

الدبلومة المهنية لإدارة المشاريع الاحترافية

PMP PROFESSIONAL DIPLOMA BY DR. AHMED ALSENOSY

SUMMARY BY STUDENT THURAYA ALKABANI – MARCH, 2023

Introduction

What is PMP?

PMP is Project Management Professional certification recognizes your ability to manage projects and the hard work to complete your project in certain way.

PMP for?

Finance

Information
Technology

Energy

Governance

Healthcare

Construction

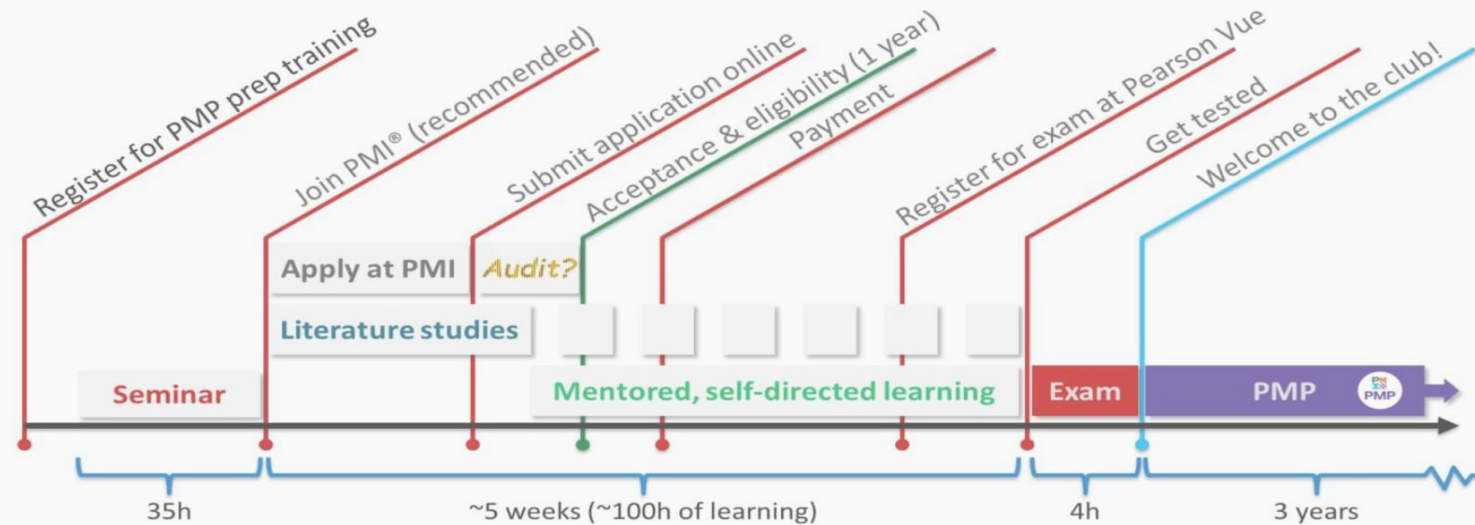
Aerospace and
Defense

Steps to PMP

- A four-year degree
- Three years leading projects
- 35 hours of project management education/training or CAPM® Certification

Or

- A high school diploma or an associate's degree (or global equivalent)
- Five years leading projects
- 35 hours of project management education/training or CAPM® Certification



Literature: PMBOK Guide, Agile Practice Guide, more

Project Characteristics

A **Project** is a temporary endeavor undertaken to create a unique product, service, or result. It's time limited, drives change and enables value creation for a business or organization.

Project success depends on

- Organizational project maturity
- Project manager effectiveness
- Funding and resource availability
- Team member skill levels
- Collaboration and communication within the team and with key stakeholders.
- Understanding of the core problem and related needs.

Projects are undertaken to fulfill objectives by producing deliverables



Some projects deliverables and activities may include repetitive elements

Repetition dose not change the fundamental and unique characteristics of the project work

The project will be end when the objectives have been achieved or, no more funding to complete the project or the objectives will not be met

The benefit of the project may be tangible (such as utility, tools, market share), intangible (trademarks, goodwill, reputation) or both.

Organizational Process Assets (OPAs)

Plans, processes, policies, procedures, and knowledge bases that are specific to and used by the performing organization.

OPA examples include:

- Guidelines and criteria for aligning project work.
- Specific organizational standards.
- Standard templates for project work.
- Organizational communications requirements.
- Standardized guidelines, work instructions, proposal evaluation criteria, and performance measurement criteria.
- Procedures for officially closing a project.

Corporate knowledge base is a repository for storing project information, including:

- Project files.
- Policies, procedures, and guidelines.
- Human resources documentation.
- Lessons learned repository.

Enterprise Environmental Factors (EEFs)*

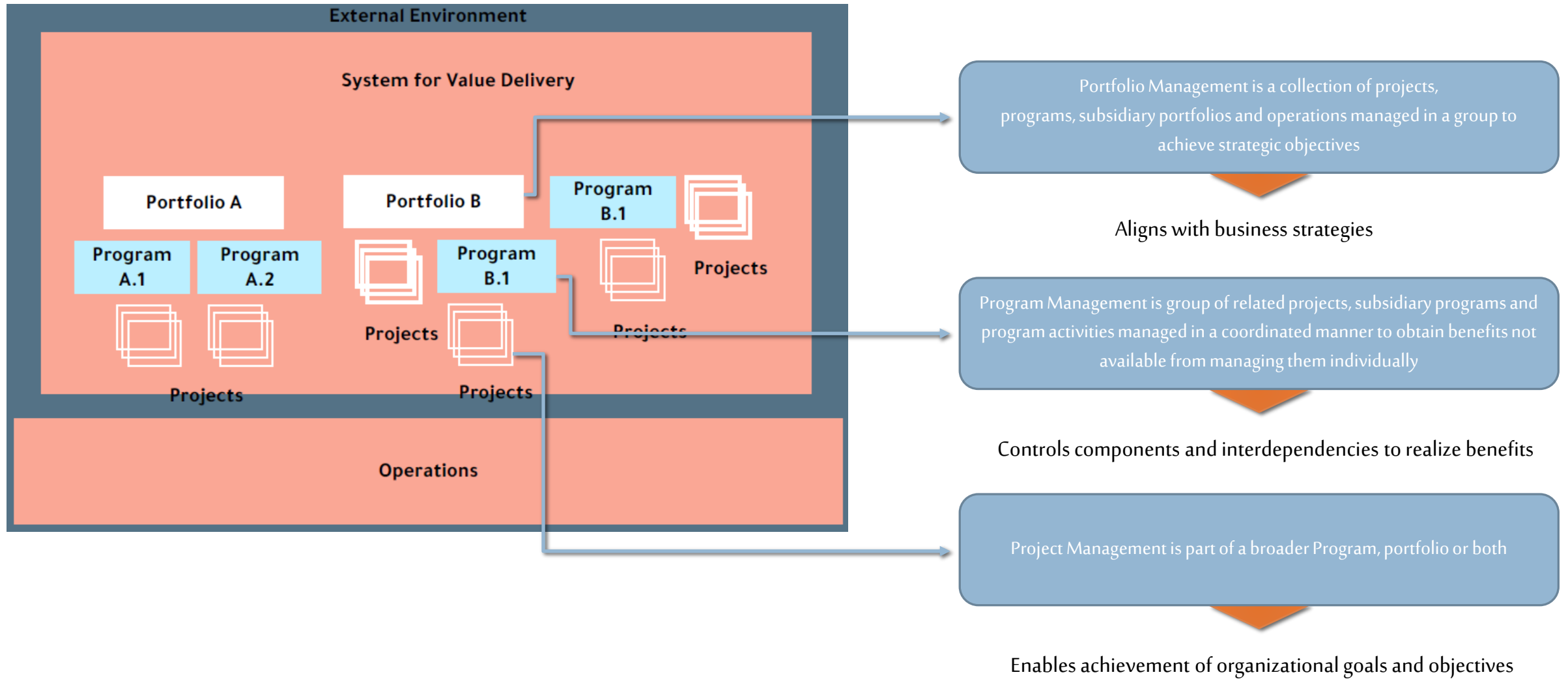
Conditions, not under the immediate control of the team, that can influence, constrain, or direct the project, program, or portfolio.

EEF examples include:

- Organizational culture, structure, and governance.
- Geographic distribution of facilities and resources.
- Government or industry standards.
- IT infrastructure.
- Existing human resources.
- Personnel administration.
- Company work authorization systems.
- Marketplace conditions.
- Stakeholder risk tolerances.
- Political climate and situations.
- Organization's established communications channels.
- Commercial databases.
- Project Management Information Systems.
- Languages, time zones, and other countries' holiday schedules.

Organizational project management (OPM)

strategy execution framework that coordinates project, program, portfolio and operations management, and which enables organizations to deliver on strategy



Project Management Principles

1. Be a diligent, respectful and caring steward.
2. Recognize, evaluate and respond to system interactions.
3. Navigate complexity
4. Create a collaborative project team environment
5. Demonstrate leadership behaviours
6. Optimize risk responses
7. Effectively engage with stakeholders
8. Tailor based on context
9. Embrace adaptability and resiliency
10. Focus on value
11. Build quality into processes and deliverables
12. Enable change to achieve the envisioned future state

From Principles to
Performance
Domains

Performance Domains



A project performance domain is a group of related activities that are critical for the effective delivery of project outcomes. Collectively, the performance domains represent a project management system of interactive, interrelated and interdependent management capabilities that work in unison to achieve desired project outcomes. As the performance domains interact and react to each other, change occurs.

Tailoring is the deliberate adaptation of the project management approach, governance, and processes to make them more suitable for the given environment and the work at hand.

Tailor processes for the selected life cycle and development approach; include determining which portions or elements should be added, modified, removed, blended, and/or aligned

Apply product knowledge, delivery cadence and awareness of the available options to select the most appropriate development approach

1. CREATING A HIGH PERFORMING TEAM



Project team:

A set of individuals who support the project manager in performing the work of the project to achieve its objectives like: Project management staff, Project workers User or customer representatives Sellers that are external companies Business partners

**Project Team
Member
Requirements**

- Relevant skill sets to perform the work and produce the desired results.
- Avoid single-points-of-failure caused by a single resource having a required skill.
- Use generalizing specialists who have a core competency and general skills that can be leveraged to support other areas of the project.
- Physical resources, such as equipment
- Access rights

There are a variety of interpersonal skills that each member of the project team will need to establish and maintain relationships with other

Skill	Definition	Skill	Definition
Conflict management	involves intervening before a negative result from a conflict can occur.	Negotiation	an approach used by more than one individual to come to an agreement or resolution.
Cultural awareness	Understanding and being aware of the different cultural viewpoints and beliefs of the individuals	Networking	The interaction between people to expand their knowledge about business topics.
Decision making	the ability to make decisions will show that you can be a strong advocate in any decision-making process, meeting, or group.	Observation/conversation	involves watching individuals as they perform their daily tasks in an effort to obtain first-hand knowledge of a situation or how a process is going.
Facilitation	skills used to lead or guide an assembled group toward a successful conclusion.	Servant Leadership	used in agile and other types of projects, which encourages the self-definition, self-discovery, and self-awareness of team members.
Leadership	The ability to step up and guide others to achieve results.	Team building	through continuous support and working collaboratively, you can enable a team to work together to solve problems, diffuse interpersonal issues, share information, and tackle project objectives as a unified force.
Meeting management	The ability to conduct productive meetings efficiently and effectively.		

Stakeholder:

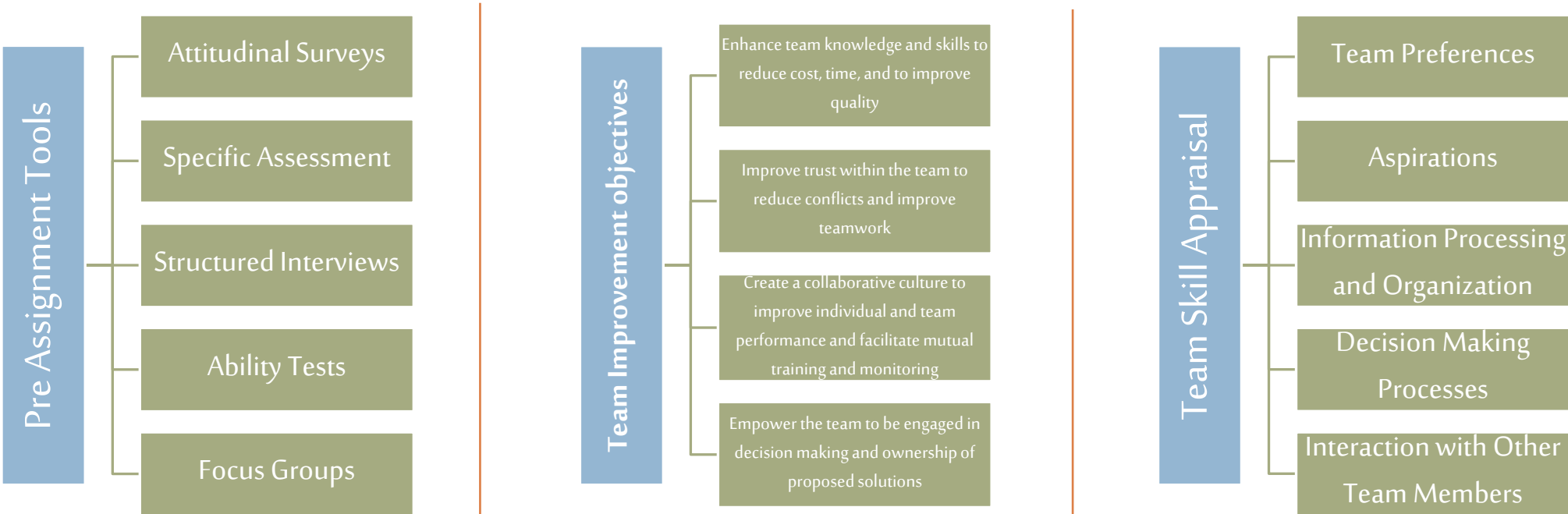
An individual, group, or organization that may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project, programs, or portfolio.

RACI chart:

A common type of responsibility assignment matrix (RAM) that uses responsible, accountable, consult, and inform statuses to define the involvement of stakeholders in project activities.

