Masters in Digital Business

Agile Project Management

IU6: Agile Planning & Implementation

Learning Objective

By the end of this unit, learners will gain knowledge about Agile planning methodologies such as User Story Estimation techniques, Agile Ceremonies, and Agile planning stages.

Upon completion of this unit, learners will be able to plan and estimate the task timeline and activity log to achieve project completion.

Topics Covered

#	Topics
1	Traditional and agile project methodology
2	Characteristics of Agile Planning
3	Agile Ceremonies, best practices, and implementation
4	User Story Estimation in Agile
5	User Story Estimation Techniques
6	Agile Prioritization Techniques

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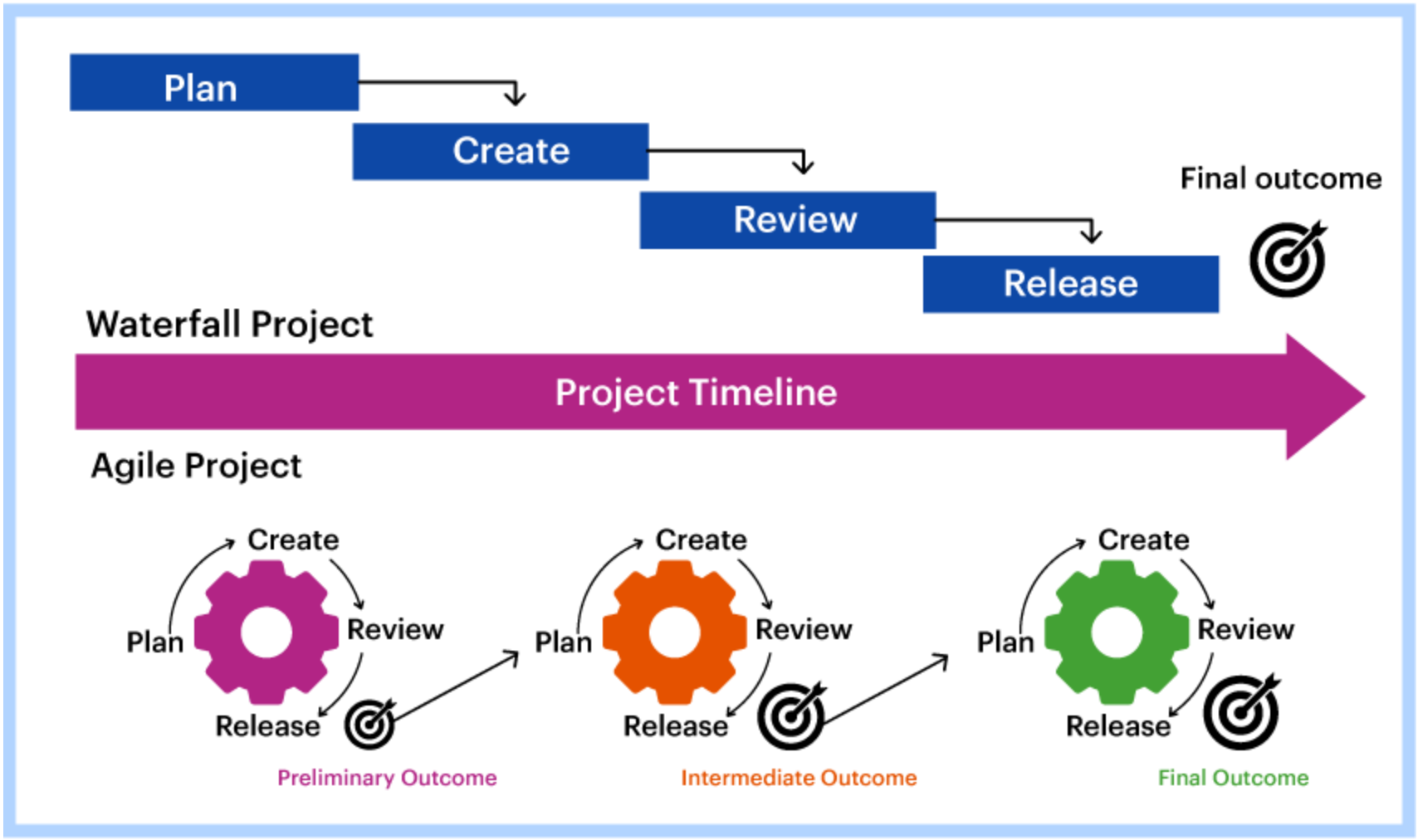
Traditional and agile project methodology



Source: https://kissflow.com/project/agile/traditional-vs-agile-project-management/

Traditional and agile project methodology

Characteristics	Agile approach	Traditional approach
Organizational structure	Iterative	Linear
Scale of projects	Small and medium scale	Large-scale
User requirements	Interactive input	Clearly defined before implementation
Involvement of clients	High	Low
Development model	Evolutionary delivery	Life cycle
Customer involvement	Customers are involved from the time work is being performed	Customers get involved early in the project but not once the execution has started
Escalation management	When problems occur, the entire team works together to resolve it	Escalation to managers when problem arise
Model preference	Agile model favors adaption	Traditional model favors anticipation
Product or process	Less focus on formal and directive processes	More serious about processes than the product
Test documentation	Tests are planned one sprint at a time	Comprehensive test planning
Effort estimation	Scrum master facilitates and the team does the estimation	Project manager provides estimates and gets approval from PO for the entire project
Reviews and approvals	Reviews are done after each iteration	Excessive reviews and approvals by leaders

