Project Management

Prof. A. Ramesh

Department of Management Studies

Indian Institute of Technology Roorkee

Week: 3

Lecture 14 : Agile Project Planning, Project Charter

Dear students, in this lecture we are going to discuss about project charter and agile project planning. This is to recollect where we are standing now. We are in the part 2 of this course that is a project planning. The previous lecture I have discussed about traditional project activity planning. In this lecture, we are going to discuss about project charter and agile project planning. The agenda for this lecture is, first I will explain what is project charter, what are its elements.

Agenda

- Project Charter
- Agile Project Planning
- Comparison of Agile Project Management with Traditional Waterfall Approach
- Project Planning with Scrum
- Scrum Artifacts Supporting Project Planning
- Scrum Events for Project Planning

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). *Project management: a strategic managerial approach*. John Wiley & Sons.

Then we will discuss about agile project planning. Then we will compare agile project management with traditional waterfall approach. Then we will discuss about project planning with the Scrum. Then Scrum artifacts supporting project planning.

Project Charter

- A charter is a high-level document that helps define the scope of the project and is typically submitted to get project approval to move on to develop a project plan.

- The project charter serves as a reference point throughout the project's lifecycle and helps ensure that everyone involved in the project has a shared understanding of its goals, objectives, and requirements.

urce: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

Finally Scrum events for project planning. First we will discuss about what is project charter. A charter is a high level document that helps define the scope of the project and is typically submitted to get project approval to move on to develop a project plan. So the project charter is a document, high level document. The project charter serve as a reference point throughout the project's life cycle and helps ensure that everyone involved in the project has a shared understanding of its goals, objectives and requirements.

Now we will show you the typical project charter element. First the project charter will contain project purpose and goals. That is a clear and concise statement of the project's purpose and objectives. The second element in the project charter is project scope. A description of what is included and excluded from the project.

A Typical Project Charter - Elements

- **Project purpose and goals**: A clear and concise statement of the project's purpose and objectives.

- **Project scope**: A description of what is included and excluded from the project.

- **Project stakeholders**: A list of all individuals and organisations involved in the project and their roles and responsibilities.

urce: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). *Project management: a strategic managerial approach*. John Wiley & Sons.

Then project stakeholders. Here a list of all individuals and organizations involved in the project and their roles and responsibilities will be shown under project stakeholders heading. The next element is project timeline. That is a schedule of the project milestone including start and end dates. The next element in the project charter is project budget.

That is an estimate of the cost of the project and its resources. And the other element in the project charter is project risk. That is an assessment of the potential challenges and obstacles that may arise during the project. Then project deliverables. A list of the expected outcome and the result of the project will be shown in the project charter.

A typical project charter - Elements

- **Project timeline**: A schedule of project milestones, including start and end dates.

- **Project Budget**: An estimate of the cost of the project and its resources.

- **Project risks**: An assessment of the potential challenges and obstacles that may arise during the project.

- **Project deliverables**: A list of the expected outcomes and results of the project

ce: Meredith. J. R.. Shafer. S. M.. & Mantel Jr. S. J. (2017). Project management: a strateaic manaaerial approach. John Wilev & Sons.

Example of Project Charter

Project name: OrangeDelivery App			
Project description:	A mobile application for ordering foodstuffs and other products from OrangeSupermarket stores. The app will be available onGoogle Play and App Store.		
Project objectives:	Facilitate ordering foodstuff and other products published on OrangeSupermarket store website via a mobile phone.		
Project is considered successful when:	1. The app has a high number of downloads on Google Play and App Store. 2. The app has ratings of 4-5 stars on Google Play and App Store and more than 10 positive reviews on each platform. 3. The number of OrangeSupermarket store customers grew by 10%.		
Project participants:	Title:	Name:	
	Investor Project manager Finance manager Team members: Front-end developer Back-end developer QA engineer	Jake McKinsey John Smith Anna Murry James Thomson Andrew Michaelson Kirsty Watts	
Available resources:	Budget: $3,000 Testing environment: Apple iPhone 11 Pro; Xiaomi Redmi Note 7		
Milestones:	Status:	Due:	Deadline:
	1. Build 1.0 Main functions presentation 2. Build 2.0 Adding new features after beta-testing	1/03/2020 1/04/2020	3/03/2020 4/04/2020
Potential risks:	1. The team may not meet deadlines due to adding unplanned in the specification features. 2. The team may run out of the budget due to extending development or testing time.		
Approval:	Title and name:	Date:	
	Investor: John Smith signature_____ Project manager: Ivan Johnson signature_____ Finance manager: Anna Murry signature_____	1/02/2020	

edith, J. R., Shafer, S. M

Here I brought a sample project charter for the purpose of your understanding. You see here the project objective is written. Then there is an explanation of that objectives. Then project is considered successful when? When we can see the project is successful. Then project participants.