	Project Manager	Engineering Manager	Quality Assurance Manager	Purchasing Manager	Manufacturing Manager
Create blueprints	A	R	C		C
Manufacture circuit board	I	C	C	R	A
Test circuit board	I	R	A		R
Order components	C	C	R	A	I
Assemble	I	R	C		A

R = Responsible A = Accountable C = Consulted I = Informed



Resource Management Plan

- Identification of resources
- Acquisition of resources
- Roles and Responsibilities
 - Roles—The function of the person in the project.
 - Authority—Rights to use resources, make decisions, accept deliverables, etc.
 - Responsibility—Assigned duties to be performed.
 - Competence—Skills and capacities required to complete the desired activities.
- Project Organization Chart
- Project team resource management
- Training strategies and requirements.
- Team development methods to be used.
- Resource controls for the management of physical resources to support the team.
- Recognition Plan

Project Responsibilities within the Team

- Defining responsibilities varies based on the team.
- Considerations when assigning resources to responsibilities:
 - Experience.
 - Knowledge
 - Skills
 - Attitude
 - International factors
- In an agile approach, **self-organizing teams** assess the work requirements and determine who will do the work.
- In traditional project management approaches, **use a work breakdown structure** to assign work to team members.

B. DEFINE TEAM GROUND RULES

Ground rules:

Clear expectations regarding the code of conduct for team members.

- Ground rules include all actions considered acceptable and unacceptable in the project management context.
- **Benefits:**
 - Sets performance and communication expectations
 - Decreases risk of confusion
 - Improves performance

Code of Ethics and Professional Conduct

- Responsibility
- Respect
- Fairness
- Honesty

Team charter:

A document that enables the team to establish its values, agreements, and practices as it performs its work together

A good team charter includes:

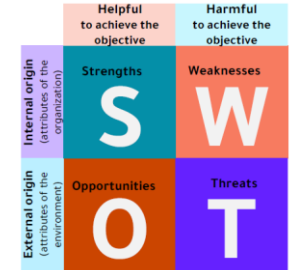
- The team's shared values.
- Guidelines for team communications and the use of tools.
- How the team makes decisions.
- How the team resolves conflicts when disagreements arise.
- How and when the team meets.
- Other team agreements (such as shared hours, improvement activities).

Guidelines to Manage and Rectify Ground Rule Violations

- In the team charter, the ground rules are established.
- Violations of the ground rules require the team and project manager to assess opportunities for remediation.
- For serious violations, removing or replacing the offending team member may be required.
- Team needs to focus on its core values that include accountability, shared expectations, and transparency where appropriate.

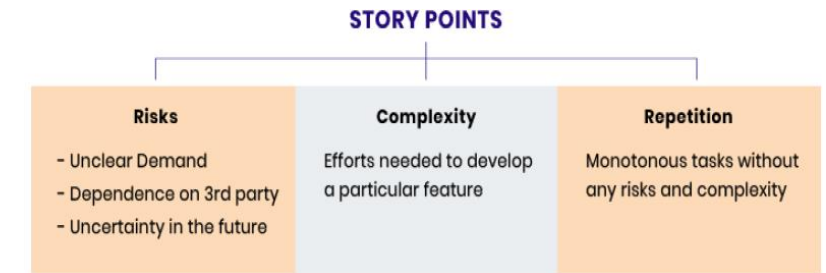
Team Strengths

- When forming teams, critical to understand the skills and competencies need by members to perform their work and produce deliverables.
- As teams progress, leverage the team members skills to improve team performance.
- Identify team strengths and weaknesses to organize around team strengths.



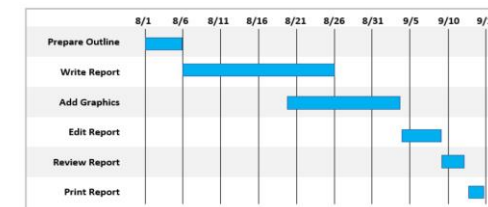
Estimates

- The people doing the work should perform the estimating tasks because they have the best knowledge of:
 - The risks
 - Level of effort
 - Potential pitfalls
- Traditional project managers use hours of effort
- Three point estimating is one example.
- Agile projects avoid using absolute time estimates.
- Story Point technique provides a unit less measure estimation.



Team Task Accountability

- Encourage team members to self organize in determining:
- The work that needs to be done
- How to perform the work
- Who should perform it
- In Agile approaches, the team commits to performing work in an iteration.
- Use Gantt charts and Kanban boards to promote visibility and collaboration.



Retrospective

A Retrospective is a time specifically set aside for the team to reflect on its performance and practices, identify and solve problems,

There are literally hundreds of different methods and techniques for running a retrospective, but they generally follow a model like this:

- Set the Stage - Check-in activities to engage the team
- Gather and Share Data - Team Performance metrics, Earned Value Analysis, etc.
- Generate Insights - What's working? Where are challenges? Problem Analysis
- Make Decisions - Agree on 1-2 improvements/changes to try in the subsequent iteration
- Close - New Information, Appreciation, and Thank You's

E. TRAIN TEAM MEMBERS & STAKEHOLDERS

Training

An activity in which team members acquire new or enhanced skills, knowledge, or attitudes.

Elements of Training

- Provided to teams, small groups, individuals
- Covers management, technical, or other topics.
- Delivery models might include:
 - Instructor-led classroom
 - Virtual classroom
 - Self-paced e-learning
 - Document reviews
 - Interactive simulations
 - On-the-job training

Training and coaching Plan

- **Training** should be done as close to the point of solution use as possible
- **Scheduling** is critical to avoid delaying the overall solution deployment.
- Perform a **gap analysis** to identify missing knowledge, skills, or required attributes.
- A training plan for team members can include improvement **in competencies or possibly certification** to benefit the project.

Required Competencies

- Identifying the required competencies is the first aspect of developing and executing a training plan.
- Competencies can include knowledge, skills, and other attributes.
- Different stakeholders will have different training needs.
- Team members themselves may require specific training on the customer's business, culture, desired outcomes, and the project's context.

Training Options

Virtual Instructor led training

- Live online instructor led training through a virtual meeting or virtual training environment.
- Simulated hands on labs are often available using this option too.

Self paced eLearning

- E-learning content made available to students online and generally consumed using a browser. This can include rich media video, simulated lab exercises, etc.
- A benefit of the self paced approach is scalability of the solution to a large number of potential students.

Document reviews

- For simple knowledge transfer, sharing relevant documents may be sufficient.

Training Cost Estimates

As part of the schedule and budget, consider the costs associated to training the project team and customer stakeholders.

Cost might include:

- Content creation and editing costs
- Content hosting and delivery costs
- Instructional costs
- Courseware printing and distribution
- Venue costs
- Logistics costs

Training Calendar

- Project manager needs to publish and support a specific calendar of training dates and locations.
- Schedule also needs to be published to the customer stakeholders.
- Create a mechanism for registration and sending confirmation messages.
- Provide class rosters and a way to capture signatures of attendees.
- Manage the training schedule and timing to avoid delaying the project's delivery timeline.

Training, Coaching and Mentoring / descriptions`

Training

Learn skills for use in the present

- Individually or as a group
- aka “upskilling”
- On any topic

Coaching

Learn how to apply new skills or improve existing Ones

- Individually or as a group
- Puts learning into practice

Mentoring

Development of personal and professional growth through long term professional relationships.

- Between a novice and a more experienced person
- Internal or external to projects or organizations

Baseline and Post-Training Assessments

- Baseline provides a technique for measuring the efficacy of training.
- Attendees complete a pre-assessment before training.
- After training, a post-assessment is used to demonstrate the newly acquired levels of competence.

F. ENGAGE AND SUPPORT VIRTUALTEAMS

Virtual Team Member Needs

- Basic needs of a virtual team:
 - A shared goal
 - A clear purpose
 - Clarity on roles and expectations
- Project manager must facilitate and ensure collaboration

Alternatives for Virtual Team Member Engagement

- Managing engagement requires persistence and a focus on; Team dynamics, Transparency, Accountability and Attention to effective communication
- Use videoconferencing tools to facilitate active participation and the ability to assess body language and tone.
- Enable visibility of the work and work status being done by the virtual team members by using tools such as Kanban-style boards.

Communication

- Effective communication is the **key to successful** teams.
- The **team charter** should include communication expectations and details.
- This may include **shared work hours** for scheduling team meetings, how the team is expected **to use and not use** tools like threaded discussion groups, **shared document repositories**, and **even webcams**.
- A **good retrospective** often provides ways that a team can improve its communication, collaboration, and use of visibility tools.

Task Boards

- Visualizes the work and enables the team and stakeholders to track progress as work is performed.
- Promotes visibility and maximizes efficiency.
- Examples: Kanban boards, to-do lists, procedure checklists, and Scrum oards.

To Do	Work in Progress (WIP)	Done
Item A Estimate: 4	Item C Estimate: 6	Item D Estimate: 8 Actual: 8
Item D Estimate: 2	Item F Estimate: 18	
Item E Estimate: 8	Item J Estimate: 1 Unplanned	

Guidelines to Implement Options for Virtual Team Member Engagement

- Focus on collaboration and team norms **before** focusing too much on tools.
- Recognize that team formation in **a virtual environment is difficult**, so it's critical to reinforce the teams' **mutual commitments, achievements, and opportunities**.
- Virtual teams require **a significant amount of feedback and reinforcement of the team goals and objectives**
- Provide opportunities for members of a virtual team to **meet in person** to build relationships.

Calendar Tools

- Shared calendars help virtual teams plan meetings, coordinate feedback, and improve visibility to goals and activity status.
- Timeboxed meetings: Improve focus, Encourage team to set clear agendas and objectives, Helps keep the work on track
- The team must decide how best to manage its calendar with an eye toward the goal of visibility among the team and relevant stakeholders.

Power of Project Manager

- For virtual teams, the risk of individual team members becoming isolated from other team members is inherent.
- Important to focus on shared commitments vs. individual accomplishments regarding tasks..
- Instilling a sense of shared commitments into the team starting with the team charter.
- Reinforce the team goals over individual performance, and enable teams to self organize and be accountable for deliverables

G. Build a Shared Understanding about a Project

Vision

Vision statement might include: قد تشتمل الرؤية على:				
Product or solution description وصف المنتج أو الحل	Intended users or consumers of the solution المستخدمون أو المستهلكون المستهدفون من الحل المقدم	Key desired objectives الأهداف الرئيسية المرجوة	Differentiators from competitive approaches التمايز عن المنتجات المنافسة	Key features and benefits المميزات والفوائد الرئيسية

Project Charter

A document issued by the project initiator or sponsor that formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities.

Project Overview Statement

- Communicates enterprise-wide the intent and the vision of the project.
- Brevity and clarity are key.
- Captures the project's objective, problem or opportunity, and criteria for success.
- With authorization via the project charter or approved project overview statement, the project manager begins the activities of project planning.

Agile Ceremonies

Scrum: An agile framework for developing and sustaining complex products, with specific roles, events, and artifacts.

Sprint: A timeboxed iteration in Scrum.

Ceremony	Description
Sprint Planning*	Iteration (Sprint) planning is a collaborative agile ceremony, sometimes called Sprint planning, for the team and the customer representative (or Product Owner) to do the following: Review the highest prioritized user stories, or key outcomes. Ask questions. Come to agreement on which stories the team forecasts it will complete in the iteration. After agreement, the team determines which activities are required to deliver the iteration objectives.
Daily Standup	A short 10-15-minute meeting held daily for the team to reaffirm commitment to its objectives for the iteration, surface potential blockers, and coordinate the day's work amongst the team. Often conducted in a circle. (Also called a <i>daily scrum</i> .)
Sprint Review	A review at the end of each iteration with the Product Owner and other customer stakeholders to review the progress of the product and receive feedback for that iteration.
Sprint Retrospective	A meeting of the team members facilitated by the Scrum Master for the team to identify its own improvements. Reviews the team's processes and practices and identifies ways for the team to improve its performance, collaboration, etc.

Kickoff Meeting

Purpose: Establish project context, Assist in team formation and Ensure proper alignment to the overall project vision.

Activities during kickoff may include:

- Defining a vision statement
- Defining a team charter
- Assisting the customer / Product

Owner with the following:

- User story writing
- Estimation of effort
- Prioritization planning
- Initial product backlog

Consensus

A decision making process used by a group to reach a decision that everyone can support.

- **Fist of Five:** Individuals vote by holding up five fingers for total agreement, a fist for total disagreement, or multiple fingers for somewhere in between.
- **Roman voting:** Individuals vote with either a thumbs up (agreement) or thumbs down (disagreement).
- **Polling:** Team members share their point of view and, if the team is unanimous, then they move on. If objections are raised, the facilitator works to solve the problem.
- **Dot voting:** Individuals use sticky dots to prioritize items in a list.



Five fingers = Agree



Fist = Disagree

Product backlog

An ordered list of user centric requirements that a team maintains for a product.

