement

Understand and effectively participate in all Agile/Scrum processes including Sprint Planning, Daily Standups, Sprint Reviews, and Sprint Retrospectives

Take a leadership role in presenting completed work to the Product Owner and users for approval at the end of each sprint

Contribute to ongoing team process improvement through Sprint Retrospectives

This slide shows some of the other developer responsibilities that are associated with taking an active role in the Agile/Scrum process. These responsibilities include:

- Understanding and effectively participating in all Agile/Scrum processes including Sprint Planning, Daily Standups, Sprint Reviews, and Sprint Retrospectives
- Taking a leadership role in presenting completed work to the Product Owner and users for approval at the end of each sprint
- And, contributing to ongoing team process improvement through Sprint Retrospectives



This is a significantly increased level of responsibility for developers!

The key point I want to reiterate is that this is a significantly increased level of responsibility for developers and it will not be easy for most developers to assume this responsibility.

Real-World Implementation

In the real-world, it is very difficult for some developers to fully assume all of these responsibilities and there is good reason to provide help from a Project Manager and/or a Business Analyst

However, that assistance can be provided in a way that is consistent with Agile

If a Project Manager is involved at the team level, he/she should be in more of an advisory and support role rather than a management control mode

If a Business Analyst is involved he/she should not be just an intermediary between the development team and the business users

- The truth is that in the real-world, it is very difficult for some developers to fully assume all of these responsibilities and some compromises may be needed from this ideal model. In these cases, there is often good reason to provide help to the developers from a Project Manager and/or a Business Analyst
- However, as much as possible, that assistance can be provided in a way that is consistent with Agile. Here are a couple of guidelines for that:
 - If a Project Manager is involved at the team level, he/she should be in more of an advisory and support role rather than a management control mode
 - If a Business Analyst is involved at the team level he/she should not be just an intermediary between the development team and the business users

NEXT LECTURE...

THE ROLE OF THE PRODUCT OWNER IN AN AGILE ENVIRONMENT

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In the next lecture, we're going to talk about the role of the Product Owner in an Agile environment and how that role has absorbed functions that might normally be performed by a Project Manager

The Role of the Product Owner In an Agile Environment

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Next I want to talk about how some of the project management functions that might normally be performed by a project manager have been absorbed into the Product Owner role

Product Owner Project Management Responsibilities

Overall responsibility for the success or failure of the project

Project Manager Responsibility

Planning and control to achieve cost and schedule goals

Product Owner Responsibility

Planning and management to achieve business success



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The role of the Product Owner in an Agile project really comes closest to the role of a Project Manager but it really is a hybrid of some project management functions and some product management functions. This slide shows at a high level how these two roles are different:

In a traditional plan-driven project, a project manager is responsible for planning and control to deliver defined requirements within budgeted cost and schedule goals

In an Agile environment, the role of the Product Owner actually goes well beyond that level of responsibility and includes some functions that would be more of a product management function. The Product Owner would be expected to take responsibility for the success or failure of the project from an overall business perspective and not just meeting cost and schedule goals

We'll go into more detail on the role of the Product Owner in the next few slides.

Product Owner Project Management Responsibilities

Setting goals and requirements

Project Manager	Product Owner
Execute the project with defined requirements determined by the business sponsor and business users	Some decision-making authority for defining and prioritizing goals and requirements

Budgeting, business planning, and cost management

Project Manager	Product Owner
Management of costs within the scope of the project	Management of overall business profitability

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This slide shows some typical functions of an Agile Product Owner role and how they relate to the functions that might normally be performed by a project manager

- **Setting goals and requirements** – In this area, the responsibility of the Product Owner actually goes beyond the responsibilities of a typical project manager because a Product Owner has some responsibility for defining the requirements for the product and for the business success of the project. A project manager would not typically have that level of responsibility and would simply execute the project with defined requirements determined by the business sponsor and business users
- **Budgeting, business planning, and cost management** – In a typical plan-driven project, the project manager would have some responsibility for cost management within the scope of the project to ensure that the project stayed within the cost budget that has been established for the project. The Product Owner's role would actually go somewhat beyond that because the Product Owner would be responsible for setting and managing the budget for the project within the context of an overall business plan. The difference is that the project manager would have cost management responsibility against a defined cost budget and the Product Owner might have a broader responsibility for the profitability of the project within an overall business plan that includes both costs and revenues.