Then available resources, milestones, potential risk and who has approved this project charter. These are the typical elements of a project charter. Now we will enter into the another interesting way of managing project called agile project planning. We have been discussing the traditional method for planning the project known as the waterfall approach. The previous lecture we discussed about traditional way of planning the project.

Agile Project Planning

- We have been discussing the traditional method for planning projects, known as the "Waterfall" approach.

- Traditional approaches have proven to work well for many projects.

- There are projects for which the traditional methods do not suffice, mainly because they assume that the project's scope can be well determined and the technology of developing the scope is well understood.

That is called waterfall approach. The traditional approaches have proven to work well for many projects. But there are projects for which the traditional methods do not surface. Mainly because they assume that the project scope can be well determined and the technology of developing the scope is well understood. So what is the basic assumption in the traditional way of managing project is? The scope is known to us it is certain   and   the   technology   involved   in   the   project   also   certain.

This was the assumption, this is the assumption for traditional project planning. But whenever we are violating these two assumptions the traditional way of managing project will not work. So we are going for a new way of managing planning the project called agile project planning. Now here I brought the comparison between traditional and agile planning.   Look   at   the   left   hand   side   this   is   called   waterfall   approach.
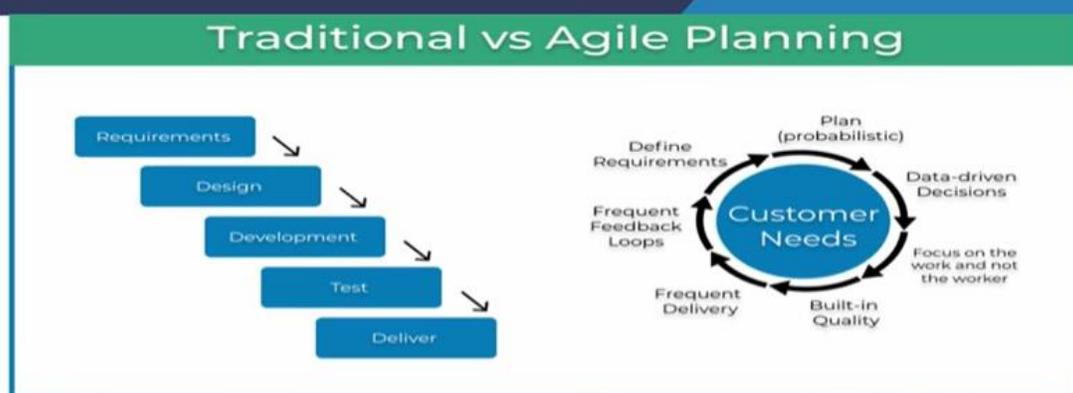
Traditional vs Agile Planning

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). *Project management: a strategic managerial approach.* John Wiley & Sons.

So first we will get the requirement from the user then we design the project then

develop the project then test and deliver. This is an example of a product. Suppose we are manufacturing a product so this is a way of a waterfall approach first   will be requirement, design, development, test and deliver. The point you have to note here in the waterfall approach that once the requirement is done then it is a pushed to the other stage called design stage. So there is no feedback system in the traditional waterfall approach.

But look at the right hand side the customer need is center then we go for planning that planning also probabilistic planning it is not freeze that stage. Then we are taking data driven decisions we keep on collect the data when we are seeing that whether the project the customers need is satisfied or not. Then we go a focus on work and not the worker. So when work is important who is doing that work is not important. Then we make sure that there is a built in quality then we go make sure that there is a frequent delivery then frequent   feedback   loops   that   is   more   important   component.

Then what we do we redefine the requirements what is happening in the agile project planning we can keep on update the requirements of the project. But in the traditional waterfall approach redefining the scope is not possible here. The customer involvement is not that much there in the traditional way of managing project. But in the waterfall approach every time we take care that we are meeting the customer expectation or not that is why the customer need is in the center of this diagram. So agile project planning since change is a constant agile project management shortly   called as APM was developed to embrace change rather than resist it like waterfall project   management.