Prioritization techniques include::

- Kano Model
- MoSCoW (MSCW) Analysis
- Paired Comparison Analysis
- 100 Points Method

Estimation techniques include::

- T-Shirt Sizing
- Story Pointing
- Planning Poker

2. STARTING THE PROJECT

3. Doing the work 3. القيام بالعمل
a. Risk assessment and management أ. تقييم وإدارة المخاطر
b. تنفيذ المشروع لتقديم قيمة مرتبطة بالأعمال B. Execute Project to Deliver Business Value
c. إدارة الاتصالات C. Manage Communications
d. إشراك أصحاب المصلحة D. Engage Stakeholders
e. إنشاء عناصر المشروع E. Create Project Artifacts
و. إدارة تغييرات المشروع F. Manage Project Changes
ز. إدارة قضايا المشروع G. Manage Project Issues
ح - ضمان نقل المعرفة لاستمرارية المشروع H. Ensure Knowledge Transfer for Project Continuity

4. Keeping the Team on Track 4. إبقاء الفريق على المسار الصحيح
A. Lead a Team أ. قيادة فريق
B. Support Team Performance ب. دعم أداء الفريق
ج. معالجة وإزالة العوائق والعقبات والحوادث C. Address and Remove Impediments,
د. إدارة المنازعات D. Manage Conflict
هـ. التعاون مع أصحاب المصلحة E. Collaborate with Stakeholders
و. توجيه أصحاب المصلحة المعنيين F. Mentor Relevant Stakeholders
ز. تطبيق الذكاء العاطفي لتعزيز أداء الفريق G. Apply Emotional Intelligence to Promote Team Performance

1. Creating a High-Performing Team 1. إنشاء فريق عالي الأداء
A. Build a Team أ. بناء فريق
B. تحديد قواعد الفريق الأساسية B. Ground Rules Define Team
ج. التفاوض بشأن اتفاقيات المشروع C. Negotiate Project Agreements
د- تمكين أعضاء الفريق وأصحاب المصلحة D. Team Members and Stakeholders Empower
هـ- تدريب أعضاء الفريق وأصحاب المصلحة E. Team Members and Stakeholders Train
و. إشراك ودعم الفرق الافتراضية F. Engage and Support Virtual Teams
ز- بناء تفاهم مشترك حول المشروع G. Build Shared Understanding about a Project

5. Keeping the Business in Mind 5. وضع الأعمال في الاعتبار
A. إدارة متطلبات التوافق A. Manage Compliance Requirements
ب. تقييم وتقديم مزايا المشروع وقيمه B. Evaluate and Deliver Project Benefits and Value
ج. تقييم ومعالجة التغييرات في بيئة العمل الداخلية والخارجية. C Evaluate and Address Internal and External Business Environment Changes
د- دعم التغيير التنظيمي D. Support Organizational Change

2. Starting the Project 2. بدء المشروع
أ. تحديد منهجية طرق المشروع المناسبة A. Determine the appropriate project methods methodology
ب. تخطيط وإدارة النطاق B. Plan and Scope Manage
ج. تخطيط وإدارة الميزانية والموارد C. Plan and Manage Budget and Resources
د- تخطيط وإدارة الجدول الزمني D. Plan and Manage Schedule
هـ- تخطيط وإدارة جودة المنتجات والتسليمات E. of Deliverables Plan and Manage Quality
و. دمج أنشطة تخطيط المشروع F. Integrate Project Planning Activities
ز. تخطيط وإدارة المشتريات G. Plan and Manage Procurement
ح- إنشاء هيكل حوكمة المشروع H. Establish Project Governance Structure
ط. تخطيط وإدارة إغلاق المشروع أو المرحلة I. and Manage Procurement Plan

A. TOPIC A: DETERMINE APPROPRIATE PROJECT METHODOLOGYMETHODODOLOGY/METHODS AND PRACTICES

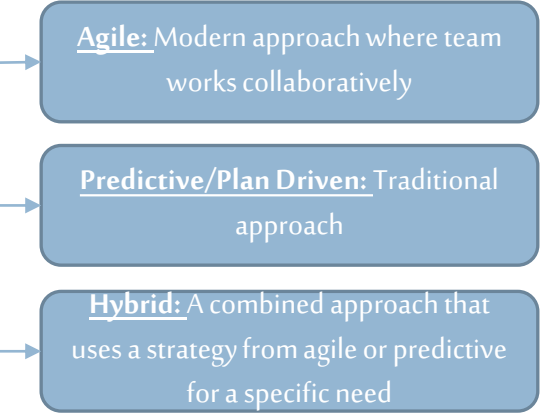
Business Case

- Documented economic feasibility study
- Used to establish the benefits of project components
- Provides a basis for authorization of further project activities

Business needs documents

- Provides the high level deliverables
- Written prior to the formal business case
- Describes what needs to be created and what needs to be performed

Project Methodologies, Methods, and Practices



Assessment of Project Needs, Complexity, and Magnitude

أمثلة Examples	الأنسب عندما Best Suited When	المنهجية Methodology
مشاريع البرمجيات أو المشاريع القائمة على الملكية الفكرية والبحث. Software projects or projects based on intellectual property and research.	التغييرات سهلة نسبيًا، والهدر ليس مكلفًا. بيئة معقدة حيث لا يكون المنتج النهائي معروفًا تمامًا وتكون ملاحظات المستخدم ذات قيمة كبيرة. • Changes are relatively easy, and waste is not costly. • Complex environment where end product is not fully known, and user feedback is very valuable.	رشيق أو مرن Agile
مشاريع البناء أو المشاريع التي لها العديد من الأصول المادية أو لها مشاريع مماثلة تم الانتهاء منها في الماضي. Construction projects or projects that have many physical assets or have similar projects that been completed in the past.	التغييرات باهظة الثمن بسبب الخردة والمخلفات . القدرة على التنبؤ والتوقيت المنسق أمر مهم. • Changes are expensive due to scrap and waste. • Predictability and coordinated timing is important.	تنبؤية / مدفوع بالتخطيط Predictive / Plan Driven
المشاريع التي من المتوقع أن يصل فيها التعلم والتصحيح في النهاية إلى الحل المثالي. Projects where learning and correction is expected to eventually get to the ideal solution.	متطلبات ديناميكية والأنشطة تتكرر حتى يتم اعتبارها صحيحة. • Dynamic requirements and activities are repeated until they are deemed correct.	تكراري Iterative
المشاريع التي يرغب فيها العملاء أو الأعمال أو يتوقعون رؤية مخرجات أو نواتج جزئية مبكرًا بشكل متتابع. Projects where customers or business is wanting or expecting to see outputs or partial outputs early and often.	المتطلبات الديناميكية، وكذلك المخرجات صغيرة تكرارية. السرعة في تحقيق زيادات صغيرة هدف رئيسي. • Dynamic requirements, as well as frequent small deliveries. • Speed to deliver small increments is a major goal.	متزايد Incremental
مشاريع بمزيج من الموارد ومستويات الخبرة أو المشاريع التي تسعى أو ترغب في تعلم أساليب أو تقنيات جديدة. Projects with a mix of resources and experience levels or projects seeking or willing to learn new methods or techniques.	هناك بعض التكاليف المترتبة على التغييرات . يهتم أصحاب المصلحة بطريقة أخرى، لكنهم غير مرتاحين لتبني طريقة واحدة بشكل كامل. • There are some costs to changes. • Stakeholders are interested in another method, but not comfortable to fully adopt one method.	هجين Hybrid

Progressive elaboration

The iterative process of increasing the level of detail in a project management plan as greater amounts of information and more accurate estimates become available.

Rolling Wave Planning

An iterative planning technique in which the work to be accomplished in the near term is planned in detail, while work further in the future is planned at a higher level.

Predictive Life Cycles

A form of project life cycle in which the project scope, time, and cost are determined in the early phases of the life cycle.

Characteristics - الخصائص	Types - أنواع
Fixed requirements	• المتطلبات واضحة
Activities performed once per	• يتم تنفيذ الأنشطة مرة واحدة لكل مشروع project
Single delivery	• تسليم واحد
Goal: Manage cost	• الهدف: إدارة التكلفة
	تنبؤي Predictive

Iterative Life Cycles

A project life cycle where the project scope is generally determined early in the project life cycle, but time and cost estimates are routinely modified as the project team's understanding of the product increases.

Characteristics - الخصائص	Types - الأنواع
Dynamic requirements	• المتطلبات الديناميكية
Activities repeated until correct	• تتكرر الأنشطة وصولاً للأفضل
Single delivery	• تسليم واحد
Goal: Correct solution	• الهدف: الحل الصحيح
	"متكرر" Iterative
	التكيفي Adaptive

Incremental Life Cycle

An adaptive project life cycle in which the deliverable is produced through a series of iterations that successively add functionality within a predetermined time frame. The deliverable contains the necessary and sufficient capability to be considered complete only after the final iteration.

Characteristics - الخصائص	Types - الأنواع	
Dynamic requirements	التدريجي Incremental	التكيفي Adaptive
Activities performed once per increment		
Frequent small deliveries		
Goal: Speed		

Agile Life Cycles

A project life cycle that is iterative or incremental. Also referred to as change driven or adaptive.

Characteristics - الخصائص	Types - الأنواع	
Dynamic requirements	الرشيق او المرن Agile	التكيفي Adaptive
Combines iterative repetition of activities with incremental deliveries		
Goal: Customer value		

Hybrid Methodologies

Characteristics - الخصائص	Types - الأنواع	
Includes adaptive and predictive components	الهجين Hybrid	
Shorter, iterative time frames		
High stakeholder involvement		
More in-depth requirements		

Project Scope: The work performed to deliver a product, service, or result with the specified features and functions. Project scope " may include product scope.

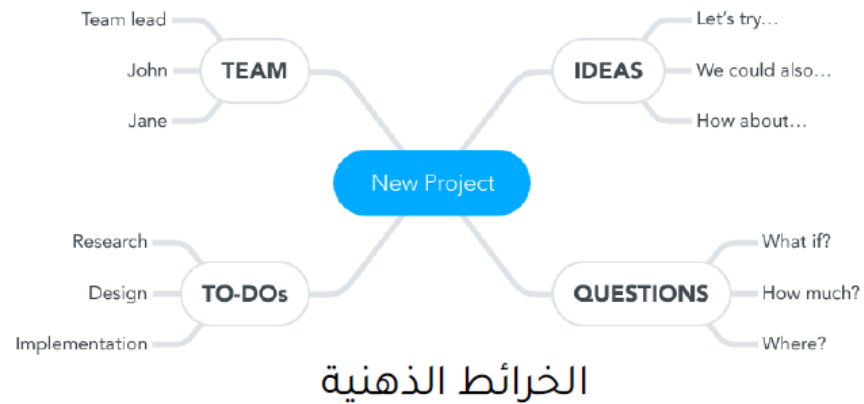
Scope management plan: A component of the project management plan or program management plan that describes how the scope will be defined, developed, monitored, controlled, and validated

Requirements management plan: A component of the project or program management plan that describes how requirements will be analysed, documented, and managed.

Project requirements: The agreed upon conditions or capabilities of a product, service, or outcome that the project is designed to satisfy.

- Elicitation Techniques:**
- Document analysis:** A technique used to gain project requirements from current documentation evaluation.
 - Questionnaires:** Written sets of questions designed to accumulate information from many respondents quickly.
 - Benchmarking:** The comparison of actual or planned products, processes, and practices to those of comparable organizations.
 - Interview:** A formal or informal approach to elicit information from stakeholders by talking with them directly.
 - Focus groups:** An elicitation technique that brings prequalified stakeholders and subject matter experts to learn their expectations and attitudes about a proposed product, service, or result.
 - Observation:** A technique to gain knowledge of a specific job role, task, or function to understand and determine project requirements.
 - Facilitated workshops:** Organized working sessions held by project managers to determine a project s requirements and get all stakeholders together to agree on the project's outcomes.
 - Prototype:** A method of obtaining early feedback on requirements by providing a working model of the expected product before building it.
 - Storyboarding:** A prototyping method using visuals or images to illustrate a process or represent a project result.

التعريف Definition	التكنيك Techniques
تقنية تُستخدم لتوحيد الأفكار التي تم إنشاؤها من خلال جلسات العصف الذهني الفردية في خريطة واحدة لتعكس القواسم المشتركة والاختلافات في الفهم وتوليد أفكار جديدة. A technique used to consolidate ideas created through individual brainstorming sessions into a single map to reflect commonality and differences in understanding and to generate new ideas	الخرائط الذهنية Mind mapping
تقنية تسمح بتصنيف أعداد كبيرة من الأفكار في شكل مجموعات للمراجعة والتحليل. A technique that allows large numbers of ideas to be classified for review and analysis.	مخططات التقارب Affinity diagram



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Requirements Documentation

Feature	Definition	Requirement Shopping
Standard based and interoperable messaging protocol	Messaging protocol must be based on industry standards to enable interoperability	
Send Only	Also called Push MEP is simple one-way messaging where a message is sent with no expectation response.	
Receive only	Also called Pull MEP is a message pattern where a non-addressable sender supports the ability to explicitly obtain messages from another application. This can be used for exchanges	
Request/Response exchange	Message pattern consists of one or more request/response pairs. The correlation between request and a response is well defined. In this response maybe deferred and the requesting application may or may not block application processing until a response is received	
Diagnostics	Authentication, diagnostic, logging & routing information should be included in the message and not the payload	
Reliability	Protocol capability to support assured and single delivery to the receiving application with no loss	

Project Scope Statement

Project Scope Statement

Project Name: _____ Date: _____

Project Manager: _____

Prepared By

Document Owner(s)	Project/Organization Role
<Name>	Project Manager

Version History

Version	Date	Author	Change Description
1.0	<Today's Date>	<Name>	Created document

Project Description:

A building project conducted by My Organization that will construct a single-family home for the Andrews family. The building site is located at 234 West Adams Street. The project manager will provide consistent project status reports to senior management as well as the project sponsor.

Acceptance Criteria:

Requirements Traceability Matrix

REQUIREMENTS TRACEABILITY MATRIX						
Project Name:	234 West Adams					
Project Manager:	John Wilson					
Project Description:	New house build for Andrews family					
ID	Requirements Description	Business Needs, Opportunities, Goals, Objectives	Project Objectives	WBS Deliverables	Inspection	Additional Comments
001	1-car garage	Standard single family house spec	Quality	Garage	Yes	
002	3 bedrooms	Standard single family house spec	Quality	Living space	Yes	
003	1.5 bathrooms	Standard single family house spec	Quality	Living space	Yes	
004	Landscaping	Standard single family house spec	Quality	Landscaping		
005	Driveway	Standard single family house spec	Quality	Driveway		
006	Pass all inspections the first time	Quality	Quality	Inspection		
007	Donated materials	Financial	Cost	Materials		
008	Volunteer labor	Financial-reduce cost to build	Cost	Labor		
009	Fundraising from participating organizations	Financial	Cost	Financial		
010	Mortgage of \$75,000 at 3% interest	Financial	Cost	Financial		
011	PMP-certified project manager on each project	Project success	Quality	Quality		
012	Licensed plumber and electrician on each project	Pass inspection	Quality	Plumbing and Electric work		
013	Building inspector provides ongoing inspections	Pass inspection	Quality	Quality		
014						

Guidelines to Develop a Project Scope Statement

- Review the scope management plan for the activities for developing, monitoring, and controlling the project scope.
- Review the project charter for the high level project description and product characteristic and project approval requirements.
- Review the requirements documentation
- Review the OPAs.
- Use tools and techniques such as expert judgment, product analysis, alternatives generation, and facilitated workshops to define the project scope.
- Document the project scope statement and update any project documents, as needed.