Product Owner Project Management Responsibilities

Planning schedules and product roadmaps

Project Manager	Product Owner
Acts as an intermediary between the project team and the business sponsors to establish a schedule	Take a much more active role in setting the schedule by making decisions and prioritizing what needs to be done

Risk Management

Project Manager	Product Owner
Responsible for monitoring and controlling project risks	Similar responsibility but includes decision-making responsibility for resolving risks

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This slide shows some typical functions of an Agile Product Owner role and how they relate to the functions that might normally be performed by a project manager

- **Planning schedules and product roadmaps** – A project manager would normally not have decision-making authority for setting project schedules. He/she would normally act as an intermediary between the project team and the business sponsors to establish a schedule that provides timely delivery of the business requirements with the resources available

A Product Owner would actually take a much more active role in setting the schedule by making decisions and prioritizing what needs to be done and working out an overall Product Roadmap for the project. A project manager would not normally have that decision-making authority

- **Risk Management** – A Project Manager would normally be responsible for monitoring and controlling project risks and reporting on the status of risks to the business sponsor but would have limited decision-making responsibility for resolving risks. A Product Owner would typically have similar responsibilities but would have more decision-making responsibility for resolving risks

Product Owner Project Management Responsibilities

Review of results and acceptance testing

Project Manager	Product Owner
Responsible for testing the product against defined requirements and facilitating final acceptance testing	Decision-maker on final acceptance testing

Track and manage progress against goals

Project Manager	Product Owner
Track and manage progress against goals	Same plus decision-making authority to revise goals and/or reprioritize deliverables as necessary to meet goals

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This slide shows some typical functions of an Agile Product Owner role and how they relate to the functions that might normally be performed by a project manager

- **Review of results and acceptance testing** – A Project Manager would normally be responsible for testing the product against defined requirements and facilitating final acceptance testing. He/she really does not have the authority for final acceptance of the product. A Product Owner would be a decision-maker on final acceptance testing and has authority to accept or reject the finished product
- **Track and manage progress against goals** – A Project Manager is normally responsible for tracking and managing progress against goals but he/she does not have authority to modify or re-prioritize those goals while the project is in progress. A Product Owner would have decision-making authority to revise goals and/or reprioritize deliverables as necessary to meet goals as the project was in progress

NEXT LECTURE...

THE ROLE OF THE SCRUM MASTER IN AN AGILE ENVIRONMENT

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In the next lecture, we're going to talk about the role of a Scrum Master in an Agile environment and how that role has absorbed functions that might normally be performed by a Project Manager

The Role of the Scrum Master In an Agile Environment

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In this lesson, we're continue to talk about how project management roles are typically distributed among the members of a team in an Agile project. The final role to talk about is the role of the Scrum Master in an Agile environment.

Scrum Master Project Management Responsibilities

Overall responsibility for leading and facilitating the team

Project Manager Responsibility
Assignment, management, and tracking of all tasks and activities assigned to the team
Scrum Master Responsibility
"Servant leader" role – facilitating the team and coaching the team in the Scrum process



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The role of the Scrum Master in an Agile environment also absorbs some functions that might normally be performed by a project manager. This slide shows at a high level how these two roles are different:

In a traditional plan-driven project, a project manager is responsible for assignment, management, and tracking of all tasks and activities assigned to the team

In an Agile environment, the role of the Scrum Master is more of a facilitation and supporting role to help the team be successful rather than a more directive management role. The Scrum Master is considered a "Servant Leader" and is responsible for facilitating the team and coaching the team in the Scrum process

We'll go into more detail on the role of the Product Owner in the next few slides.