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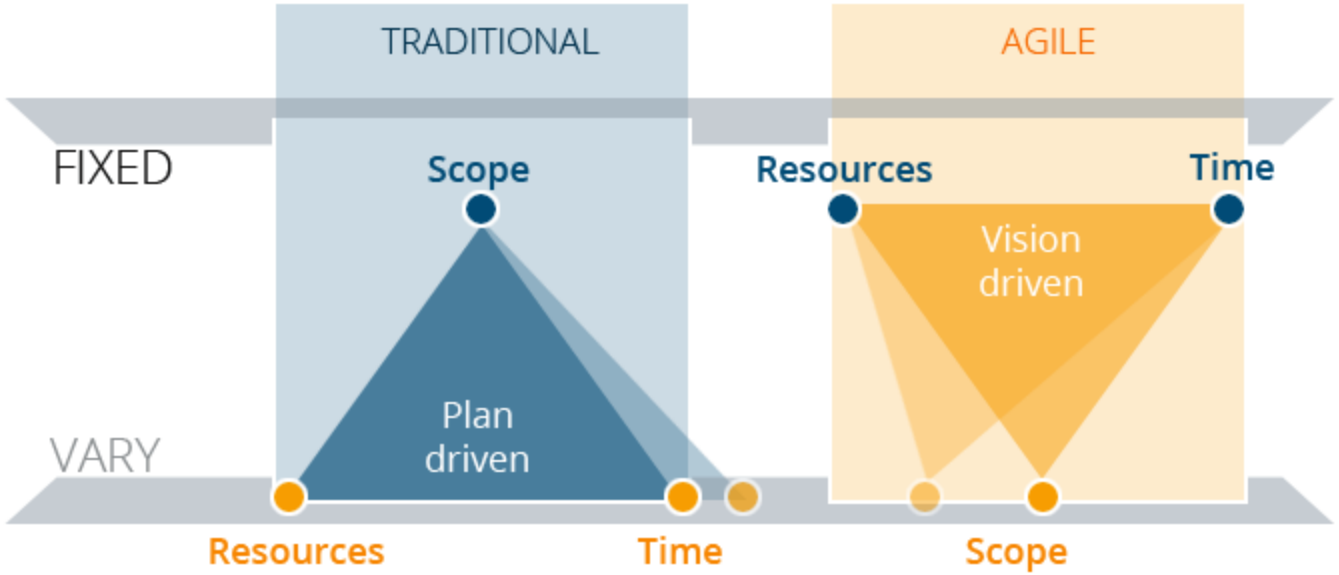
Traditional and agile project methodology



In Agile Methodology, the resources and time are fixed while the scope of the project is subject to change as per the need and the feedback received from each iterative test & review.

The overall goal and the scope of the project are fragmented into smaller milestones and completed with every iteration.

Source: https://www.microtool.de/en/knowledge-base/what-is-agile-project-management/

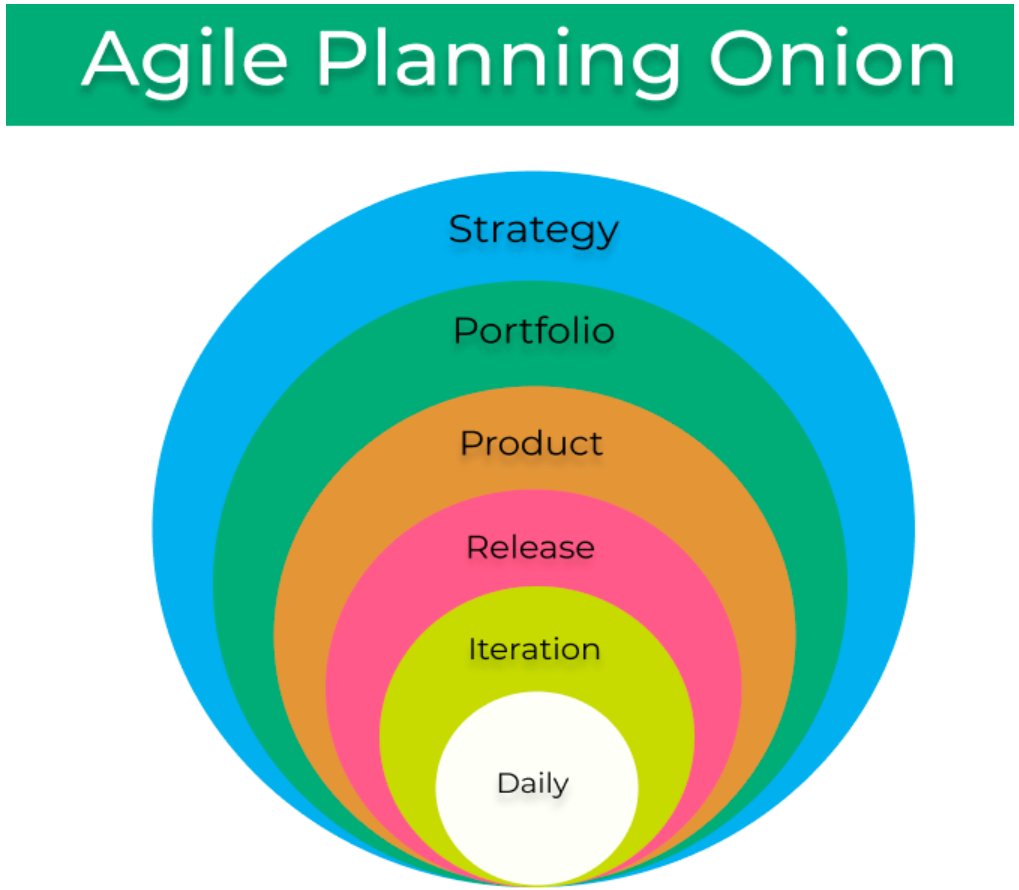
Choosing the project methodology

The Agile framework is more aligned with the ever-changing requirements of the modern industrial environment. However, there are certain instances where the traditional approach can be a better choice.