Scope Tools and Techniques

EXPERT JUDGMENT

ALTERNATIVES
ANALYSIS

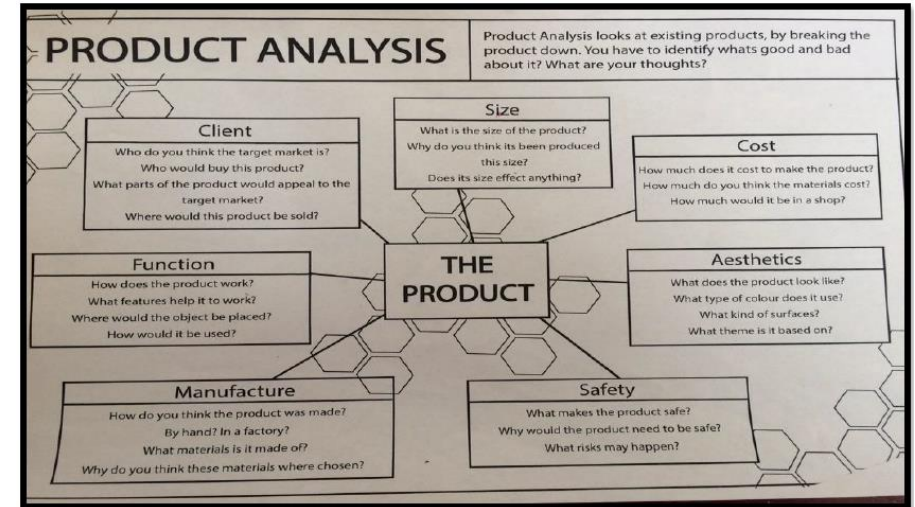
MULTI-CRITERIA
DECISION ANALYSIS

FACILITATION

PRODUCT ANALYSIS

Product analysis

A tool to define scope that generally means asking questions about a product and forming answers to describe the use, characteristics, and other relevant aspects of what is going to be manufactured.



Scope baseline

It is the approved version of a scope statement, WBS, and its associated WBS dictionary, that can be changed using formal change control procedures and is used as a basis for comparison to actual results.

WBS Work Breakdown Structure

A hierarchical decomposition of the total scope of work to be carried out by the project team to accomplish the project objectives and create the required deliverables.

WBS dictionary

A document that provides detailed deliverable, activity, and scheduling information about each component in the work breakdown structure.

A product backlog is essentially a list of the expected work to deliver the product.

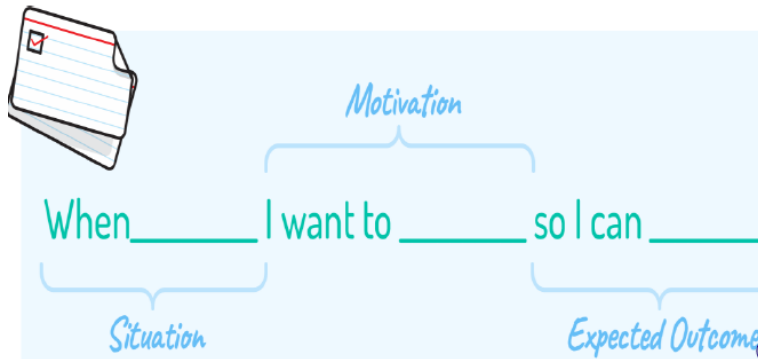
Product backlog items (PBI) drop off when work is completed. Can be edited and clarified as more becomes known or as product requirements change.

PBIs are continually added as necessary when more work must be done.

The iteration backlog includes items from the product backlog that can conceivably be completed within the time period based on the teams capacity.

User Stories

Framing the users desire as a story instead of a detailed requirement or specification enables the team to focus on the user and what they value.



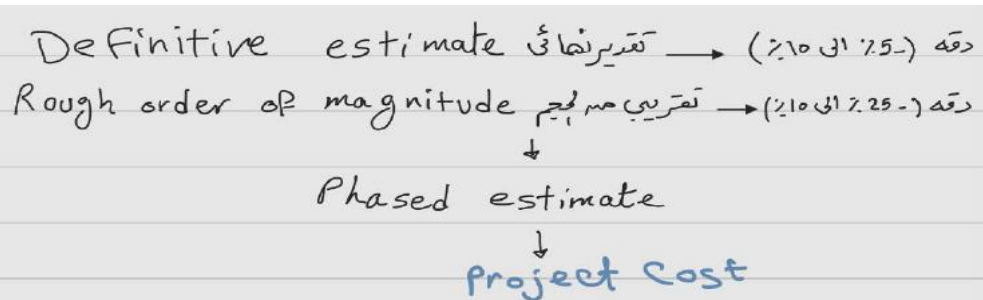
Tools and Techniques for using when Verifying the Scope

الادوات والأساليب Tool and Technique	Description - الوصف
تعريف تم * Definition of Done*	قائمة مرجعية للفريق تحتوي على جميع المعايير المطلوبة للوفاء بها بحيث يمكن اعتبار التسليم جاهزًا لاستخدام العميل. A team's checklist of all the criteria required to be met so that a deliverable can be considered ready for customer use.
تعريف جاهز * Definition of Ready*	قائمة مرجعية لفريق ما للمتطلبات التي تركز على المستخدم والتي تحتوي على جميع المعلومات التي يحتاجها الفريق ليتمكن من بدء العمل عليها. A team's checklist for a user-centric requirement that has all the information the team needs to be able to begin working on it.
معايير القبول * Acceptance Criteria*	مجموعة من الشروط التي يجب الوفاء بها قبل قبول التسليمات. A set of conditions that is required to be met before deliverables are accepted.
التحقق من النطاق * Validate Scope*	عملية إضفاء الطابع الرسمي على قبول نواتج المشروع المكتمل. The process of formalizing acceptance of the completed project deliverables.
مراجعات التكرار Iteration Reviews	عند أو بالقرب من نهاية التكرار، يتشارك فريق المشروع ويوضح جميع الأعمال التي تم إنتاجها أثناء التكرار مع المنظمة وأصحاب المصلحة الآخرين. At or near the conclusion of a timeboxed iteration, the project team shares and demonstrates all the work produced during the iteration with the business and other stakeholders.
تحليل التباين* خط الرجوع Variance Analysis*	تقنية لتحديد سبب ودرجة الاختلاف بين الخط المرجعي والاداء الفعلي. A technique for determining the cause and degree of difference between the baseline and actual performance.
تحليل الاتجاه* Trend Analysis*	تقنية تحليلية تستخدم النماذج الرياضية للتنبؤ بالنتائج المستقبلية بناءً على النتائج التاريخية. An analytical technique that uses mathematical models to forecast future outcomes based on historical results.

Cost Estimate

- Developing an approximation of the cost for each activity in a project.
- Cost should include:
 - Direct labor
 - Materials
 - Equipment
 - Facilities
 - Services
 - Information technology
 - Contingency reserves
 - Indirect costs
- Logical estimates provide basis for making sound decisions and they establish baselines.

Common Estimate Types



Advantages and Disadvantages of Estimating Techniques

التكنيك - Technique	المميزات - Advantage	العيوب - Disadvantage																																													
التقدير بالمماثلة Analogous estimating	يمكن أن تضمن عدم حذف أي عمل عن غير قصد من تقديرات العمل. Can ensure no work is inadvertently omitted from work estimates.	قد يكون من الصعب أحيانًا على المديرين ذوي المستوى الأدنى تقسيم تقديرات التكلفة. Can sometimes be difficult for lower-level managers to apportion cost estimates.																																													
التقدير التصاعدي Bottom-up estimating	دقيقة للغاية وتعطي مديري المستوى الأدنى مزيدًا من المسؤولية. Is very accurate and gives lower-level managers more responsibility.	قد يستغرق وقتًا طويلًا جدًا ولا يمكن استخدامه إلا بعد تحديد WBS جيدًا. May be very time consuming and can be used only after the WBS has been well-defined.																																													
التقدير بالمعاملات Parametric estimating	لا تستغرق وقتًا طويلًا. Is not time consuming.	قد تكون غير دقيقة، اعتمادًا على سلامة المعلومات التاريخية المستخدمة. May be inaccurate, depending on the integrity of the historical information used.																																													
Analogous Estimation Previous Similar Project New Project <table><tr><th colspan="2">Previous Project</th><th colspan="2">New Project</th></tr><tr><td>Feature -1</td><td>15</td><td>Feature -1</td><td>15</td></tr><tr><td>Feature -2</td><td>50</td><td>Feature -2</td><td>?</td></tr><tr><td>Feature -3</td><td>45</td><td>Feature -3</td><td>50</td></tr><tr><td></td><td></td><td>Feature -4</td><td>45</td></tr></table> Parametric Estimation Similar Project Units <table><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td></tr></table> New Project Similar previous project units are used to make estimation for a new project.			Previous Project		New Project		Feature -1	15	Feature -1	15	Feature -2	50	Feature -2	?	Feature -3	45	Feature -3	50			Feature -4	45																									
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Feature -2	50	Feature -2	?																																												
Feature -3	45	Feature -3	50																																												
		Feature -4	45																																												

Funding limit reconciliation

The process of comparing the planned expenditure of project funds against any limits on the commitment of funds for the project to identify any variances (gaps) between the funding limits and the planned expenditures.

Burm Rate

The rate at which the project consumes financial resources, representing negative cash flow. Burn rates are often used by agile projects to budget costs for planned iterations / sprints / increments.

Budget Estimates

Aggregating the estimated costs of individual activities or work packages

The project cost performance is then measured against this cost baseline

Cost Baseline

The approved version of the time phased project budget, excluding any management reserves, which can be changed only through formal change control procedures and is used as a basis for comparison to actual results.

Project Schedule

An output of a schedule model that presents linked activities with planned dates, durations, milestones, and resources.

Includes:

- Starting and finishing activities on
- Specifies planned dates for meeting project milestones.
- Coordinate activities and track schedule

Schedule management plan

A component of the project or program management plan that establishes the criteria and the activities for developing, monitoring, and controlling the schedule.

Components of the Schedule Management Plan:

- Project schedule model
- Accuracy of activity duration estimates
- Units of measure
- WBS
- Control thresholds

Benchmarks and Historical Data / Processes

Processes involved in Project Schedule Management include

- Plan Schedule Management
- Define Activities
- Sequence Activities
- Estimate Activity Durations
- Develop Schedule

Project Activities

Activity: A distinct, scheduled portion of work performed during the course of a project..

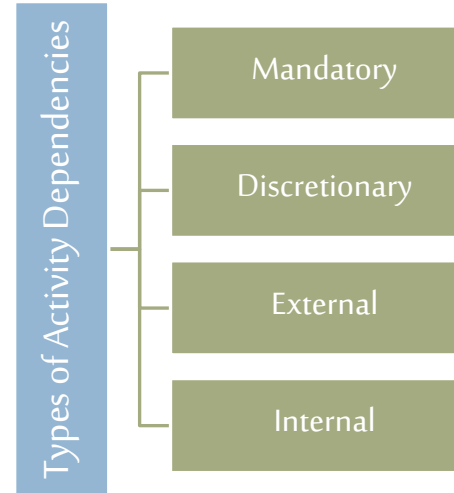
Milestone

A significant point or event in a project, program, or portfolio.

Activity Dependency

It is a logical relationship that exists between two project activities.

- Relationship indicates whether the start of an activity is contingent on an event or input from outside the activity.
- Activity dependencies determine the precedence relationships



Precedence Relationship

A logical dependency used in the precedence diagramming methods.

Activity duration estimate

The quantitative assessment of the likely number of time periods that are required to complete an activity.

Elapsed time

The actual calendar time required for an activity from start to finish.

Effort

The number of labor units required to complete a scheduled activity or WBS component, often expressed in hours, days, or weeks. Contrast with duration.

Gantt Chart

A bar chart of schedule information where activities are listed on the vertical axis, dates are shown on the horizontal axis, and the activity durations are shown as horizontal bars placed according to start and finish dates.

Milestone Chart

Provides the summary level view of a project's milestones.

Project Schedule Network Diagram with Dates

- Assigns start and finish dates to activities.
- Communicates the project status in terms of activity precedence relationships.

Critical Path

The sequence of activities that represents the longest path through a project, which determines the shortest possible duration

Total Float

The amount of time that a schedule activity can be delayed or extended from its early start date without delaying the project finish date or violating a schedule constraint.

Critical path activity

Any activity on the critical path in a project schedule.

E. PLAN AND MANAGE QUALITY OF PRODUCTS AND DELIVERABLES

Quality

The degree to which a set of inherent characteristics fulfill requirements.

Regulations

Requirements imposed by a governmental body. These requirements can establish product, process, or service characteristics, including applicable administrative provisions that have government mandated compliance.

Standard

A document established by an authority, custom, or general consent as a model or example.

Cost of Quality

All costs incurred over the life of the product by investment in preventing nonconformance to requirements, appraisal of the product or service for conformance to requirements, and failure to meet requirements.

Quality metrics

A description of a project or product attribute and how to measure it.

Tolerance

The quantified description of acceptable variation for a quality requirement.

Quality Control Tools

Data Gathering



- Checklists/Check Sheets
- Statistical Sampling
- Questionnaires and Surveys

Data Analysis



- Performance Reviews
- Root Cause Analysis

Data Representation

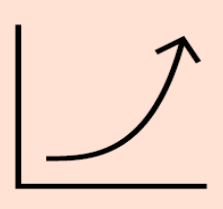


- Cause-and-Effect Diagram
- Control Charts
- Histograms
- Scatter Diagrams

Performance Reviews

Technique that is used to measure, compare, and analyze actual performance of work in progress on the project against the baseline.

- Earned value management
- Trend analysis
- Critical path method



Root Cause Analysis

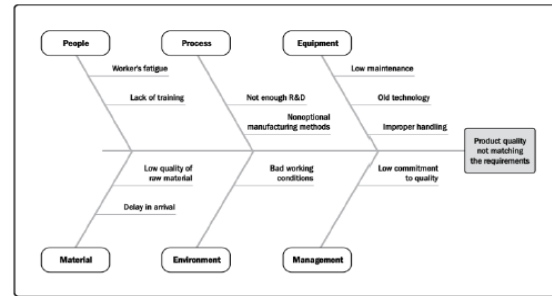
Analytical technique used to determine the basic underlying reason that causes a variance, defect, or a risk.