Agile Project Planning

- Since change is a constant, Agile Project Management (APM) was developed to embrace change rather than resist it like Waterfall project management.

- Indeed, a key characteristic of APM is that it incorporates adaptive planning such that the project plan is updated as circumstances change.

- Employing adaptive planning is particularly valuable for projects characterised by uncertainty, requirements that vary, and short deadlines.

ource: Meredith, J., ... Project Management: a strategic managerial approach. John Wiley & Sons.

Here we encourage we adopt the change but in the waterfall approach change is discouraged. And a key characteristics of agile project management is that it incorporates adaptive   planning such that the project plan is updated as circumstances change. Employing adaptive planning is particularly valuable for projects characterized by

uncertainty requirements that vary and short deadlines. So whenever the requirement is not known in advance then we go for this agile project planning from time to time we have mentioned that the fact that the software and IT projects have had a very high failure rate sometime over budget sometime over schedule and delivering less than the desired output. So software projects are more uncertain than construction projects often due to unclear project objectives and lack of understanding by the client or project team.

Agile Project Planning

- From time to time, we have mentioned the fact that software and IT projects have had a very high failure rate—over budget, over schedule, and delivering less than the desired output.

- Software projects are more uncertain than construction projects, often due to unclear project objectives and lack of understanding by the client or project team.

So in this context the agile project planning is most suitable. So the result understandably has a high probability of client dissatisfaction with the completed project. So the table in the next slide further contrasts the agile project management from the traditional waterfall approach on multiple dimension. So here is a comparison. So one dimension is planning.

Agile Project Planning

- The result, understandably, has a high probability of client dissatisfaction with the completed project.

- The table in the next slide further contrasts APM from the traditional Waterfall approach on multiple dimensions.

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2012). Project management: a strategic managerial approach. John Wiley & Sons.

Agile Project Management vs Traditional Waterfall Approach

Dimension	Agile Project Management	Traditional Waterfall Approach
Planning	Short-term plans that are adjusted as project progresses	Attempts to stick to long-term plans made in advance
Client involvement	Throughout the project	Beginning and end of project
Project execution	Broken down into incremental stages called iterations or sprints	Work completed based on comprehensive and highly structured plan
Communication	Open, frequent (daily) communication among stakeholders encouraged	Mainly for project control
Feedback on results	At the end of each iteration	At the end of the project
Work structure	Integrated cross-functional team	Team members tend to work independently and rely on project manager to coordinate tasks
Project leadership	Self-managed teams with project manager as facilitator of process	Project manager allocates work to team members and controls process

Source: Meredith. J. R., Shafer. S. M., & Mantel Jr. S. J. (2017). *Project management: a strategic managerial approach*. John Wiley & Sons.

So what is happening in the agile project planning in the with respect to planning? So here the planning is in agile project management it is a short term plan that are adjusted as project progress. But in the traditional waterfall approach it attempts to stick to a long term plan made in advance. Then we will see the under the dimension of client involvement. So the client involvement in the agile project management is throughout the project. But in the traditional waterfall approach only it is at the beginning and end of the project.

So with respect to project execution in the agile project management context the project is broken down into incremental stages called iterations or sprints. So these are the terms which we are going to discuss in detail. These are the new term which are using in the agile project management when compared to previous slides. Here in the traditional waterfall approach in the context of project execution work completed based on comprehensive and highly structured plan. Now we will see the in the dimension of communication.

In the agile project management it is open frequent communication. In fact a daily communication among the stakeholder is encouraged. Here in the traditional waterfall approach the purpose of communication is mainly for project control that is a last stage of your project life cycle. Then the feedback on result. So the feedback of the customer is taken care in the agile project management at the end of each iteration.

In every iteration we see that the whether we are going as per our expectation. But in the traditional waterfall approach it is only at the end of the project. Now in the context of work structure it is integrated cross functional team that is for agile project management the work structure is integrated and cross functional team. But in the traditional waterfall approach team members tend to work independently and rely on

project manager to coordinate task. Here the role is pushed to the project manager where in   the   waterfall   approach.