Determining Factor	High	Low
Initial requirements and regulations	Waterfall	Agile
Involvement of the product owner	Agile	Waterfall
Novelty of the project	Agile	Waterfall
Adherence to the existing organizational structure	Waterfall	Agile
Flexibility of the timeline	Agile	Waterfall
Flexibility of the budget	Agile	Waterfall

Source: https://kissflow.com/project/agile/traditional-vs-agile-project-management/

Characteristics of Agile Planning



In Agile planning, **there are multiple layers of project planning involved, which gives the name "Planning Onion" to Agile planning**.

The Planning Onion **helps teams choose the right level of planning for each timeframe for which they are when working in an agile environment. Each layer of onion shows another level of planning – from one strategy to other.**

The Agile Planning Onion layers are

- Vision (which includes two steps: Strategy and Portfolio)
- Road
- Edit release
- Replacement planning
- Daily planning

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Characteristics of Agile Planning

- Agile Planning is applicable at every slice of the onion.
- Agile should not be only on the team level (Day, Iteration, Release). You can have an Agile product management service, Agile portfolio management, and Agile strategy.
- Being agile in strategy is what defines business agility in general.
- Agile culture includes how an organization's goals and strategic initiatives are managed.
- Goal from the eyes of a customer (value)
- Lack of detail whenever it can be avoided (commit as late as possible)
- Frequent deliveries (small batch size)
- Date ranges instead of single date estimates (probabilistic vs. deterministic)
- Focus on the work and not the worker (no particular assignees, the team is responsible)
- No separate phases for Quality Assurance (quality is built-in)
- Two-tiered plans (Timelines for initiatives, tasks have no start / end dates)
- Data-driven (Based on historical data and Monte Carlo simulations)

Agile ceremonies

Agile ceremonies are scheduled meetings that have the objective of establishing a team's or an organization's information flow of internal or external input. They can assist you in creating synergy within the activities of a single team or across several organizational levels because they are an essential component of Agile project management.

1. Agile ceremonies don’t equal Scrum ceremonies.

While the events in Scrum are a core part of the framework, the more general idea behind “Agile ceremonies” refers to cadences/feedback loops that are not explicitly prescribed as a part of the plan.

2. The ceremonies in Agile are not only applicable at the team level.

You must incorporate regular feedback loops across middle and strategic management levels to establish a holistic information flow within your organization. The goal is to establish a continuous feedback loop between all organizational levels so that operations can be swiftly adjusted in response to shifting company priorities, new customer demands, etc.

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Benefits & Best Practices of Ceremonies in Agile

• ***Keep every meeting actionable and engaging*** – A concise action item list is crucial, especially when discussing retrospectives. Create a friendly atmosphere for everyone in the meeting and solicit feedback from all team members, managers, or other important stakeholders.

• ***Don't turn stand-ups into status reports*** – Finding process bottlenecks and making sure everyone is on the same page with the task at hand are the goals of the stand-up meeting. Avoid turning the meeting into a protracted status report and try to keep it "to the point."

• ***Use facilitators and time-keepers*** – If there is no one present to control the participants, meetings can easily get out of hand or run over their allotted time.

• ***Beware the trap of "too many meetings"*** - There is always a chance that using many cadences in an organisation will end up being wasteful. If you can, try to explain the purpose of each meeting and compare it to others that already take place in your company.

• ***Continuous improvement*** – Make sure you continuously enhance how your organisation conducts ceremonies or cadences, just like you do with processes. Ask the attendees whether they believe something may be optimised throughout each meeting and take their feedback into account.

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Implementing Ceremonies in Agile

Agile ceremonies help companies get timely feedback and adapt to changes. Some of the most popular ceremonies in Agile are divided into 2 parts.

Kanban-based cadences/ceremonies:

- Daily Kanban
- Replenishment
- Service Delivery Review
- Operations Review
- Strategy Review

Scrum-based ceremonies:

- Daily Stand-Up
- Sprint Planning
- Sprint Review
- Sprint Retrospective

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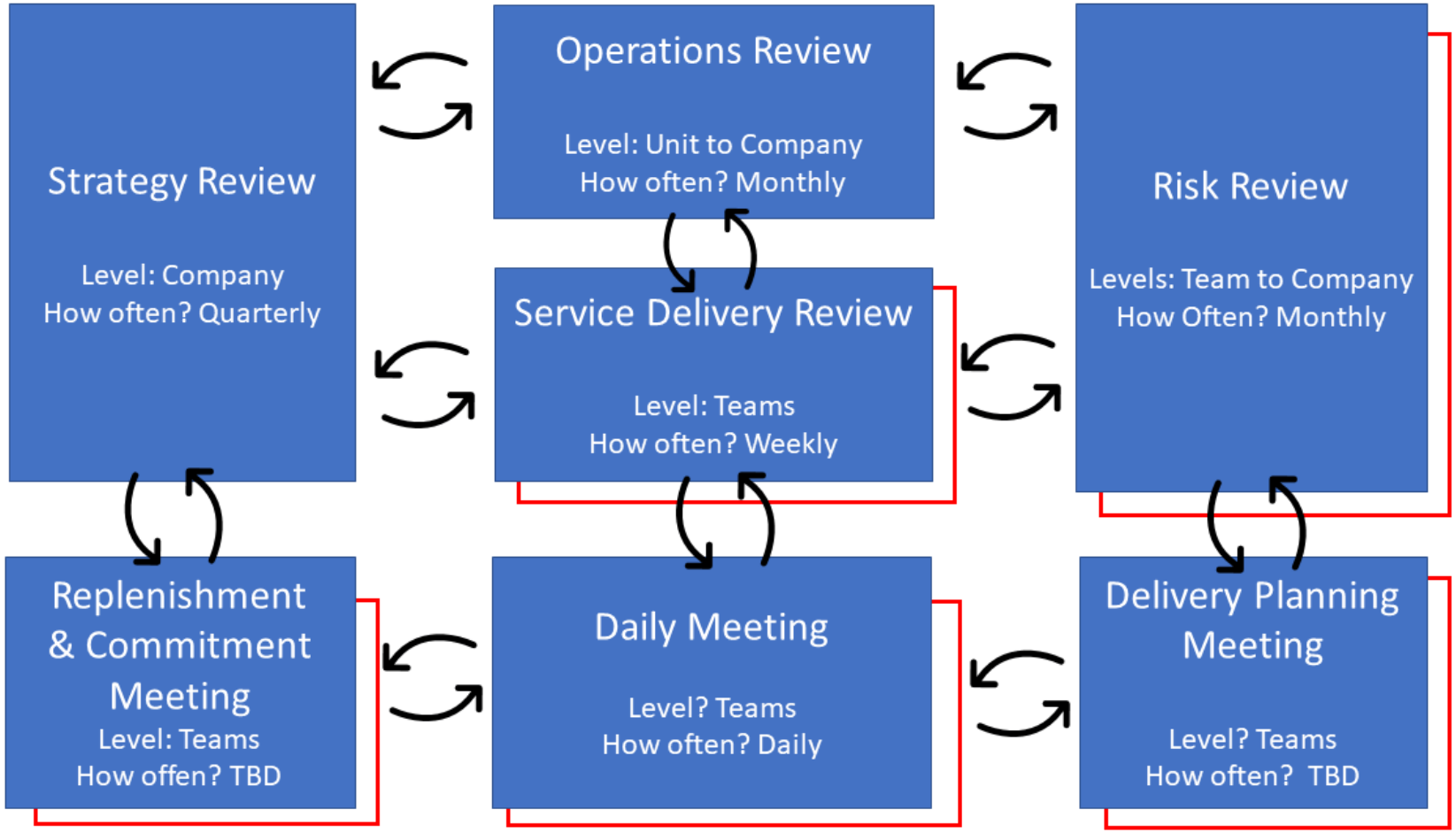
Implementing Ceremonies in Agile

Kanban-based cadences/ceremonies:

- Daily Kanban
- Replenishment
- Service Delivery Review
- Operations Review
- Strategy Review