Scrum Master Project Management Responsibilities

Team Leadership and Management

Project Manager	Scrum Master
Responsibility for management of all tasks and activities performed by the team	The team is expected to be self-organizing and the Scrum Master plays more of a facilitation role

Meeting Facilitation

Project Manager	Scrum Master
Responsible for facilitating team meetings	Similar responsibility

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This slide shows some typical functions of an Agile Scrum Master role and how they relate to the functions that might normally be performed by a project manager

- **Team Leadership** – In this area, the responsibility of the Scrum Master is somewhat limited compared to the responsibility of a project manager. A project manager typically has management responsibility for management of all tasks and activities performed by the team while in an Agile environment the team is expected to be self-organizing and the Scrum Master plays more of a facilitation role
- **Meeting Facilitation** – Both the Scrum Master and the Project Manager are responsible for facilitating team meetings. That responsibility is similar

Scrum Master Project Management Responsibilities

Removal of Obstacles

Project Manager	Scrum Master
Responsible for removing obstacles that might be impeding team progress	Similar responsibility

This slide shows some typical functions of an Agile Product Owner role and how they relate to the functions that might normally be performed by a project manager

- **Removal of Obstacles** – Both the Scrum Master and a Project Manager are responsible for removing obstacles that might be impeding progress of the team. The responsibilities of both roles is similar in this area.

Distributed Project Management – Overall Summary



There's a lot of "project management" going on in an Agile environment but:

- It's a different kind of project management
- The project management functions are distributed among the team

You have to adopt a broader view of what "project management" is to recognize this as "project management"

In overall summary of this section on distributed project management, I think you can see from this that even though you may not find anyone called a "Project Manager" at the team level in an Agile project, there is a lot of "project management" going on. Many people may not recognize this as "project management" because:

- It's a different kind of project management, and
- The project management functions have been distributed among the members of the team instead of being done by a single person called a "Project Manager"

You have to adopt a broader view of what "project management" is to recognize this as "project management"

NEXT LECTURE...

NON-SOFTWARE PROJECTS

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In the next lecture, we're going to start a new section on applying Agile principles to non-software projects and discuss some case studies in that area to illustrate how to apply Agile principles to a broader range of projects that may not fit the traditional mold of software projects.

Example Case Study and Overall Course Summary



Example Case Study
Overall Course Summary

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Here's a brief summary of the topics in this section:

- We're going to start with an example case study to illustrate how to put some of these ideas into practice
- And then we're going to finish up with an overall summary of the course

Acme Widget Company

Acme Widget Company is in the business of producing widgets

Each widget is composed of hardware and a significant amount of software



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In this lesson, I want to walk through a simple case study to illustrate how to apply these ideas in the real world. We're going to talk about a hypothetical company, the Acme Widget Company that is in the business of producing widgets. Each widget is composed of hardware as well as a significant amount of software.

Acme Widget Company

Everyone in the company is heavily involved in producing widgets

The company has been successful improving the operational efficiency using an improvement process



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Most of the widget company employees are heavily engaged in producing widgets and also improving the efficiency of the process for producing widgets. The company has been successful in improving the efficiency of the process to improve quality and reduce costs associated with producing widgets; however, they've fallen behind other companies in developing new technology to produce new widgets to compete with other widget manufacturers.

John Williams, CEO

Attended a widget convention

Observed other competitors have widgets with twice the performance for half the price

John recognized that something must be done



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John Williams is the CEO of the company. John recently attended a widget convention where he observed that other competitors were offering widgets with twice the performance for half the price.

John recognized that something must be done or the company will continue to lose significant market share to other competitors



The value of project management is about “change”

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This is where the value of project management comes in – project management is about “change”. It is the lifeblood of the company...a company needs to continue to evolve to stay competitive and that means developing new products and capabilities.

This illustrates the difference between process management and project management. Process management is about managing and improving the efficiency of the processes for producing existing products but that only goes so far. The value of project Management is in initiating and effectively managing new initiatives that involve change to introduce new products and new capabilities for existing products.

The Dilemma

Simply developing products that are equal to competitors would not be good enough

The company needed to develop widgets that were far ahead of their competitors

The requirements for these new widgets are not well-defined



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However, John recognized a dilemma.