 All the project people who are working they are working independently. And another element is project leadership. So here in the agile project management context they are self-managed teams with the project manager as a facilitator of the process. But in the traditional waterfall approach project manager allocates work to team members   and control processes. So we will continue the comparison of agile project management and traditional   waterfall   approach.

 So team member feedback. So in the agile project APM this is waterfall. So in the context of agile project management the team member feedback is like open communication that is encouraged by all team members. But in the waterfall approach feedback typically provided confidentiality by project manager. So process ownership here the agile project management team members own the process. Here the project manager   in   waterfall   approach   the   project   manager   own   the   process.

Agile Project Management vs Traditional Waterfall Approach
A PM   Waterfall

	APM	Waterfall
Team member feedback	Open communication encouraged by all team members	Feedback typically provided confidentially by project manager
Process ownership	Team	Project manager
Experimentation	Encouraged to identify ways to best meet customer requirements	Discouraged to meet project deadline and stay on budget
Scope	Flexible	Rigid
Change	Welcome and expected part of project	Resisted and often requires formal change order request
Priorities	Customer is top priority followed by team and then scope	Schedule is top priority followed by scope and then team
Measures of success	Agile Triangle: value (extrinsic quality), quality (intrinsic quality), constraints (cost, schedule, and scope)	Iron Triangle: cost, schedule, and scope

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). *Project management: a strategic managerial approach*. John Wiley & Sons.

 Experimentation in the agile project management it is encouraged to identify ways to best meet customer requirement. But in waterfall approach it is discouraged to meet project deadline and stay on budget. Here the budget is more important. Other important element is with respect to dimension of scope. In agile project management the scope is flexible.

 But in the waterfall approach the scope is freeze rigid. Then with respect to change in agile project management the change is welcomed and expected to part of project. But in waterfall approach it is resisted and often requires formal change order request. Then with respect to priorities is very important element on priorities that is a customer is top priority followed by team and then scope. But in waterfall approach schedule is top

priority   followed   by   scope   and   then   team.

Then measure of success. Here the agile triangle that is value, quality, constraint. Value means extrinsic quality. Here quality is intrinsic quality then constraint like cost, schedule and scope. But waterfall approach it is iron triangle which we studied in the beginning   of   this   lecture   cost,   schedule   and   scope.

Waterfall vs agile

- While the Waterfall method is commonly viewed as a "batch" process, APM is viewed as a flow process, where deliverables are produced in a "flow" manner.

- An analogy often used is that of a cake, which is built in horizontal layers, but consumed in vertical slices.

- Waterfall project management attempts to deliver the entire cake, while APM delivers a tiny layer at a time.
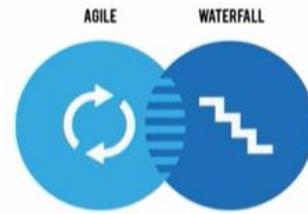
urce: Meredith. J. R.. Shafer. S. M.. & Mantel Jr. S. J. (2017). *Project management: a strategic managerial approach*. John Wiley & Sons.

Here value, quality and constraint. We are continuing with the difference between waterfall and agile. While the waterfall method is commonly viewed as a batch process. But agile project management is viewed as a flow processes where deliverables are produced in a flow manner. An analogy often used is that of a cake which is built in horizontal layers but consumed in vertical slices. So waterfall project management attempts to deliver the entire cake while agile project management delivers a tiny layer at a time.
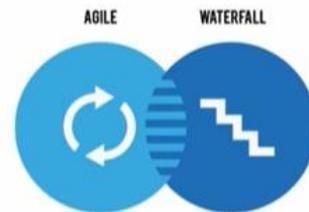
Waterfall vs agile

- That is, the work is divided up so that smaller segments can be completed rapidly, that is, via sprints, and presented for review, feedback, and hopefully offering value for the client.

- During the duration of each sprint, the client has agreed to "freeze" the scope so that the tasks can be considered fixed or concrete.
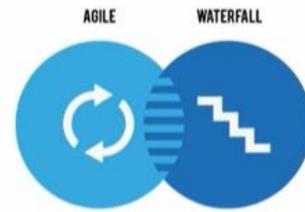
Waterfall vs agile

- This feedforward of results from the project team to the client and the feedback from the client to the team allows for a collaborative project environment, which strongly enhances the likelihood of project success.

- This close and continuing contact distinguishes APM between clients and the project team and an iterative and adaptive planning process.