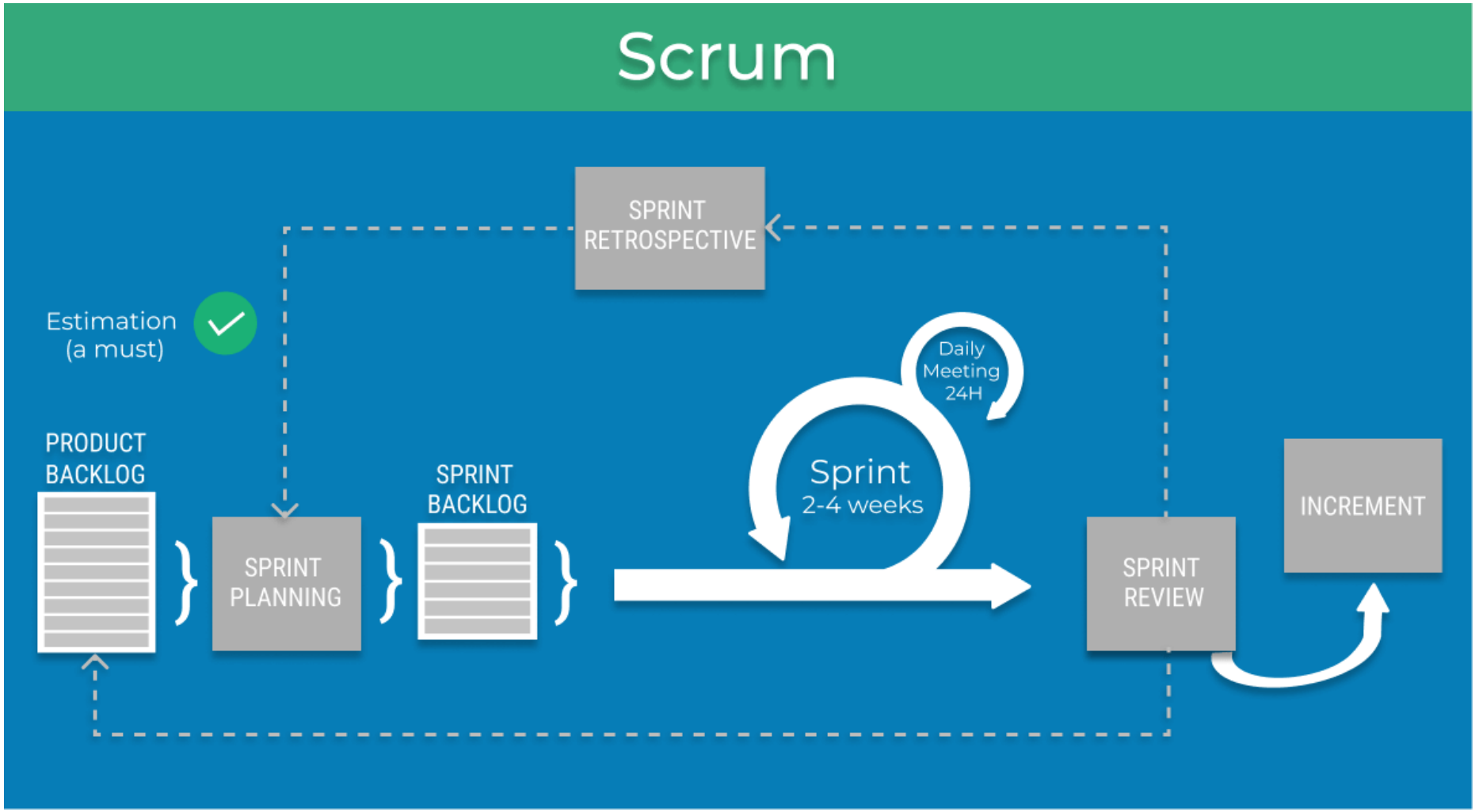


Source: https://kanbanize.com/agile/project-management/ceremonies

Implementing Ceremonies in Agile

Scrum-based ceremonies:

- Daily Stand-Up
- Sprint Planning
- Sprint Review
- Sprint Retrospective



Source: https://kanbanize.com/agile/project-management/ceremonies

Agile Estimation Techniques

Agile estimation is the process for estimating the effort required to complete a prioritized task in the product backlog. This effort is usually measured with respect to the time it will take to complete that task, which, in turn, leads to accurate sprint planning.

Agile teams also estimate using story points as a reference.

In Agile Development projects, a story point is used to quantify the degree of complexity associated with implementing a specific user narrative. The relative units allocated to various user stories that call for estimation are used to measure this.

Agile estimations are essential for:

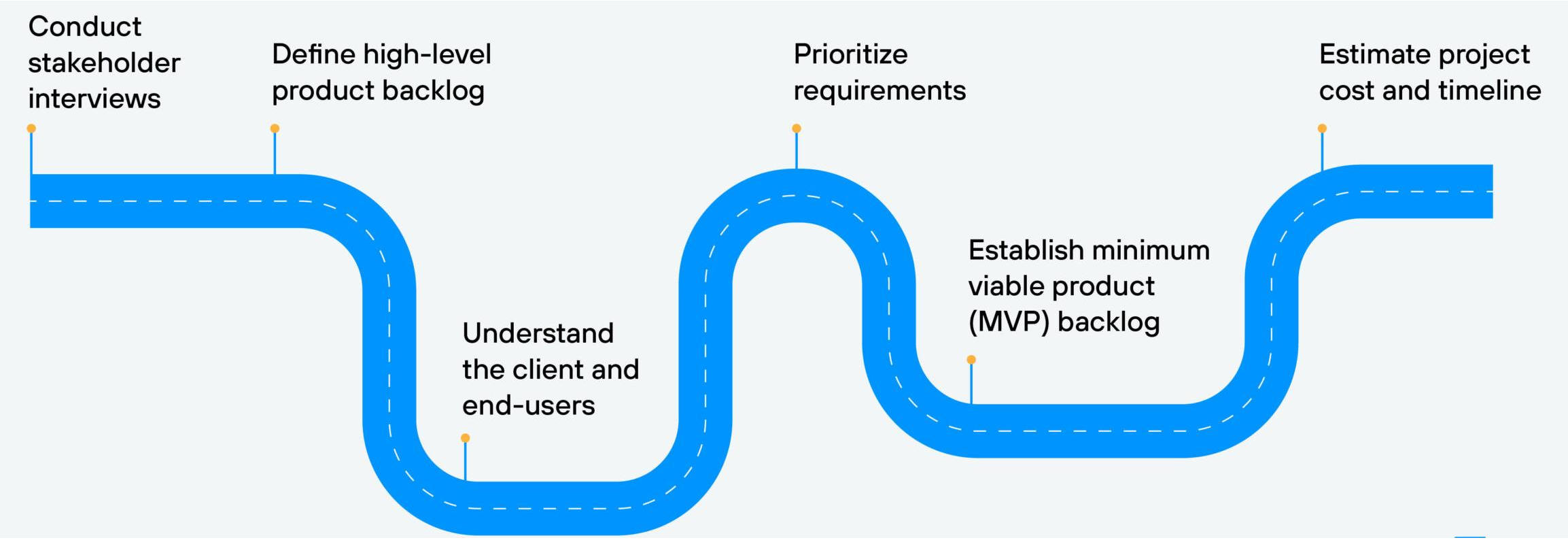
- Making teams accountable for deliverables
- Inducing discipline across the Agile team
- Predicting the approximate time it will take to finish a project
- Enabling better sprint management
- Improving team productivity

Source: https://kanbanize.com/agile/project-management/ceremonies

Stages of User Story Estimation in Agile

In agile development, a user story is the smallest unit of work. It's a general, often informal, description of software functionality through the lens of the end user.