- A “me too” strategy that developed products that were equivalent to competitors wouldn’t be sufficient – the company had already fallen too far behind
- The company needed to develop widgets that were far ahead of their competitors in order to regain a competitive position in the market
- An additional dilemma is that the requirements for these new widgets are not well-defined. As a result, a typical plan-driven project management approach that is based on defining detailed requirements upfront prior to the start of the project won’t work. Also, even if it were feasible, taking the time to develop detailed requirements would delay the startup of the project significantly and time is of the essence to get a product to market because Acme Widgets has already fallen way behind
- Another factor is time-to-market. John recognized that the company needed to get the new line of widgets developed and into the market as soon as possible or the company will continue to lose market share to other competitors



An important value of an Agile Project Management approach is that projects can be initiated without necessarily knowing detailed project requirements upfront

However, it requires close collaboration between the project team and the business sponsors

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This is exactly the kind of situation where an Agile Project Management approach is essential. The company cannot wait to define detailed requirements prior to the start of the project – the project must get started quickly based on a vision of what the new product should be with as much definition as possible but the detailed requirements will be further elaborated as the project is in progress.

This calls for a collaborative approach between the development team and the business sponsors to explore what is possible to give the company a significant edge over other competitors.

What Happened

The business sponsors and the development team developed a vision of what they thought the new product might be to gain a significant competitive advantage

Many details were left to be resolved as the project was in progress



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The business sponsors and the development team developed a vision of what they thought the new product might be to gain a significant competitive advantage. This enabled the project to get started quickly without waiting to develop detailed requirements

Many details were left to be resolved as the project was in progress. This allowed the project to take a trial-and-error approach and take additional risks in exploring new areas that had not been previously tried by. A traditional, plan-driven approach that relies heavily on defining detailed requirements upfront would typically focus on much safer and well-defined choices that don't pose that much risk. An Agile approach has an advantage of being able to deal with risk more effectively because the whole process is much more adaptive



The project was very successful and resulted in developing a new leading-edge technology product much faster than anyone thought possible and the collaborative approach between the business sponsors and the project team was a big win

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The project was very successful and resulted in developing a new leading-edge technology product much faster than anyone thought possible and the collaborative approach between the business sponsors and the project team was a big win

I think you can easily see from this example how an Agile Project Management approach can be essential for a company to gain and sustain competitive advantage in a very competitive and rapidly-changing marketplace.



This kind of project requires a very different kind of project management approach

You have to rethink the role of project management as being a change agent and using the most appropriate methodology for managing whatever change is associated with the project

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A key point that this case study illustrates is that this kind of project requires a very different kind of project management approach and it requires thinking about project management in a much broader perspective. Instead of thinking of the value of project management as planning and controlling projects to provide a high level of predictability, you have to rethink the role of project management as being a change agent and using the most appropriate methodology for managing whatever change is associated with the project.

NEXT LECTURE: OVERALL SUMMARY

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In the next lecture, we're going recap some of the topics we've talked about in this course and talk about additional resources that you can use to make further progress in this area.

Thanks for taking the time to do this lecture and I'll look forward to working with you in the rest of the course.

OVERALL SUMMARY AND ADDITIONAL RESOURCES

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In this lecture, we're going to summarize some of the topics we've discussed in previous lectures and talk about additional resources that are available to help you implement some of the ideas and the direction provided by this course.

Overall Summary

Background Material

Agile versus Waterfall Recap

Choosing the Right Approach

We started out this course with some background material including a brief recap of the material in the Agile versus Waterfall course and how to go about choosing the right approach to fit a project

The typical Agile versus Waterfall comparison can be very misleading



- It is not a binary and mutually-exclusive choice between two extremes as many people seem to believe
- It is a spectrum of alternatives from a heavily adaptive approach at one extreme to heavily plan-driven approach at the other extreme

The most important points in this section are that we need to see “Agile” and “Waterfall” in a fresh new perspective as complementary to each other rather than competitive.