- Using gathered data, identify the cause of the problem.
- Goal is to pinpoint the exact cause.
- Follow issue back to the initial trigger.
- Use RCA tools - Failure Modes and Effects Analysis (FMEA), a fishbone diagram, a Pareto chart, a scatter diagram

Cause and Effect Diagram

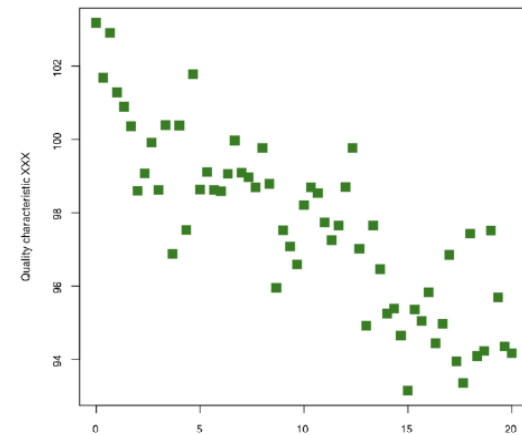
Fishbone diagrams, why-why diagrams, or Ishikawa diagrams

Breaks down the causes of the problem statement identified into discrete branches, helping to identify the main or root cause of the problem.



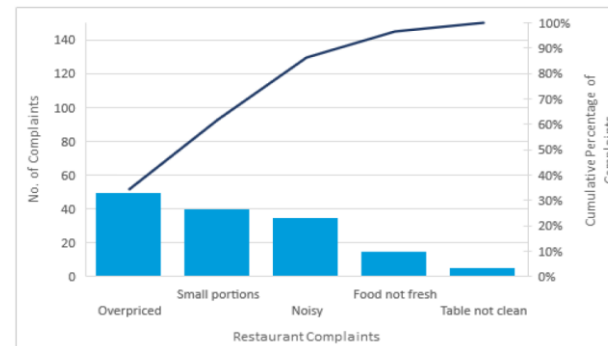
Scatter Diagram

- ✓ A graph that shows the relationship between two variables.
- ✓ Demonstrates a relationship between any element of a process, environment, or activity on one axis and a quality defect on the other axis.

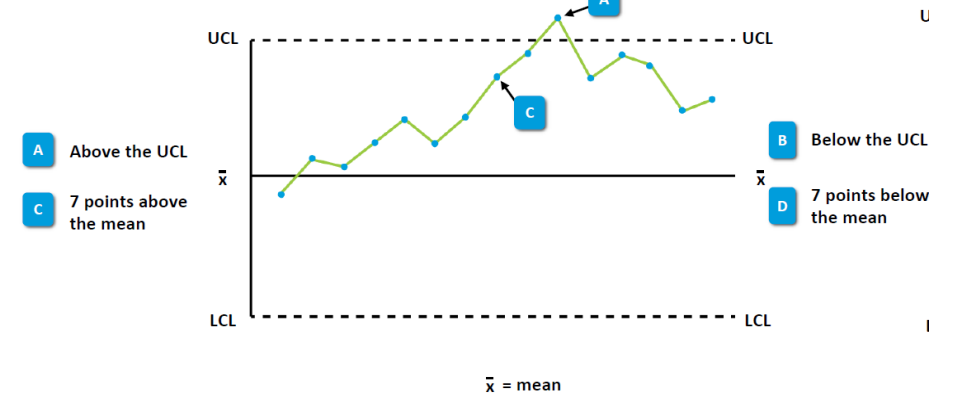


Pareto chart

A histogram that is used to rank causes of problems in a hierarchical format.



Variability above the mean

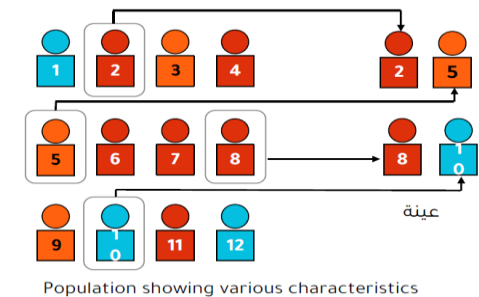


Measurements that exceed the range between the upper and lower control limits are considered to be an indication of instability.

The variability expressed is atypical for the process and may be an indication of a special source of variance.

Statistical sampling

It is choosing part of a population of interest for inspection.



Project Management Plan Components

- Baselines
- Subsidiary plans
- Life cycle
- Project processes
- Work explanation
- Agile project plan

Project Management Plan Tools and Techniques

- Expert judgment
- Data gathering
- Interpersonal and team skills
- Meetings

Project Management Information System (PMIS)

An information system consisting of the tools and techniques used to gather, integrate, and disseminate the outputs of project management processes.

Disciplined Agile DA:

A hybrid tool kit that harnesses hundreds of agile practices to devise the best “way of working” (WOW) for your team or organization.

Scrum of Scrums:

A technique to operate Scrum at scale for multiple teams working on the same product, coordinating discussions of progress on their interdependencies and focusing on how to integrate the delivery of software, especially in areas of overlap

Scaled Agile Framework SAFe

A knowledge base of integrated patterns for enterprise scale lean agile development

Procurement

It the acquisition of goods and services from an external organization, vendor, or supplier to enable the deliverables of the project.

Make or buy analysis

The process of gathering and organizing data about product requirements and analyzing them against available alternatives including the purchase or internal manufacture of the product.

Make or buy decisions

Decisions made regarding the external purchase or internal manufacture of a product.

Procurement Management Plan

A component of the project or program management plan that describes how a project team will acquire goods and services from outside of the performing organization.

Procurement Management Plan

A set of attributes desired by the buyer which a seller is required to meet or exceed to be selected for a contract.

Sample source selection criteria:

- 1) Overall or lifecycle cost
- 2) Understanding of need
- 3) Technical capability
- 4) Management approach
- 5) Technical approach
- 6) Warranty
- 7) Financial capacity
- 8) Production capacity and interest
- 9) Business size and type
- 10) Past performance of sellers
- 11) References
- 12) Intellectual property rights
- 13) Proprietary rights

Vendors approved to deliver products, services, or results based on the procurement

Qualified Vendors List

Project Name: Computer Network Upgrade Project

Vendor	Industry/Expertise	Capacity	Staff	Reputation	References
Company 1	Computer networking consultants	100 to 500 machines in local network	60	Able to provide solutions for large businesses on time	<i>Name 1:</i> Designation/Contact details <i>Name 2:</i> Designation/Contact details
Company 2	Networking hardware router manufacturers	1000	500	Quality equipment providers – rated #1	<i>Name 1:</i> Designation/Contact details <i>Name 2:</i> Designation/Contact details
Company 3	Networking cable suppliers	Any quantity within 2 weeks	150	Can provide required brands at competitive prices	<i>Name 1:</i> Designation/Contact details <i>Name 2:</i> Designation/Contact details

Bidder Conferences

The buyer explains the requirements, proposed terms, and conditions, and the buyer clarifies the vendors' queries

Contract:

A mutually binding agreement that obligates the seller to provide the specified project or service or result and obligates the buyer to pay for it.

Traditional Contract Types

Contract type	Description
Fixed-price*	• An agreement that sets the fee that will be paid for a defined scope of work regardless of the cost or effort to deliver it. • Also known <u>as a lump sum contract</u>. • Provides <u>maximum protection</u> to buyer but requires a lengthy preparation and bid evaluation. • Suited for projects with <u>a high degree of certainty</u> about their parameters.
Cost-reimbursable*	• A contract involving payment to the seller for the seller's actual costs, plus a fee typically representing the seller's profit. • Includes incentives for meeting certain objectives, such as costs, schedule, or technical performance targets. • Suited for projects when <u>parameters are uncertain</u>.
Time and Material (T&M)*	• A type of contract that is a hybrid contractual arrangement containing aspects of both cost-reimbursable and fixed-price contracts. • Combines a negotiated hourly rate and full reimbursement for materials. • Include not-to-exceed values and time limits to prevent unlimited cost growth. • Suited for projects when a precise statement of work cannot be quickly prescribed.

Contract Types/ Fixed Price

الوصف	سعر ثابت
• أكثر أنواع العقود شيوعًا FFP. • تفضله معظم المنظمات المشتري لأن سعر العمل محدد في البداية ولا يخضع للتغيير ما لم يتغير نطاق العمل	سعر ثابت مستقر(FFP)
• The most used contract type is the FFP. • It is favored by most buying organizations because the price for goods is set at the outset and not subject to change unless the scope of work changes	Firm fixed price (FFP)
• يمنح المشتري والبائع بعض المرونة من حيث أنه يسمح بالانحراف الايجابي عن الأداء. مع ربطه بالحوافز المالية لإنجازات ما (تتعلق بالتكلفة أو الجدول الزمني أو التقنية) • بموجب عقود FPIF. يتم تحديد سقف للسعر. وتكون جميع التكاليف فوق سقف السعر من مسؤولية البائع.	سعر ثابت مع حوافز(FPIF)
• Gives the buyer and seller some flexibility in that it allows for deviation from performance, with financial incentives tied to achievements (Financial incentives are related to cost, schedule, or technical) • Under FPIF contracts, <u>a price ceiling is set, and all costs above the price ceiling are the responsibility of the seller</u>	Fixed price incentive fee (FPIF)
• تُستخدم كلما امتدت فترة أداء البائع لفترة طويلة من السنوات. أو إذا تم سداد المدفوعات بعملة مختلفة . • هو عقد ثابت السعر. ولكن مع وجود بند خاص يسمح بإجراء تعديلات نهائية محددة مسبقًا على سعر العقد بسبب الظروف الاقتصادية المتغيرة. مثل التضخم	سعر ثابت مع تعديلات الأسعار اقتصادياً (FPEPA)
• Used whenever the seller's performance period spans a considerable period of years, or if the payments are made in a different currency. • It is a fixed-price contract, but with a special provision allowing for predefined final adjustments to the contract price due to changed conditions, such as inflation	Fixed price with economic price adjustments (FPEPA)

Agile Contract Types

Multi-tiered structure	• Create a master service agreement to capture fixed items – e.g., warranties, arbitration • List variable items in a schedule of services – e.g., service rates, product descriptions • Use a SOW to itemize dynamic items – e.g., scope, schedule, budget
Emphasize value delivered	• Structure milestone and payment terms based on value derived at milestones • Focus on the value of feedback in product development
Fixed-price increments	Decompose scope into smaller, fixed-price micro-deliverables (user stories), giving customer more control over how the money is spent and limiting the supplier's financial risk.
Not-to-exceed time and materials	• Limit budget to fixed amount, allowing customer to add ideas by removing existing ones • Monitor work to avoid overage (or add contingency hours)
Graduated time and materials	• Connect quality and timely delivery of work (use DoD) to financial award - reward for early and reduce for late delivery
Early cancellation option	• Enable flexible delivery of scope, using DoD – e.g., if partial scope delivery satisfies customer, contract can be cancelled for a fee
Dynamic scope option	• Gives option to vary scope and fund innovation at specific points while limiting supplier risk • Vary scope at specific points to adjust features and innovate
Team augmentation	• Embed supplier's services directly into the customer organization; fund team instead of scope

Contract Types/ Cost Reimb

Cost reimbursable	Description
Cost plus fixed fee (CPFF)	• The seller is reimbursed for all allowable costs for performing the contract work and receives a fixed-fee payment calculated as a percentage of the initial estimated project costs. • Fee amounts do not change unless the project scope changes
Cost plus incentive fee (CPIF)	• The seller is reimbursed for all allowable costs for performing the contract work and receives a predetermined incentive fee based on achieving certain performance objectives as set forth in the contract. • If the final costs are less or greater than the original estimated costs, then both the buyer and seller share costs from the departures based upon a pre-negotiated cost-sharing formula (for example, an 80/20 split over/under target costs based on the actual performance of the seller)
Cost plus award fee (CPAF)	• The seller is reimbursed for all legitimate costs, but the majority of the fee is earned based on the satisfaction of certain broad subjective performance criteria that are defined into the contract. • The determination of fee is based solely on the subjective determination of seller performance by the buyer and is generally not subject to appeals

Delivery Solution

مرحلة تسليم الحل Solution Delivery Phase	الوصف - Description
التخطيط والتحليل Planning and analysis	يتم توثيق متطلبات العملاء Customer requirements are documented
تصميم مفصل Detailed design	تم توثيق الحل Solution is documented
التنفيذ أو التثبيت Implementation or installation	تم تنفيذ الحل Solution is implemented or installed
الاختبارات Testing	يتم اختبار الحل Solution is tested
التدريب Training	يتم توفير التدريب للعميل Training is provided to the customer
التسليم Handover	يتم تسليم الحل رسميًا إلى العميل Solution is formally handed over to the customer
الدعم والصيانة Support and maintenance	يتم نقل الحل إلى دعم العملاء Solution is transferred to customer support

Control Procurements process

Process of managing procurement relationships, monitoring contract performance, making changes and corrections as appropriate, and closing out contracts.

Contract change control system

The system used to collect, track, adjudicate, and communicate changes to a contract.

Types of Contract Changes

الوصف Description	المكونات Component
التغييرات غير الجوهرية. وهي أكثر التغييرات شيوعًا في طريقة إدارة العقد. Non-substantive changes, which are the most common changes to the way the contract is administered.	التغييرات الإدارية Administrative changes
تغيير جوهري في متطلبات العقد مثل موعد نهائي جديد أو تغيير في متطلبات المنتج. A substantive change to the contract requirements such as a new deadline or a change to the product requirements.	تعديل العقد Contract modification
اتفاقية إضافية تتعلق بالعقد ولكن تم التفاوض عليها بشكل منفصل. An additional agreement related to the contract but negotiated separately.	الاتفاق التكميلي Supplemental agreement
التغييرات التي قد يكون المشتري قد تسبب بها من خلال العمل أو التقاعس. Changes that the buyer may have caused through action or inaction.	التغييرات المتصلة بترتيبات المورد Constructive changes
قد يتم إنهاء العقد بسبب تقصير البائع أو لراحة العميل. تعود حالات التخلف عن السداد إلى عدم الأداء، مثل تأخر التسليم وسوء الجودة أو عدم أداء بعض أو كل متطلبات المشروع. A contract may be terminated due to vendor default or for customer convenience. Defaults are due to nonperformance, such as late deliveries and poor quality, or nonperformance of some or all project requirements.	إنهاء العقد Termination of contract

Legal Concepts when Managing Disputes

الوصف Description	قضية قانونية Legal Issue
الوعد، الصريح أو الضمني، بأن السلع أو الخدمات سوف تلي معيارًا محددًا مسبقًا. قد يغطي معيار الموثوقية والملاءمة للاستخدام والسلامة. A promise, explicit or implied, that goods or services will meet a pre-determined standard. The standard may cover reliability, fitness for use, and safety.	الضمان Warranty
التنازل عن حق العقد ولو بدون قصد. The giving up of a contract right, even inadvertently.	التنازل Waiver
عدم الوفاء ببعض أو كل التزامات العقد. قد يؤدي إلى دفع تعويضات للطرف المتضرر أو التقاضي أو تداعيات أخرى. Failure to meet some or all of the obligations of a contract. It may result in damages paid to the injured party, litigation, or other ramifications.	الإخلال بالعقد Breach of contract
رسالة مرسلة إلى فرد أو شركة لوقف الأنشطة غير القانونية وعدم القيام بها مرة أخرى (الكف). غالبًا ما يستخدم كتحذير من إجراء قانوني وشيك إذا تم تجاهله. A letter sent to an individual or a business to stop (cease) allegedly illegal activities and to not undertake them again (desist). Often used as a warning of impending legal action if it is ignored.	خطاب الإيقاف والكف (C&D) Cease and desist (C&D) letter

H. ESTABLISH PROJECT GOVERNANCE STRUCTURE

Project Governance

The framework, functions, and processes that guide project management activities to create a unique product, service, or result to meet organizational, strategic, and operational goals.