User Story Estimation helps to understand the project requirements.



Read More:
https://eva.fing.edu.uy/pluginfile.php/248476/mod_label/intro/%282005%29%20Cohn%20-%20Agile%20Estimating%20and%20Planning.pdf?time=1558526842604

Agile Estimation Techniques

- Planning Poker
- T-shirt Sizes
- Dot Voting
- The Bucket System
- Large/Uncertain/Small
- Affinity Mapping
- Bucket System

Source: https://kanbanize.com/agile/project-management/ceremonies

User Story Estimation Technique - Planning Poker

This method uses the Fibonacci sequence where user story point values are presented as 0, 1, 2, 3, 5, 8, 13, 20, 40, and 100 on playing cards, associated with different levels of complexity.

The product owner or scrum master describes the user story, and each team member will secretly select a card number for the estimate. Then, everyone reveals their cards. The number that gets the most votes will be the final estimation for the task.

Planning poker helps development teams establish a mutual understanding of the project and is particularly useful for estimating a small number of work items.

Read More: https://www.visual-paradigm.com/scrum/what-is-agile-planning-poker/

User Story Estimation Technique - T-shirt Size Estimation

This agile estimation technique involves assigning each user story a T-shirt size (e.g., S, M, L.) The process helps team members achieve a big-picture understanding of the requirements.

The technique produces a quick and rough estimate for the time and work required and is particularly useful for managing a large backlog. It's also useful for early-stage estimation to get a bird's-eye view quickly.

Read More: https://www.7pace.com/blog/user-story-estimation-techniques

User Story Estimation Technique - Dot Voting

Using this estimation methodology, agile teams organize work items from the highest to the lowest priority to decide where to focus their time and efforts.

Put the description of each agile story on a sticky note. Then give each team member 4 to 5 dots (e.g., stickers or markers) to place on the stories they consider the highest priority.

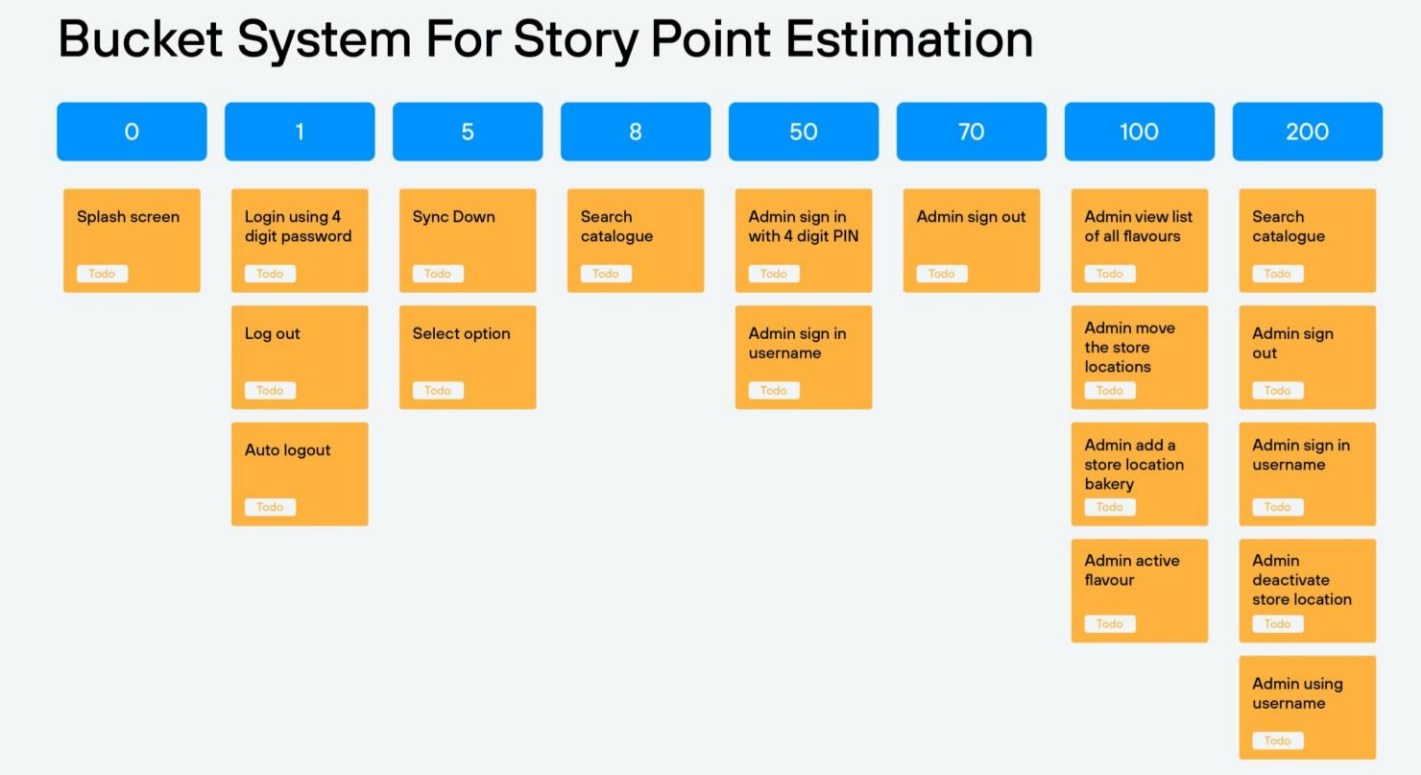
Dot voting is favored by well-established scrum teams for prioritizing large backlogs.