There are many myths, stereotypes and misconceptions about Agile and Waterfall and the typical Agile versus Waterfall comparison can be very misleading

- It is not a binary and mutually-exclusive choice between two extremes as many people seem to believe
- It is a spectrum of alternatives from a heavily adaptive approach at one extreme to heavily plan-driven approach at the other extreme

Overall Summary

Important Shifts in Thinking

Popular Project Management and Agile Stereotypes

What's Really Different About Agile Project Management?

Agile Project Management Self-evaluation

Next, we talked about some important shifts in thinking that project managers need to adopt to make a transformation to an Agile Project Management approach.

Agile will force us to redefine what we think of as “project management” in a much broader context



- In today’s world, “project management” is heavily associated with a traditional plan-driven approach to project management
- In the not-too-distant future, project managers who only know how to do a traditional plan-driven approach to project management will be at a distinct disadvantage in many industries and application areas

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The most important point in this area is that Agile will force us to redefine what we think of as “project management” in a much broader context

- In today’s world, “project management” is heavily associated with a traditional plan-driven approach to project management
- In the not-too-distant future, project managers who only know how to do a traditional plan-driven approach to project management will be at a distinct disadvantage in many industries and application areas

We must adopt a broader view of what “project management” is that is not limited to a traditional plan-driven approach to project management and the role may not even be done by someone called a “Project Manager”

Overall Summary

Managing Flow in Agile Projects

Kanban

Flow and The Theory of Constraints

Kanban Boards

Cumulative Flow Diagrams

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Next, we talked about managing flow in Agile projects including:

- Kanban
- Flow and The Theory of Constraints
- Kanban Boards
- Cumulative Flow Diagrams



In a typical plan-driven project, there is typically a lot of emphasis on defining and managing the structure of the project

In an Agile environment, the structure is really simple and flow is much more important

The concept of flow is probably one of the most important concepts in Agile to understand. In a traditional plan-driven project, there is typically an emphasis on defining and managing the structure of the project because that is critical to effectively managing the project and making it predictable.

An Agile project is dynamic and constantly changing so the emphasis is normally completely different. The structure of the project is typically very simple and doesn't change throughout the project. It's like a big pipe and you try to push as much stuff through that pipe in a given amount of time as possible. That's why the concept of flow is so important.

Overall Summary

Lean Software Development and Value Stream Analysis

Lean Software Development

Value Stream Analysis

Next, we talked about Lean Software Development and Value Stream Analysis



Lean and Agile are somewhat in opposition to each other:

- Agile is based heavily on flexibility and adaptivity
- Lean is based heavily on doing things efficiently

Both are oriented on producing value to the customer

The important point in this area is that Lean and Agile are somewhat in opposition to each other:

- Agile is based heavily on flexibility and adaptivity
- Lean is based heavily on doing things efficiently

Obviously those two goals are not entirely congruent with each other and some tradeoffs are necessary to maximize efficiency while also being flexible and adaptive. Both approaches are oriented on producing value to the customer

Value stream analysis is a method for looking at a process and identifying what can be done to improve the efficiency of the process in delivering value to the customer

Overall Summary

Value-driven Delivery

Value-driven Delivery Overview

Principles of Value-driven Delivery

Customer-value Prioritization Part 1 (Overview)

Customer-value Prioritization Part 2 (Pareto, Moscow)

Customer-value Prioritization Part 3 (Kano)

Customer-value Prioritization Part 4 (Relative Weighting)

Business Case Development

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In the next section, we talked about Value-driven delivery including various ways to analyze and prioritize customer values including:

- Pareto, Moscow
- Kano
- Relative Weighting

And finally, we talked about how to develop a Business Case for an Agile project



Delivering value to the customer is what's important

An incremental delivery approach makes it possible to assess the value being delivered based on direct customer feedback as the project is in progress

The important points in this area are:

- Delivering value to the customer is what's important – a traditional plan-driven project is typically considered successful if it delivers the defined requirements within a given budgeted cost and schedule. The problem with that approach is that the requirements may not accurately reflect customer value. As a result, there have been many projects that met their cost and schedule goals but failed to deliver an acceptable level of value to the customer.
- An incremental delivery approach makes it possible to assess the value being delivered based on direct customer feedback as the project is in progress. In a traditional plan-driven project, many times you don't know if the value being delivered is going to meet the customer need until final acceptance testing at the end of the project.