  That is the difference between agile and waterfall. That is the work is divided up so that smaller segments can be completed rapidly that is via sprints and presented for review, feedback and hopefully offering value for the client. During the duration of each sprint that is small duration, each iteration the client has agreed to freeze the scope so that the task can be considered fixed concrete. This feed forward of result from the project team to the client and the feedback from the client to the team allows for a collaborative project environment which strongly enhances the likelihood of project success. This close continuing contact distinguishes agile project management between clients and the project team and an iterative and adaptive planning process.

Waterfall vs agile

- Project requirements are a result of client/team interaction, and the requirements change as the interaction leads to a better understanding of both sides of the project requirements, priorities, and limitations
- Waterfall approach with its emphasis on the schedule first, then the scope, and lastly, the team
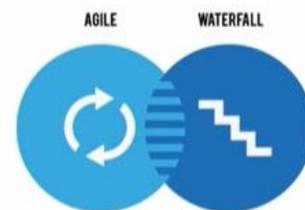- APM emphasis is on the customer first, the team second, and the scope third
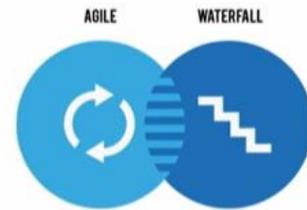
Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2012). *Project management: a strategic managerial approach.* John Wiley & Sons.

Project requirements are the result of client or team interaction and the requirement change as the interaction leads to a better understanding of both sides. This is a small approach with its emphasis on the schedule first then scope and lastly the team. But agile project management emphasis is on the customer first, the team second and scope third. The willingness of team members to share knowledge is an essential condition for agile project. But incidentally the willingness to share knowledge is also a key to success a traditionally organized project.

Waterfall vs agile

- The willingness of team members to share knowledge is an essential condition for Agile projects.
- Not incidentally, the willingness to share knowledge is also a key to success in traditionally organized projects.
- A PM who attempts to control an Agile project as he or she might control a traditional project is most certainly the wrong person for the job.

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2012). *Project management: a strategic managerial approach.* John Wiley & Sons.

So a project manager who attempts to control an agile project as he or she might control a traditional project is most certainly the wrong person for the job. Because the way we are managing the agile project management is different, the mindset of managing our waterfall or traditional project management is different. With all the attention that agile

project management receives it is essential to point out that many of its tenants can be easily incorporated into more traditional project management approaches. So what we can do that whatever good points which we have discussed so far for agile project management that can be incorporated in our traditional project management also. There is nothing prevents increasing customer involvement in the traditional waterfall approach.

Waterfall vs agile

- With all the attention that APM receives, it is essential to point out that many of its tenants can be easily incorporated into more traditional project management approaches.

- There is nothing prevents increasing customer involvement in the traditional Waterfall approach.
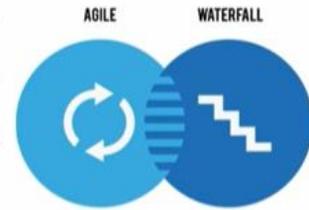
AGILE   WATERFALL

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons

Waterfall vs agile

- There is nothing inherent to traditional project management that prohibits greater experimentation.

- There is nothing that prevents a project manager from adopting a subset of APM best practices

There is nothing inherent to traditional project management that prohibits greater experimentation. There is nothing that prevents a project manager from adopting a subset of agile project management best practices. So wherever good practices there the waterfall project management can easily adopt that good practices from your agile project management. Now we will discuss about project planning with the scrum. In the traditional waterfall approach the emphasis is placed on upfront planning that is we are giving so much importance for the planning that is freeze.

Project Planning with Scrum

- In the traditional waterfall approach the emphasis is placed on upfront planning.

- Often the intent of these change management processes is to discourage changes to the initial plan.

Often the intent of these change management process is to discourage changes in the initial plan because in the waterfall approach we do not encourage for changes in the plan. In contrast the emphasis of the project planning with agile in general for example the scrum in particular is on flexibility. See here we focus on flexible planning processes with its roots it lean management scrum takes a more just in time approach to planning where planning is done as late as possible and when the most is known about the project. Because in the agile project management we take the planning we delay the planning as late as possible until you are exactly know what the exact customer requirement is. The right hand side I have brought a picture for the scrum.

Project Planning with Scrum

- In contrast, the emphasis of project planning with Agile in general, and Scrum in particular, is on flexibility.