Read More: https://www.7pace.com/blog/user-story-estimation-techniques

User Story Estimation Technique - Bucket System

Start the estimation process by setting up a row of cards (i.e., buckets) with values in the Fibonacci sequence (i.e., 0, 1, 2, 3, 4, 5, 8, 13, 20, 30, 50, 100, 200). Then, team members will discuss a work item and place the user story in an appropriate bucket.

This agile estimation technique is suitable for estimating a large number of items or long-term projects. Development teams can make quick estimations, while the method is easy for those new to agile.



Read More: https://www.7pace.com/blog/user-story-estimation-techniques

User Story Estimation Technique - Affinity Mapping System

This method uses silent relative sizing. Start by placing two cards on opposite ends of a wall and giving team members a list of user stories (e.g., on sticky notes.)

The team arranges the items on the wall based on estimated effort. The scrum master then finalizes the product backlog items based on their positions.

This approach helps make a long-term plan for a project with large backlogs. It's more suitable for early-stage estimations and helps the team gain a mutual understanding of the requirements.

Read More: https://www.7pace.com/blog/user-story-estimation-techniques

Agile Prioritization

Choosing the **order in which the agile team will work** on the project's requirements is the act of prioritisation. Understanding priority is crucial for all projects, but it is especially important for agile projects because they are time-boxed and have a fixed set of resources, necessitating prioritisation to meet the limits of both time and money.

Popular Prioritization Techniques

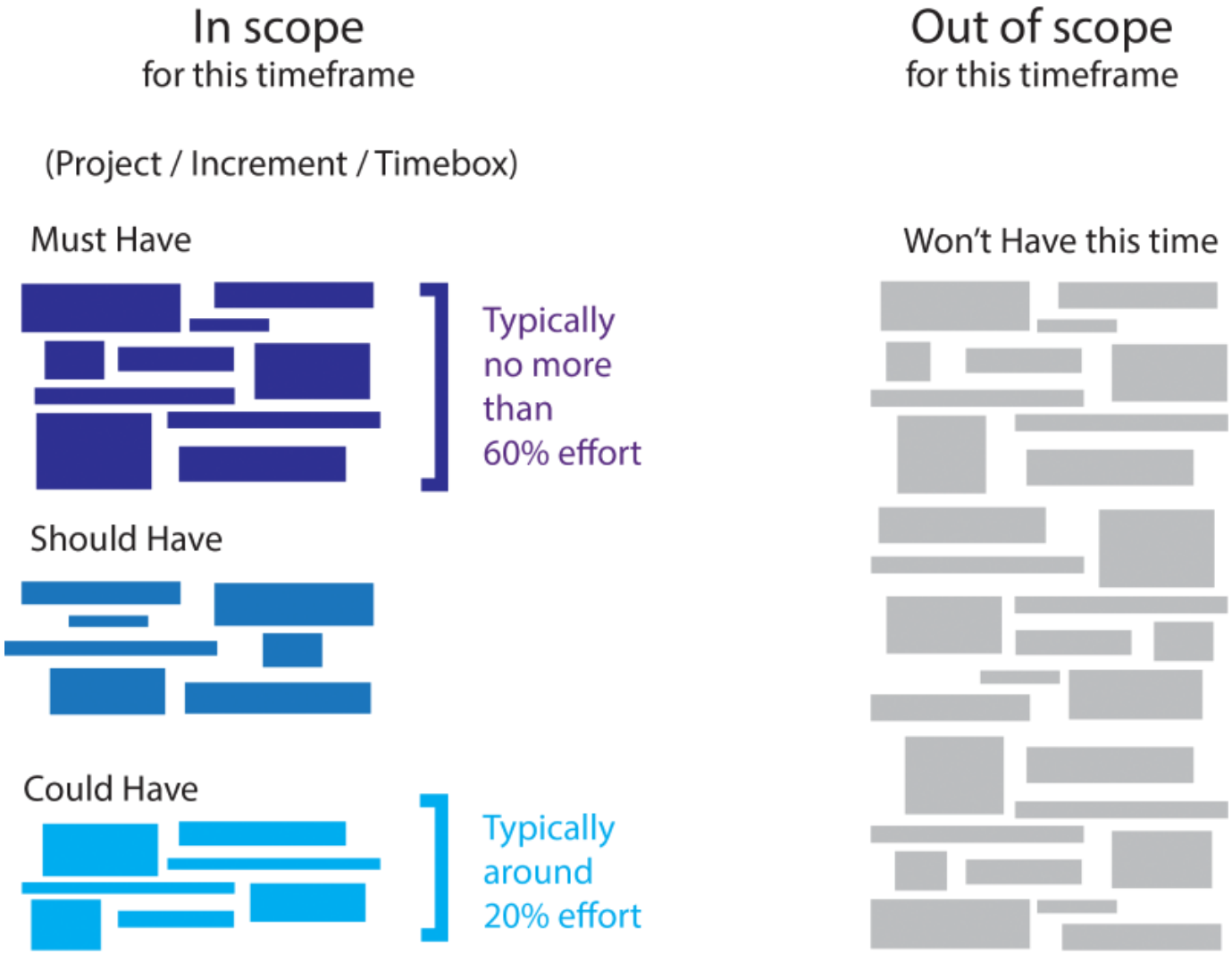
- MoSCoW prioritization – popularized by the DSDM methodology.
- Kano model – introduced by Prof. Noriaki Kano
- The relative weighting method – by Karl Wiegers

Read More: https://www.agilebusiness.org/dsdm-project-framework/moscow-prioririsation.html

Agile Prioritization - MoSCoW

MoSCoW Prioritisation Technique

MoSCoW prioritization, also known as the MoSCoW method or MoSCoW analysis, is **a popular prioritization technique for managing requirements**. The acronym MoSCoW represents four categories of initiatives: must-have, should-have, could-have, and won't-have, or will not have right now.