Components of the framework can include:

- Project success and deliverable acceptance criteria
- Process to identify, escalate, and resolve issues
- Relationship between project team, organizational groups, and external stakeholders
- Project organization chart with project roles
- Communication processes and procedures
- Processes for project decision making
- Guidelines for aligning project governance and organizational strategy
- Project life cycle approach
- Process for stage gate or phase reviews
- Process for review and approval of changes above the project manager's authority
- Process to align internal stakeholders with project process requirements

Project Phase

A collection of logically related project activities that culminates in the completion of one or more deliverables.

Phase gate

A review at the end of a phase in which a decision is made to continue to the next phase, to continue with modification, or to end a project or program.

Governance in Adaptive Projects Can:

- Document outputs and expectations
- Provide a clear view of project status from:
- Defined iteration/sprint expectations and outputs
- Releases tied to specific dates
- “Real-time” monitoring of project output through daily standups

Iterative approaches enable quicker and less costly identification of value-based outputs than predictive.

3. DOING THE WORK

1. Creating a High-Performing Team 1. إنشاء فريق عالي الأداء	
A. Build a Team	أ. بناء فريق
B. Determine Ground Rules Define Team	ب. تحديد قواعد الفريق الأساسية
C. Negotiate Project Agreements	ج. التفاوض بشأن اتفاقيات المشروع
D. Team Members and Stakeholders Empower	د- تمكين أعضاء الفريق وأصحاب المصلحة
E. Team Members and Stakeholders Train	هـ- تدريب أعضاء الفريق وأصحاب المصلحة
F. Engage and Support Virtual Teams	و. إشراك ودعم الفرق الافتراضية
G. Build Shared Understanding about a Project	ز- بناء تفاهم مشترك حول المشروع

4. Keeping the Team on Track 4. إبقاء الفريق على المسار الصحيح	
A. Lead a Team	أ. قيادة فريق
B. Support Team Performance	ب. دعم أداء الفريق
C. Address and Remove Impediments,	ج. معالجة وإزالة العوائق والعقبات والحواجز
D. Manage Conflict	د. إدارة المنازعات
E. Collaborate with Stakeholders	هـ. التعاون مع أصحاب المصلحة
F. Mentor Relevant Stakeholders	و. توجيه أصحاب المصلحة المناسبين
G. Apply Emotional Intelligence to Promote Team Performance	ز- تطبيق الذكاء العاطفي لتعزيز أداء الفريق

2. Starting the Project 2. بدء المشروع	
A. Determine the appropriate project methods methodology	أ. تحديد منهجية طرق المشروع المناسبة
B. Plan and Scope Manage	ب. تخطيط وإدارة النطاق
C. Plan and Manage Budget and Resources	ج. تخطيط وإدارة الميزانية والموارد
D. Plan and Manage Schedule	د- تخطيط وإدارة الجدول الزمني
E. Deliverables Plan and Manage Quality	هـ- تخطيط وإدارة جودة المنتجات والتسليمات
F. Integrate Project Planning Activities	و. دمج أنشطة تخطيط المشروع
G. Plan and Manage Procurement	ز. تخطيط وإدارة المشتريات
H. Establish Project Governance Structure	ح- إنشاء هيكل حوكمة المشروع
I. and Manage Procurement Plan	ط. تخطيط وإدارة إغلاق المشروع أو المرحلة

5. Keeping the Business in Mind 5. وضع الأعمال في الاعتبار	
A. Manage Compliance Requirements	أ. إدارة متطلبات التوافق
B. Evaluate and Deliver Project Benefits and Value	ب. تقييم وتقديم مزايا المشروع وقيمته
C. Evaluate and Address Internal and External Business Environment Changes	ج. تقييم ومعالجة التغييرات في بيئة العمل الداخلية والخارجية
D. Support Organizational Change	د- دعم التغيير التنظيمي

3. Doing the work 3. القيام بالعمل	
a. Risk assessment and management	أ. تقييم وإدارة المخاطر
B. Execute Project to Deliver Business Value	ب. تنفيذ المشروع لتقديم قيمة مرتبطة بالأعمال
C. Manage Communications	ج. إدارة الاتصالات
D. Engage Stakeholders	د. إشراك أصحاب المصلحة
E. Create Project Artifacts	هـ- إنشاء عناصر المشروع
F. Manage Project Changes	و. إدارة تغييرات المشروع
G. Manage Project Issues	ز. إدارة قضايا المشروع
H. Ensure Knowledge Transfer for Project Continuity	ح - ضمان نقل المعرفة لاستمرارية المشروع

A. ASSESS AND MANAGE RISKS

Risk

An uncertain event or condition that, if it occurs, has a positive or negative effect on one or more project objectives.

Trigger condition

An event or situation that indicates that a risk is about to occur.

Risk Management Plan

- Risk strategy
- Methodology
- Roles and responsibilities
- Funding
- Timing
- Contingency reserves
- Risk categories
- Stakeholder risk appetite
- Probability and impact
- Probability and impact matrix

Risk Identification

Tool	Description
Checklist analysis	Developed based on historical information as a standardized way to identify risks
Root cause analysis	examines a problem and seeks to determine the underlying reason or cause of the problem
Assumption and constraint analysis	explores the validity of the project assumptions within the constraints
SWOT	analysis examines the project from the perspective of strengths, weaknesses, opportunities, and threats.
Document analysis	is structured reviews of project plans and related documents to help identify risks
Prompt lists	A predefined list of risk categories that might help gathering and analyzing risk-related data
Meetings	special meeting called a risk workshop to focus on identifying risks
Expert judgment	Individuals with the proper experience in risk analysis provide appropriate feedback

Risk Breakdown Structure

Example RBS

Uses typical categories, such as:

- Technical
- Management

- Commercial
- External

Risk tolerance

The maximum amount of risk, and the potential impact of that risk occurring, that a project manager or key stakeholder is willing to accept.

Risk appetite

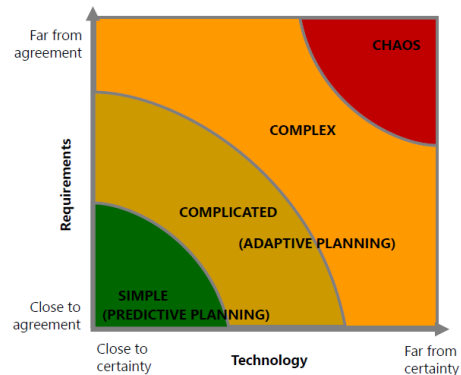
The degree of uncertainty an organization or individual is willing to accept in anticipation of a reward.

Qualitative risk analysis

Technique used to determine the probability of occurrence and the impact of each identified risk.

Fundamentally risky

Agile projects include risks in user stories and as part of backlog work items



+/- IMPACT ON PROJECT OBJECTIVES

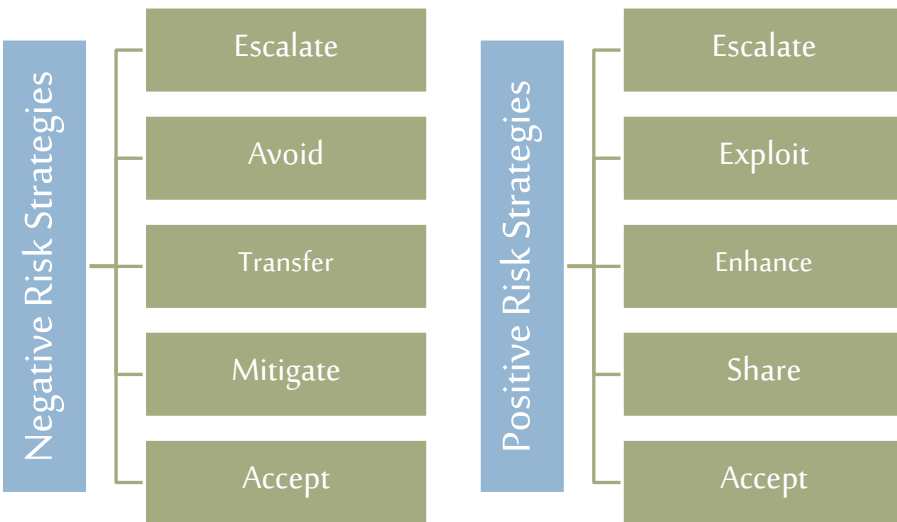
SCALE	PROBABILITY	TIME	COST	QUALITY
VERY HIGH	>70%	>6 months	>\$5m	Very significant impact on overall functionality
HIGH	51-70%	3-6 months	\$1m-\$5m	Significant impact on overall functionality
MEDIUM	31-50%	1-3 months	\$501k - \$1m	Some impact in key functional areas
LOW	11-30%	1-4 weeks	\$100k-\$500k	Minor impact on overall functionality
VERY LOW	1-10%	1 week	<\$100k	Minor impact on secondary functions
NIL	<1%	No change	No change	No change in functionality

Probability and Impact Matrix

		SEVERITY IMPACT (SEVERITY)				
		1	2	3	4	5
PROBABILITY (LIKELIHOOD)	1	VERY LOW 1	2	3	4	5
	2	2	LOW 4	6	8	10
	3	3	6	MEDIUM 9	12	15
	4	4	8	12	HIGH 16	20
	5	5	10	15	20	VERY HIGH 25

Quantitative Risk Analysis Methods

- Simulations
- Sensitivity analysis
- Decision tree analysis
- Influence diagrams
- Expected monetary value (EMV)



Contingency Plans

A risk response strategy developed in advance, before things go wrong; it is meant to be used if and when identified risks become reality.

Allows a project manager to react quickly and appropriately to the risk event, mitigating its negative impact or increasing its potential benefits.



May include a fallback plan for risks with high impact.

B. EXECUTE PROJECT TO DELIVER BUSINESS VALUE

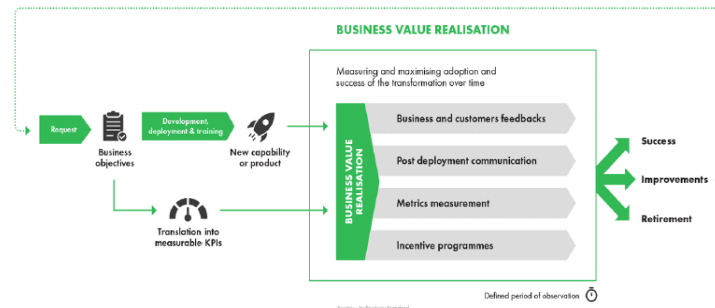
Creating a Culture of Urgency

- **Establish and cultivate** that urgency in your culture as an ongoing task.
- Lead by **communicating** the project's **importance** and **vision**.
- **Commit** to and **be accountable** for striving towards that vision.
- **Represent** the voice of the customer to create relevancy and personalize the value.

Business Value

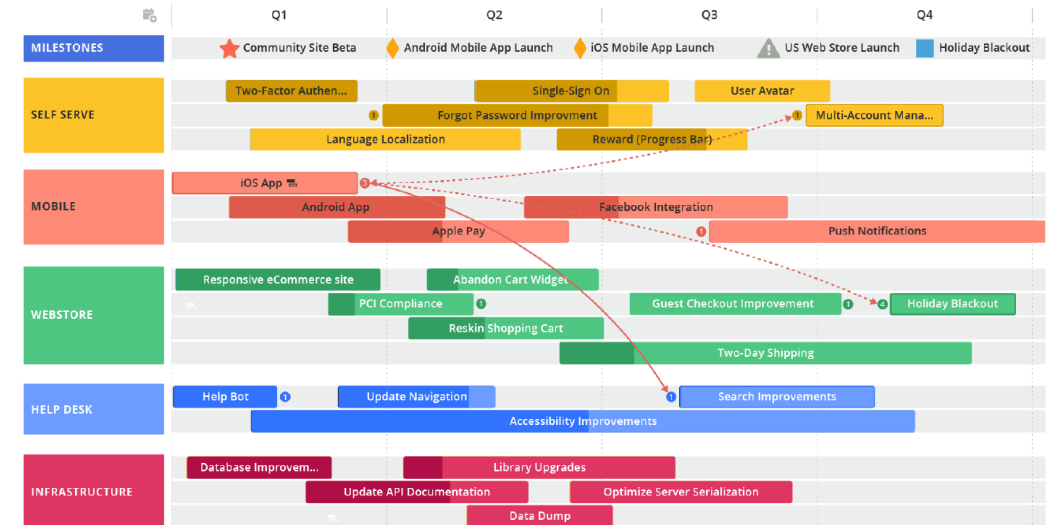
The net quantifiable benefit derived from a business endeavor. The benefit may be tangible, intangible, or both.

- Business value can be:
 - Financial
 - Improvements
 - New customers
 - First to market
 - Social
 - Technological



Product Roadmap

Serves as a high level visual summary of the product or products of the project.



Minimum Viable Product

MVP: The smallest collection of features that can be included in a product for customers to consider it functional. In Lean methodologies, it can be referred to as "bare bones" or "no frills"

Minimum Business Increment

MBI: The smallest amount of value that can be added to a product or service that benefits the business.