Overall Summary

Adaptive Planning

Rolling Wave Planning

Agile Planning Practices and Tools Part 1 (Product/Project Vision)

Agile Planning Practices and Tools Part 2 (Product Road Map)

Agile Planning Practices and Tools Part 3 (Exploratory 360 Assessment)

Agile Planning Practices and Tools Part 4 (Functional Decomposition)

Agile Planning Practices and Tools Part 5 (Agile Project Charter)

Progressive Elaboration and Multi-level Planning

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In the next section, we talked about Adaptive Planning, how it is different from a traditional plan-driven approach, and various techniques and methods for implementing an Adaptive Planning approach including:

- Product/Project Vision
- Product Road Map
- Exploratory 360 Assessment
- Functional Decomposition
- Agile Project Charter
- Progressive Elaboration and Multi-level Planning



Adaptive Planning and Value-driven Delivery go hand-in-hand

In situations with a high-level of uncertainty, an adaptive planning approach is essential

The important points in this area are that adaptive Planning and Value-driven Delivery go hand-in-hand and in situations with a high-level of uncertainty, an adaptive planning approach is essential

Many times a traditional plan-driven project will attempt to develop a detailed plan prior to the beginning of the project. In situations where there is a high level of uncertainty about the solution, that will typically require making a lot of assumptions which many times will prove to be wrong. In that kind of environment, it is best to take an adaptive, rolling-wave planning approach where the plan is further elaborated as the project is in progress rather than attempting to develop a complete and detailed project plan upfront prior to the start of the project.

Overall Summary

Agile Requirements Definition Practices

Agile Requirements Best Practices

The Role of a Business Analyst in an Agile Project

User Personas

User Stories and User Story Examples

Requirements Hierarchy, Epics, and Themes

Product Backlog and Product Backlog Grooming

Story Mapping

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In the final section of the course, we talked about Agile requirements definition practices which are a way to define requirements in an Agile environment including:

- Agile Requirements Best Practices
- The Role of a Business Analyst in an Agile Project
- User Personas
- User Stories and User Story Examples
- Requirements Hierarchy, Epics, and Themes
- Product Backlog and Product Backlog Grooming
- Story Mapping



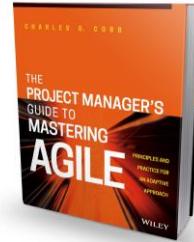
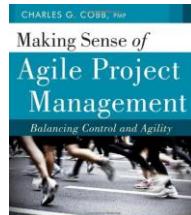
Agile requirements are intentionally very brief and succinct

They describe the business need rather than attempting to specify how to build a solution to satisfy that need

The important points in this area are that:

- Agile requirements are intentionally very brief and succinct – they are intended to be only a “placeholder for conversation” rather than detailed, standalone requirements
- They describe the business need rather than attempting to specify how to build a solution to satisfy that need

Additional Resources to Help – Books



NEW!

Published in
Early 2015

Also check out over 100 articles in my blog site at www.managedagile.com

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Here's some additional resources that may be of use to you. I've published two previous books on Agile Project Management and I've recently published a brand new book on Agile Project Management that was released in February of 2015.

There are many books on traditional project management – what's unique about my books is they are all focused on understanding how to blend those two areas together to create a very adaptive approach to Agile Project Management. My new book is entitled "The Project Manager's Guide to Mastering Agile" and is designed to be used as a textbook in the course I teach at BU.

In addition to those books, I also have a blog site that has over 60 useful articles to address particular topics in this area that I am continuing to expand all the time. You can find that blog site at managedagile.com.

*Thank
you*

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Thank you very much for taking the time for this course. I hope that it has been helpful to you. I will be happy to answer any questions you might have - please feel free to contact me if you have additional questions or if I can be of help in any way. Thank you!