Read More: https://www.agilebusiness.org/dsdm-project-framework/moscow-prioririsation.html

Agile Prioritization - MoSCoW

This MoSCoW prioritization technique is popularized by the DSDM (Dynamic Software Development Method) methodology. In this method, the list of requirements is categorized into 4 groups.

Must (M) - It determines the requirements that must be satisfied with the final product. It includes the features that make the minimum viable product to deliver to the customer.

Should (S) - It determines the requirements that are vital but not that important. These requirements should be satisfied if possible in one way or the other, i.e., maybe implement a workaround for it.

Could (C) - It represents the requirements that are considerable but not necessary. If there is time, the resources can implement them.

Won't (W) - It describes the requirements that the customer and the team agreed not to implement in the current release plan. But they might be considered for the future.

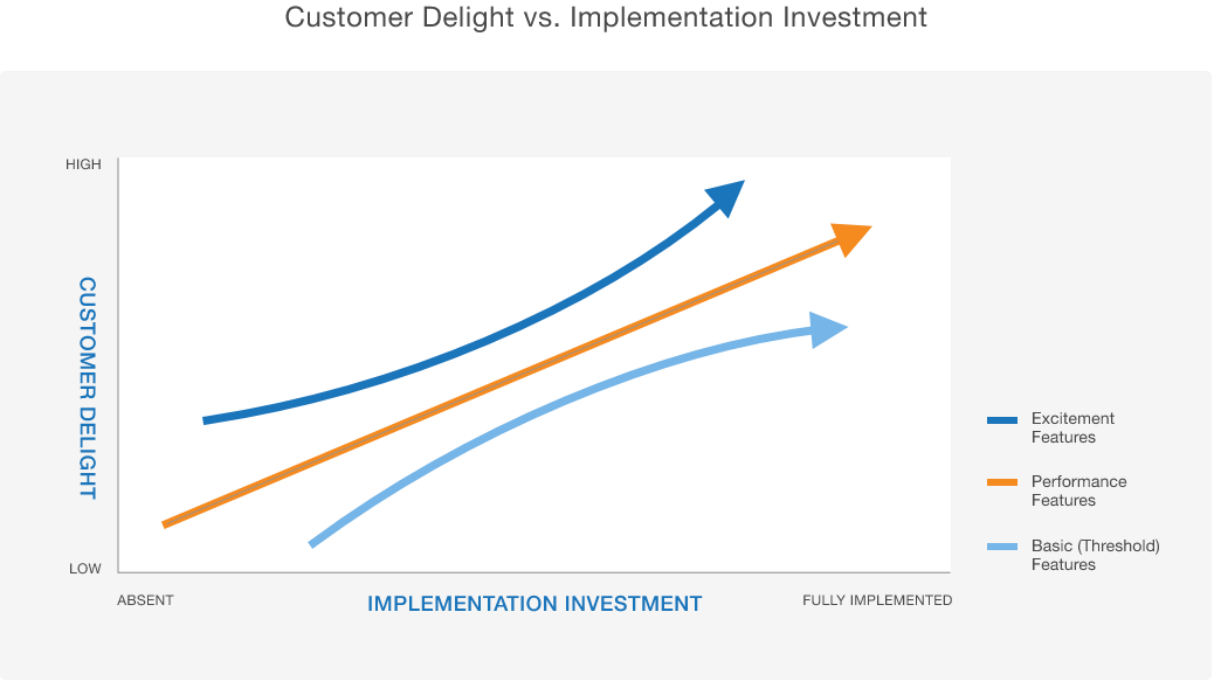
Read More: https://www.agilebusiness.org/dsdm-project-framework/moscow-prioririsation.html

Agile Prioritization – Kano Model

Using the Kano Model, product teams pull together a list of potential new features vying for development resources and space on the roadmap. The team will then weigh these features according to two competing criteria:

- Their potential to satisfy customers.
- The investment is needed to implement them.

You can also think of the Kano Model as the “Customer Delight vs. Implementation Investment” approach.



Read More: https://www.productplan.com/glossary/kano-model/
https://www.nngroup.com/articles/prioritization-methods/

Agile Prioritization – The relative weighting method

Relative weighting is **a prioritization approach that considers both the benefits of a feature and the cost of that feature**. The technique is best applied for setting approximately quarterly goals rather than each sprint.

In this method, the requirements of a product are prioritized based on their calculated weights. The formula used for weight calculation is as follows.

(Benefit score + Penalty score) / (Cost score + Risk score)
Benefit score - The benefits of implementing the requirement.
Penalty score - The penalty for not implementing the requirement.
Cost - The cost it takes to implement the requirement.
Risk score - The risks that will arise during the implementation of the requirement.

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Read More: https://www.productplan.com/glossary/kano-model/

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