Communications Management Plan

Stakeholder	Communication Method	Frequency	Responsibility	Notes
Key Stakeholders	Project Kickoff Meeting	Start of project	Project Management Office	Both team and client kickoff meetings recommended
	Extranet	Ongoing	Project Management Office	Includes project schedule, key project deliverables, meeting minutes, change request log, issues log
Client Executive	Executive Steering Committee	Monthly - first Wednesday of each month	Account Manager	Review status, milestones met, earned value indicators, key issues
Client Sponsor	Status Meetings Status Report (Email)	Weekly - Friday 2 p.m.	Project Manager	Review project status, schedule, change requests, issues
Development Team	Status Meetings	Weekly - Friday 11 a.m.	Project Manager	Provides input for subsequent meetings with client sponsor
Client Managers	Newsletter (Email)	Weekly - Friday	Project Management Office	
Client Sponsor/Key Client Stakeholders	Client Satisfaction Survey	Monthly/end of each phase	Account Manager/Project Manager	Informal (Monthly) Formal (End of each phase)

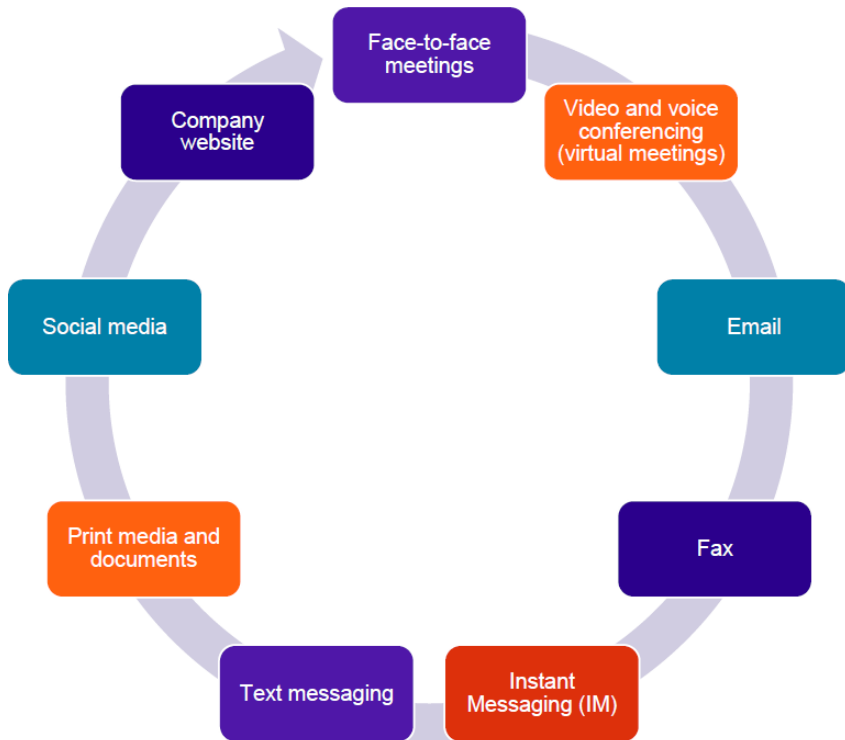
Components of the Communications Management Plan

- Stakeholder communications requirements
- Reason for the distribution of the information
- Person responsible for the communication
- People who will receive the information
- Time and budget allocated for communication
- Method for updating the communications management plan
- Flowcharts of information flow
- Information to be communicated, including language to be used
- Time frame and frequency of information distribution
- Person responsible for the release of confidential information
- Methods or technologies to convey the information
- Escalation process for issues that need visibility
- Glossary of common terminology
- Any communication constraints due to regulation or policies

Communication requirements analysis

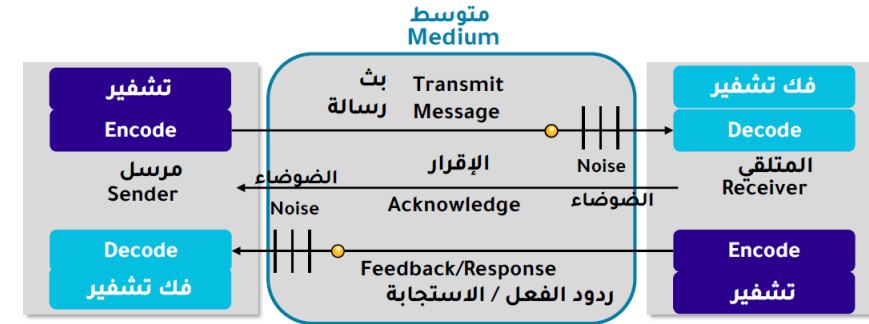
The analytical technique to determine the information needs of the project stakeholders through interviews, workshops, study of lessons learned from previous projects, etc.

Communication Types



Communication Models

A description, analogy, or schematic used to represent how the communication process will be performed for the project.



Communication Methods

A systematic procedure, technique, or process used to transfer information among project stakeholders.



Involves communication between multiple people performing multi-directional information exchange.



Involves sending information to a receiver. It ensures that the information has been distributed but does not guarantee that it has reached the receiver.



Involves receivers accessing information whenever required.

Stakeholder Categories

- Sponsors
- Customers and users
- Sellers
- Business partners
- Organizational groups
- Functional managers
- Other stakeholders

Stakeholder Engagement Strategy

- Develop a strategy to involve each project stakeholder based on needs expectations, interests, and potential impact on the project.
- Strategy can be used to effectively involve stakeholders throughout the lifecycle of the project
- Enables the right-level of management to the number of stakeholders
- Enables development of appropriate management strategies to engage stakeholders
- Creation and maintenance of relationships between the project team and stakeholders.

Stakeholder Engagement Assessment Matrix

It is a matrix that compares current and desired stakeholder engagement levels.

Stakeholder اصحاب المصلحة	Unaware غير مدرك	Resistant مقاوم	Neutral محايد	Supportive داعم	Leading قيادي
Stakeholder 1 صاحب المصلحة 1	C			D	
Stakeholder 2 صاحب المصلحة 2			C	D	
Stakeholder 3 صاحب المصلحة 3				C	D

C = Current engagement level D = Desired engagement level
D = مستوى المشاركة المطلوب C = مستوى المشاركة الحالي

E. CREATE PROJECT ARTIFACTS

Project artifact

Any document related to the management of a project. The project team will create and maintain many artifacts during the life of the project, to allow reconstruction of the history of the project and to benefit other projects.

Project artifacts might include:

- Acceptance Criteria
- Assumptions
- Business Case
- Change Requests
- Constraints
- Lessons learned
- Minutes of status meetings
- Project Charter
- Slide decks
- Requirements
- Scope
- Scope Baseline
- Subsidiary project management plans

Artifacts unique to agile projects:

- Product Backlog
- Product Increment
- Product Roadmap
- Product Vision Statement
- Release Plan
- Sprint Backlog

Configuration management

A tool used to manage changes to a product or service being produced as well as changes to any project documents

Configuration management system

A collection of procedures used to track project artifacts and monitor and control changes to these artifacts.

Vision Control

A system that records changes to a file in a way that allows you to retrieve previous changes made to it.

Change Management Plan

A component of the project management plan that establishes the change control board, documents the extent of its authority, and describes how the change control system will be implemented.

Causes of Project Changes:

- Inaccurate initial estimates
- Specification changes
- New regulations
- Missed requirements

Change control system

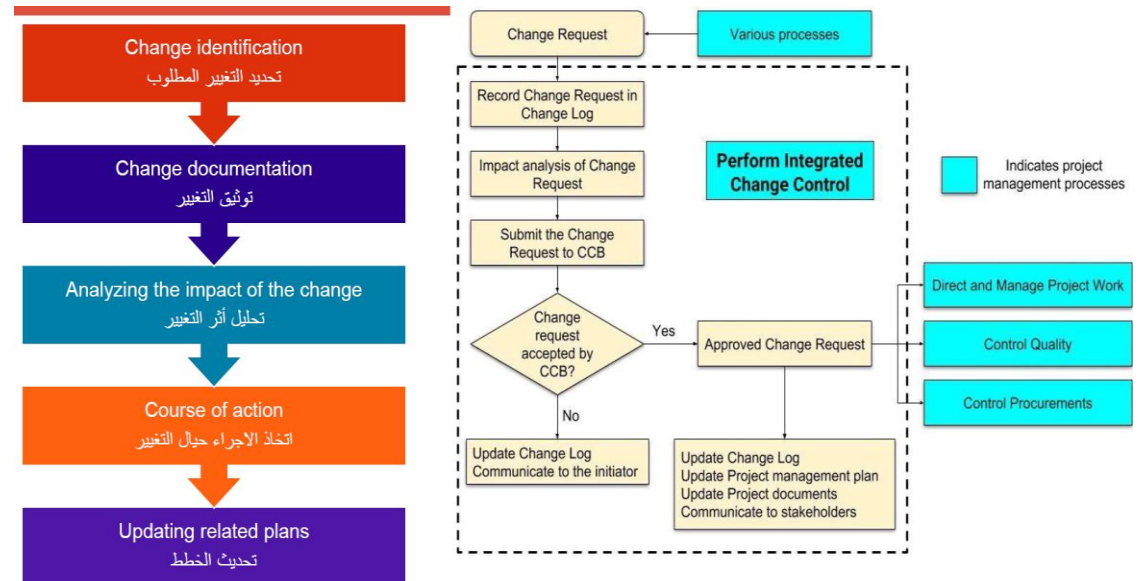
A set of procedures that describes how modifications to the project deliverables and documentation are managed and controlled.

Change Control Board (CCB)

A formally chartered group responsible for reviewing, evaluating, approving, delaying, or rejecting changes to the project, and for recording and communicating such decisions.

Change Control Strategy

A formally chartered group responsible for reviewing, evaluating, approving, delaying, or rejecting changes to the project, and for recording and communicating such decisions.



Approved change requests

Requests that have been received and approved in accordance with the integrated change control plan and are ready to be scheduled for implementation.

Approved changes can include: Corrective action, Preventive action, Defect repair and Update

Issue

A current condition or situation that may have an impact on the project objectives. In other words, it is an action item that the project team must address.

Common areas include:

- Scope change control
- Schedule control
- Cost control
- Project variance analysis
- Quality
- Risk
- Procurement
- Communications

Issue log

A document where information about issues is recorded and monitored. It is used to track problems, inconsistencies, or conflicts that occur during the life of the project and require investigation in order to work toward a resolution.

Issue Resolution

- As issues arise, promptly add them to the issue log.
- Each **issue should have an owner** who is responsible for tracking the progress of the workaround and reporting back to the project manager.
- The **due date** should be **realistic**, and every reasonable attempt should be made to meet it.
- Issues should be **a regular topic of every status meeting**, with the goal to keep the number of open issues to a manageable number.
- **Don't hesitate to escalate an issue to the project sponsor** if it begins to have a major effect on the project.

H. ENSURE KNOWLEDGE TRANSFER FOR PROJECT CONTINUITY

Explicit knowledge

Knowledge that can be codified using symbols such as words, numbers, and pictures.

Tacit knowledge

Personal knowledge that can be difficult to articulate and share such as beliefs, experience, and insights.

Lessons learned register

A project document used to record knowledge gained during a project so that it can be used in the current project and entered into the lessons learned repository.

Lessons learned repository

A store of historical information about lessons learned in projects.

The project manager has several interpersonal skills that are used to manage knowledge. These include:

- Leadership to communicate the organization's vision and inspire the project team to focus on the goals of the project.
- Facilitation to effectively guide a group to a successful solution to a problem.
- Political awareness to keep the project manager aware of the organization's political environment.
- Networking to facilitate relations among project stakeholders so that knowledge is shared at all levels.

Knowledge transfer consists of connecting individuals, in person or virtually, to share tacit knowledge and collaborate together.

Techniques include:

- Networking
- Facilitating special interest groups.
- Meetings, seminars, and various other types of in person and virtual events that encourage people to interact and exchange ideas and knowledge.
- Training that involves interaction between attendees.
- Work shadowing and reverse shadowing provide a more individualized method to the exchange of specialized knowledge.

4. Keeping the Team on Track

1. Creating a High-Performing Team	
1. إنشاء فريق عالي الأداء	
A. Build a Team	أ. بناء فريق
B. Ground Rules DefineTeam	ب. تحديد قواعد الفريق الأساسية
C. Negotiate Project Agreements	ج. التفاوض بشأن اتفاقيات المشروع
D. Team Members and Stakeholders Empower	د- تمكين أعضاء الفريق وأصحاب المصلحة
E. Team Members and Stakeholders Train	هـ- تدريب أعضاء الفريق وأصحاب المصلحة
F. Engage and Support Virtual Teams	و. إشراك ودعم الفرق الافتراضية
G. Shared Understanding about a Project	ز- بناء تفاهم مشترك حول المشروع

3. Doing the work	3. القيام بالعمل
A. Risk assessment and management	تقييم وإدارة المخاطر
B. Execute Project to Deliver Business Value	ب. تنفيذ المشروع لتقديم قيمة مرتبطة بالعمال
C. Manage Communications	ج. إدارة الاتصالات
D. Engage Stakeholders	د. إشراك أصحاب المصلحة
E. Create Project Artifacts	هـ- إنشاء عناصر المشروع
F. Manage Project Changes	و. إدارة تغييرات المشروع
G. Manage Project Issues	ز. إدارة قضايا المشروع
H. Ensure Knowledge Transfer for Project Continuity	ح - ضمان نقل المعرفة لاستمرارية المشروع

 2. Starting the Project

2. بدء المشروع

أ. تحديد منهجية طرق المشروع المناسبة
A. Determine the appropriate project methods methodology

ب. تخطيط وإدارة النطاق
B. Plan and Scope Manage

ج. تخطيط وإدارة الميزانية والموارد
C. Plan and Manage Budget and Resources

د. تخطيط وإدارة الجدول الزمني
D. Plan and Manage Schedule

هـ. تخطيط وإدارة جودة المنتجات والتسليمات
E. Plan and Manage Quality of Deliverables

و. دمج أنشطة تخطيط المشروع
F. Integrate Project Planning Activities

ز. تخطيط وإدارة المشتريات
G. Plan and Manage Procurement

ح. إنشاء هيكل حوكمة المشروع
H. Establish Project Governance Structure

ط. تخطيط وإدارة إغلاق المشروع أو المرحلة
I. Plan and Manage Procurement Plan

	5. Keeping the Business in Mind 5. وضع الأعمال في الاعتبار
A.	Manage Compliance Requirements إدارة متطلبات التوافق
B.	Evaluate and Deliver Project Benefits and Value تقييم وتقديم مزايا المشروع وقيمه
C.	Evaluate and Address Internal and External Business Environment Changes تقييم ومعالجة التغييرات في بيئة العمل الداخلية والخارجية
D.	Support Organizational Change دعم التغيير التنظيمي

4. Keeping the Team on Track	
4. إبقاء الفريق على المسار الصحيح	
A. Lead a Team	أ. قيادة فريق
B. Support Team Performance	ب. دعم أداء الفريق
C. Address and Remove Impediments,	ج. معالجة وإزالة العوائق والعقبات والحواجز
D. Manage Conflict	د. إدارة المنازعات
E. Collaborate with Stakeholders	هـ. التعاون مع أصحاب المصلحة
F. Mentor Relevant Stakeholders	و. توجيه أصحاب المصلحة المعنيين
G. Apply Emotional Intelligence to Promote Team Performance	ز. تطبيق الذكاء العاطفي لتعزيز أداء الفريق

A. LEAD A TEAM

Vision and Mission

The project manager is the visionary leader for the project,

- Educating the team & other stakeholders about the value achieved or targeted
- Promoting teamwork and collaboration
- Assisting with project management tools and techniques
- Removing roadblocks
- Articulating the project s mission

Leadership Skills

- Conflict management
- Decision making
- Meeting management
- Networking
- Servant Leadership
- Cultural awareness
- Facilitation
- Negotiation
- Observation/conversation
- Team building

Servant leadership

A type of leadership commonly used in Agile which encourages the self definition, self discovery, and self awareness of team members by listening, coaching, and providing an environment which allows them to grow.