- With its roots in lean management, scrum takes a more just-in-time (JIT) approach to planning, where planning is done as late as possible and when the most is known about the project.
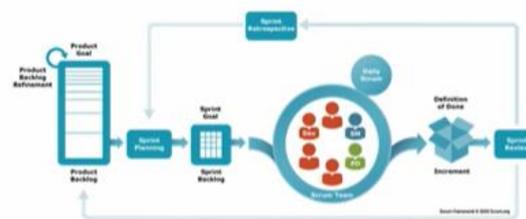
Fig :Scrum

So here what is happening there are first we take product backlog then we go for spring backlog then we discuss about scrum team then we go for increment then finally we go for sprint review that is feedback see that everywhere there is a feedback. So this is a scrum methodology for agile project management. With just in time approach the project

planning is done broadly at first and in more detail later as more is learned about key aspects of the project including customer requirement, the market, the competitive environment and the technology. While in more traditional approaches planning take place primarily at the beginning of the project but in agile planning permeates the entire project. Here the project planning is done more uniformly throughout the project as opposed to being front loaded at the start of the project in our traditional approaches.

Project Planning with Scrum

- With a JIT approach, project planning is done broadly at first and in more detail later as more is learned about key aspects of the project including customer requirements, the market, the competitive environment, and technology.

- While in more traditional approaches planning takes place primarily at the beginning of the project, in Agile planning permeates the entire project.

- Project planning is done more uniformly throughout the project as opposed to being frontloaded at the start of the project.
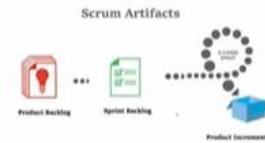
Source: Meredith. J. R.. Shafer. S. M.. & Mantel Jr. S. J. (2017). *Project management: a strategic managerial approach. John Wiley & Sons.*

Now we will discuss about scrum artefacts supporting the project planning. The scrum is the most popular agile approach for implementing agile project management there are different methodology. So one approach is called scrum. Well defined team roles, artefacts and the events are associated with the scrum methodology. The scrum artefacts are documents designed to facilitate project planning and enhance the transparency of the project status.

Scrum Artifacts Supporting Project Planning

- Scrum is the most popular Agile approach
- Well-defined team roles, artefacts, and events are associated with the scrum methodology.
- The scrum artefacts are documents designed to facilitate project planning and enhance the transparency of the project's status.
- The scrum master ensures the artefacts are accessible to all project team members.

Scrum Artifacts

Product Backlog   Sprint Backlog   Product Increment

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). *Project management: a strategic managerial approach*. John Wiley & Sons.

The scrum master ensures that artefacts are accessible all project team members. So when you say artefacts it is a well defined documents. You see in the right hand side I have explained some of the artefacts that is a product backlog, sprint backlog and then the sprint 2 to 4 week sprint then the product increment. These are the documents.

Scrum Artifacts Supporting Project Planning

- One key scrum artifact is the product backlog, which contains a complete list of the requirements for developing or improving the product.
- Typically, these requirements are expressed from the customers' perspective.
- The product backlog evolves as more is learned about the project, customer requirements, the competitive environment, and technology.
- Product backlog should be kept up to date, which is the product owner's responsibility.

Scrum Artifacts

Product Backlog   Sprint Backlog   Product Increment

The documents called scrum artefacts. One key scrum artefact is the product backlog which contains a complete list of the requirement for developing or improving the product. So the product backlog contains a complete list of requirement for developing or improving the product. Similarly these requirements there is a product in the product backlog these requirements are expressed from the customer's perspective. So the product backlog evolves as more is learned about the project, the customer requirements and the competitive environment and technology. So the product backlog should be kept up to date which is the product owner's responsibility.

Scrum Events for Project Planning

- The foundation of scrum is the sprint.
- Effectively, each sprint is a mini-project with a corresponding goal of creating value.
- Typically, the creation of value entails creating some additional product functionality.
- The scrum framework defines several events that facilitate project planning.

Now we will discuss about scrum events for the project planning. So the foundation of the scrum is the sprint. Effectively each sprint is a mini project that is each cycle, each iteration is a mini project with its corresponding goal of creating value. Typically creation of value entails creating some additional product functionality. So the scrum framework defines several events that facilitate project planning.

To facilitate project planning all sprints with a project are the same duration. Additionally the duration of the sprint is limited to less than one month that is 1 to 2 weeks. So limiting the sprint duration means that the project's critical aspect are much more predictable with shorter planning horizons. Now look at the picture on the right hand side.

Scrum Events for Project Planning

- To facilitate project planning, all sprints within a project are the same duration.
- Additionally, the duration of the sprints is limited to less than 1-month ie. one to two weeks.
- Limiting the sprint duration means that the project's critical aspects are much more predictable with shorter planning horizons.

So different cycle say sprint. So in the sprint there is a sprint planning, daily scrum, sprint review, then sprint retrospective. So these are the different elements of your

different activities which are happening inside the sprint. Having a constant duration for the sprint facilitates estimating the amount of work that can be accomplished during the sprint. In addition to sprint, scrum defines four other events associated with project planning as shown in the figure. What are that four events? First one is the sprint planning meeting, then daily scrum, then sprint review, then sprint retrospective.

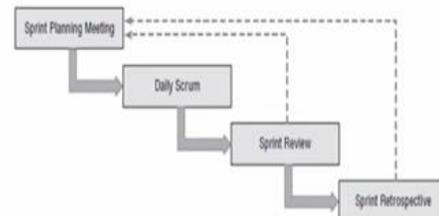## Scrum Events for Project Planning

- In addition to the sprint, scrum defines four other events associated with project planning, as shown in Figure.
- These events all take the form of well-defined meetings.
- On the surface, including four separate types of meetings may create the impression that scrum requires excessive meeting time.
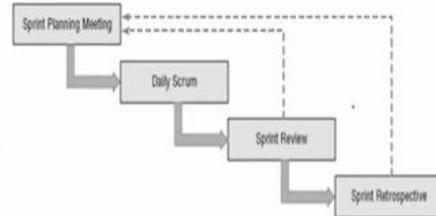
This also we discussed, we have shown this figure in the previous slides but everywhere you see there is a feedback loop. So these events all take the form of well-defined meetings. On the surface including four separate types of meeting may create the impression that scrum requires excessive meeting time. The sequence of scrum planning events is shown in this figure. So as shown in the figure the first event is the sprint planning meeting, this one.


Scrum Events for Project Planning

- The sequence of the scrum planning events (or meetings) is shown in Figure.
- As shown in the figure, the first event is the sprint planning meeting.
- A sprint planning meeting is held at beginning of each sprint and is attended by the entire scrum team (product owner, scrum master, and developers).

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr. S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.
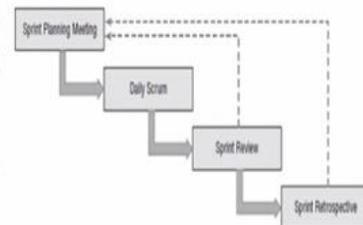
Scrum Events for Project Planning

- The sprint planning meeting is time-boxed to two hours per week for the sprint duration.
- Thus, a sprint planning meeting for a one-week sprint is limited to two hours, a sprint planning meeting for a two-week sprint is limited to four hours, and so on.
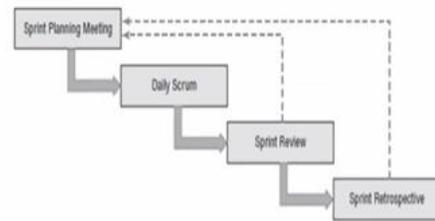
A sprint planning meeting is held at the beginning of each sprint and is attended by the entire scrum team that is a product owner, scrum master and the developers. The sprint planning meeting is a time boxed to 2 hours per week for the sprint duration. That is a sprint planning meeting for a 1 week sprint is limited to 2 hours, a sprint planning meeting for a 2 week sprint is limited to 4 hours and so on. The sprint planning meeting is held on the first day of the sprint to determine the goals for the sprint and to choose the product requirements from the product backlog aligned with the print goal. Typically the sprint goal specifies the product functionality to be completed during the sprint.

Scrum Events for Project Planning

- The sprint planning meeting is held on the first day of the sprint to determine the goal(s) for the sprint and to choose the product requirements from the product backlog aligned with the sprint goal.
- Typically, the sprint goal specifies the product functionality to be completed during the sprint.
- Based on the goal selected, the items from the product backlog are identified that need to be completed during the sprint to achieve the sprint goal.

Scrum Events for Project Planning

- While the sprint planning meeting is held once on the first day of the sprint, the daily scrum meeting is held at the beginning of each workday of the sprint.

- During the meeting, each developer addresses three issues to help the entire team plan and coordinate the work for the coming day:
  - The work completed during the prior day to meet the sprint goal
  - What will be worked on that day to help meet the sprint goal
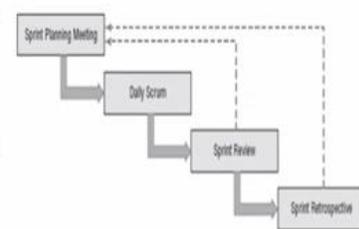 - Any challenges encountered that might hinder meeting the sprint goal

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

Based on the goal selected the items for the product backlog are identified that need to be completed during the sprint to achieve the sprint goal. While the sprint planning meeting is held once on the first day of the sprint, the daily scrum meeting is held at the beginning of each workday of the sprint. During the meeting each developer addresses 3 issues to help the entire team plan and coordinate the work for the coming day. That is the work completed during the prior day to meet the sprint goal what was completed in the previous day. The second one what will be worked on that day to help meet the sprint goal and the third point is any challenges encountered that might hinder meeting the sprint goal.

Scrum Events for Project Planning

- To minimise complexity, the daily scrum is held in the exact location and simultaneously each day.

- While the daily scrum is open to all stakeholders, only the scrum team may talk during the meeting.

- The scrum master is responsible for ensuring outsiders do not disrupt the meeting and that the meetings take place and do not go over the 15-minute time-box.

Source: Meredith, J. R., Shafer, S. M., & Mantel Jr, S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons.

So 3 point what we are discussing what has been achieved yesterday, what you have to do today and what was the challenges that can be overcome. These are the 3 points that are discussed in the meeting. To minimize the complexity the daily scrum is held in the

exact location and simultaneously each day. While the day scrum is open to all stakeholders only the scrum team may talk during the meeting. The scrum master is the responsible for ensuring outsiders do not disrupt the meeting and that the meeting take place and do not go over 15 minutes time box.

Scrum Events for Project Planning

- If issues or challenges are uncovered during the daily scrum, a separate problem-solving meeting, often called the after-party, is held.
- A key benefit of the daily scrums is that they enhance team communication while eliminating the need for other meetings.
- The sprint review and sprint retrospective are the other two scrum events and are held at the end of the sprint.

Source: Meredith, J. R., Shafer, S. M., R. Mantel Jr. S. J. (2017). Project management: a strategic managerial approach. John Wiley & Sons

If issues or challenges are uncovered during the daily scrum a separate problem solving meeting often called the after party is held. A key benefit of the daily scrum is that they enhance the team communication while eliminating the need for other meeting. The sprint review and sprint retrospective are the other 2 scrum event and are held at the end of the sprint. Like the sprint planning meeting the daily scrums these events have well defined purposes and time boxes.

Scrum Events for Project Planning

- Like the sprint planning meeting and the daily scrums, these events have well-defined purposes and time-boxes.
- As these events occur at the end of the sprint, project planning is not their focus, although the outcomes of the events provide important inputs for the next sprint planning meeting as shown in Figure

Sprint Planning Meeting → Daily Scrum → Sprint Review → Sprint Retrospective
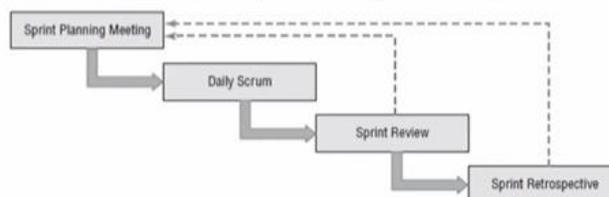
Source: Meredith, J. R., Shafer, S. M.

All these events occur at the end of the sprint. Project planning is not their focus although the outcomes of the events provide important inputs for the next sprint planning meeting as shown in the figure because you see everywhere there is a feedback. So first

we go for sprint planning meeting then that will go to daily scrum then we will go for sprint review then finally it will go to sprint retrospective. So in this lecture I discussed about what is project charter with the example then I   explained advantage of agile project planning over traditional project planning then I am compared the agile project management with traditional waterfall approach. Then I have discussed about project planning with scrum and its elements then I have discussed scrum artefacts supporting the project planning various documents we discussed then we discussed the scrum events for the project planning. Thank you. .