Leadership Styles

Style	Characteristic
Direct	Hierarchical, with project manager making all decisions
Consultative	Leader factors in opinions, but makes the decisions
Servant Leadership	Leader models desired behaviors
Consensus/ Collaborative	Team operates autonomously
Situational	Style changes to fit context and maturity/experience of team

Salience model

A classification model that groups stakeholders based on their level of authority, their immediate needs, and how appropriate their involvement is in the project

Power/interest grid:

Groups stakeholders on the basis of their levels of authority and interest in the project.

Power/influence grid:

A classification model that groups stakeholders on the basis of their levels of authority and involvement in the project.

B. SUPPORT TEAM PERFORMANCE

Keeping the Team on track

- Lead a Team
- Support Team Performance
- Address and Remove Impediments, Obstacles, and Blockers
- Manage Conflict
- Collaborate with Stakeholders
- Mentor Relevant Stakeholders
- Apply Emotional Intelligence to Promote Team Performance

Key Performance Indicator (KPI)

A set metric used to evaluate a team’s performance against the project vision and objectives. KPIs can use the SMART acronym

Performance Assessment Tasks

- Improve interaction between team members
- Solve issues
- Deal with conflicts
- Improve skills and competencies of team members
- Increase team cohesiveness

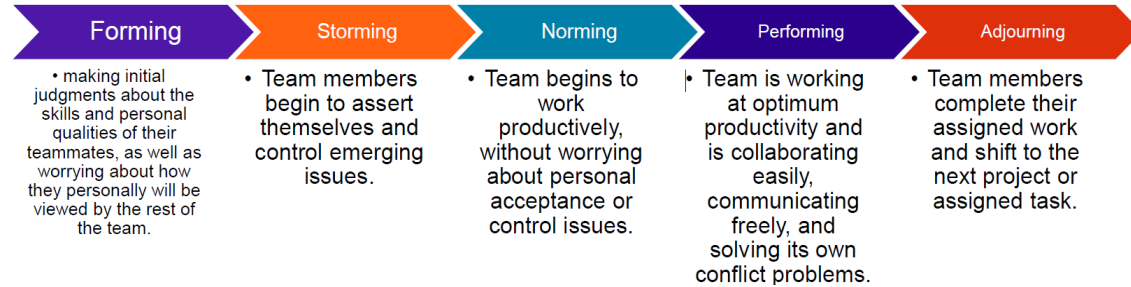
Monitor Scope

	Description of Scope	Method
	Scope baseline is: • Approved version of the project scope statement • Work breakdown structure (WBS) • Associated WBS dictionary	Measure completion of project scope against the scope baseline .
	Scope evolves from: • Initial product roadmap to • Release backlog to • Iteration backlogs Backlogs (including product features and functions and user stories) reflect identified, updated and reprioritized product needs	Check user stories and DoD against customer feedback and product requirements
	Any combination of the above	

Evaluate and Manage Quality

	• Project manager uses Control Quality process to: • Verify that deliverables meet functional and nonfunctional requirements • Identify and suggest improvements • Verify alignment with compliance requirements • Give feedback on any identified variances • Identify potential approaches to cure defects or other noncompliance • And continuously monitors quality reports and recommendations!	
	• Team, customer and product owner are responsible for setting and meeting quality goals and metrics • Feedback from iterations continuously monitor quality • Measure performance of quality with: • Service-level agreements (SLAs) • KPIs • Contractual measures • Quality methods/frameworks – e.g., Lean Six Sigma	

Team Development Stages



Performance Tracking Tools

الوصف	الأداة
استنادًا إلى طريقة الإدارة اليابانية لسحب البطاقات إلى مراحل مختلفة أثناء العمل عليها ، يمكن للوحات المادية أو الإلكترونية تتبع العمل أثناء تقدمه عبر المراحل أو الفئات المختلفة. Based on the Japanese management method of pulling cards to various stages as they are worked on, physical or electronic boards can track work as it progresses across various stages or categories.	لوحات سكرم / أجابل / كانبان Scrum/Agile/Kanban boards
قياس عمل الفريق الذي انتقل من مرحلة إلى أخرى خلال فترة زمنية معينة. Measurement of the team's work that has moved from one stage to another stage over a certain time.	مقاييس الإنتاجية Throughput Metrics
قياس العمل الذي تقدم على طول الطريق من الخطة إلى الإكمال أو التسليم. Measurement of work that has progressed all the way from plan to completed or delivered.	دورة الوقت Cycle Time
قياسات مختلفة لتتبع مخرجات الجودة والعيوب والمخرجات المقبولة. Various measurements to track quality deliverables, defects, and acceptable output.	مقاييس الجودة Quality Metrics
تتبع أداء التكلفة والجهد مقابل القيمة المخطط لها. Tracking cost and effort performance against a planned value.	القيمة المكتسبة Earned Value
استخدام الجدول الزمني للمشروع لتتبع الأداء بمرور الوقت. Using the project schedule to track performance over time.	المخططات الشريطية Bar Charts (Gantt)
قياس الناتج الإجمالي من التكرار لمحاولة التنبؤ بمخرجات التكرار المستقبلية. Measurement of total output from an iteration to attempt to predict future iteration outputs.	السرعة Velocity

Earned Value Management (EVM)

A methodology that combines scope, schedule, and resource measurements to assess project performance and progress.

Control Costs

Cost variance & schedule variance

$$CV = EV - AC = 200 - 180 = 20$$



أقل من التكلفة المخططة Positive = Under planned cost
طبقا للتكلفة المخططة Neutral = On planned cost
أعلى من التكلفة المخططة Negative = Over planned cost

$$SV = EV - PV = 200 - 300 = -100$$



متقدم عن البرنامج الزمني Positive = Ahead of Schedule
طبقا للجدول الزمني Neutral = On schedule
متأخر عن البرنامج الزمني Negative = Behind Schedule

Cost Performance Index and Schedule Performance Index

$$CPI = EV / AC = 200 / 180 = 1.1$$



أقل من التكلفة المخططة Greater than 1.0 = Under planned cost
طبقا للتكلفة المخططة Exactly 1.0 = On planned cost
أعلى من التكلفة المخططة Less than 1.0 = Over planned cost

$$SPI = EV / PV = 200 / 300 = 0.67$$



كثقدم عن البرنامج الزمني Greater than 1.0 = Ahead of schedule
طبقا للجدول الزمني Exactly 1.0 = On schedule
متأخر عن البرنامج الزمني Less than 1.0 = Behind schedule

Cost Performance Index and Schedule Performance Index

$$EAC = BAC / CPI = 500 / 1.1 = 454.5$$



إذا كان من المتوقع أن يكون مؤشر أداء التكاليف هو نفسه بالنسبة لبقية الأعمال
If the CPI is expected to be the same for the remainder of the project

Estimation to completion ETC

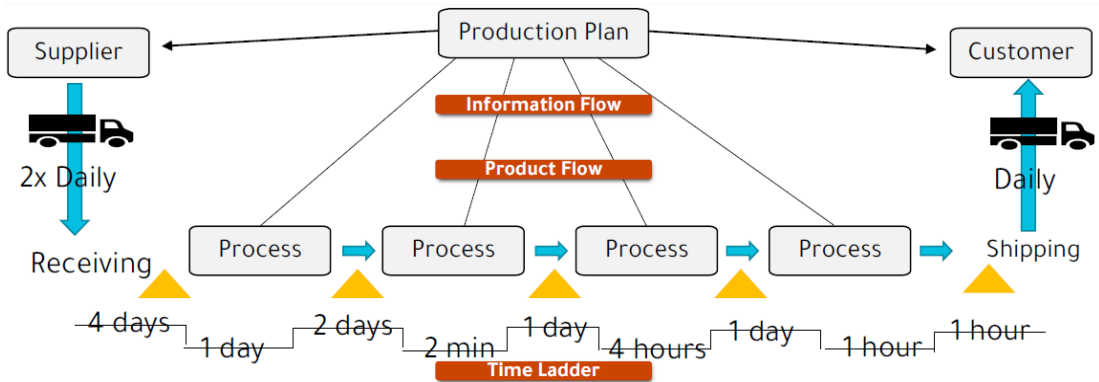
$$ETC = EAC - AC = 454 - 180 = +274$$

Performance Reports

الوصف Description	النوع Type
لوحات بصرية كبيرة لعرضها في الأماكن العامة ذات الازدحام الشديد حول المشروع. الهدف هو نشر المعلومات للجميع حول عمل المشروع. Big visual boards to display in high traffic public locations about the project and the advancement of the project. The aim is to radiate information to all about the project work.	مشعات المعلومات Information Radiators
رسم بياني لإظهار التقدم من خلال تخطيط العمل المتبقي أثناء التكرار أو فترة زمنية أخرى. A graph to show the progress by plotting the burning down of work during an iteration or other time period.	مخطط العمل المتبقي Burndown Chart
رسم بياني يوضح التقدم والمكاسب التي حققها فريق المشروع بمرور الوقت. A graph to show the progress and gains made by the project team over time.	مخطط Burnup Burnup Chart
الرسوم البيانية والقيم على أساس معادلات إدارة القيمة المكتسبة (EVM). Graphs and values based on the earned value management (EVM) equations.	تقارير إدارة القيمة المكتسبة Earned Value Management Reports
الرسوم البيانية وتحليلها يقارن النتائج الفعلية بالنتائج المخطط لها أو المتوقعة. Graphs and their analysis comparing actual results to planned or expected results.	تقارير تحليل التباين Variance Analysis Reports
التمثيل المادي أو الإلكتروني لمعلومات أداء العمل المجمعة في مستندات المشروع. بهدف توليد القرارات أو الإجراءات أو الوعي. The physical or electronic representation of work performance information compiled in project documents, intended to generate decisions, actions, or awareness.	تقارير أداء العمل Work performance reports
الرسوم البيانية والتقارير على أساس مقاييس الجودة التي تم جمعها. Charts and reports based on the quality metrics collected.	تقارير الجودة Quality Reports
ملخصات مادية أو إلكترونية للتقدم. وعادة ما تكون مصحوبة بصور أو رسومات لتمثيل مجموعة البيانات الأكبر Physical or electronic summaries of the progress, usually with visuals or graphics to represent the larger data set	لوحات المعلومات Dashboards
التصوير المادي أو الإلكتروني للعمل الذي يجب القيام به وحالته الحالية. Physical or electronic depictions of the work that must be done and their current state.	لوحات المهام Task Boards

Value stream mapping

A lean enterprise technique used to document, analyze, and improve the flow of information or materials required to produce a product or service for a customer



C. ADDRESS AND REMOVE IMPEDIMENTS, OBSTACLES, AND BLOCKERS

Impediment

An obstacle that prevents the team from achieving its objectives.

Obstacles

should be able to be moved , avoided, or overcome with some effort or strategy. unable to arrive at the worksite before permits are signed

Blockers

Events or conditions that cause stoppages in the work or any further advancement.

Daily Standup

A brief, daily collaboration meeting in which the team reviews progress from the previous day, declares intentions for the current day, and highlights any obstacles encountered or anticipated. Also known as a Daily Scrum

Tracking Impediments

Methods for tracking impediments might include: Impediments task boards or software applications

The Project Manager’s Role

- Managing conflict is a responsibility of all stakeholders.
- The PM heavily influences the direction and handling of conflict.
- Interpersonal and team skills help to ensure positive results when handling conflict.
- In agile projects, the PM facilitates conflict resolution while the team is empowered to resolve conflicts.
- As a servant leader, a PM assists in the removal of impediments or sources of conflict.

Causes of Conflict

- Competition
- Differences in objectives, values, and perceptions
- Disagreements about role requirements, work activities, and individual approaches
- Communication breakdowns

Conflict Management Approaches

Withdraw/Avoid	- Retreat from conflict situation - Postpone the issue	الانسحاب / تجنب قم بتأجيل القضية	
Smooth/Accommodate	- Emphasize areas of agreement - Concede position to maintain harmony and relationships	التسهيل / تسكين التموضع للحفاظ على الانسجام والعلاقات	
Compromise/Reconcile	- Search for solutions that bring some degree of satisfaction to everyone - Temporarily or partially resolve the conflict through compromise	ابحث عن الحلول التي تحقق درجة معينة من الرضا للجميع حل وسط / تسوية حل النزاع مؤقتا أو جزئيا عن طريق التفاوض	
Force/Direct	- Pursue your viewpoint at the expense of others - Offer only win/lose solutions	تابع وجهتك توجيه اجبار تقدم فقط حلول الفوز / الخسارة	
Collaborate/Problem Solve	- Incorporate multiple viewpoints - Enable cooperative attitudes and open dialog to reach consensus and commitment	دمج وجهات نظر متعددة تعزيز المواقف التعاونية والحوار المفتوح للوصول إلى توافق والتزام	

E. COLLABORATE WITH STAKEHOLDERS

Collaboration

- Effective collaboration
- Open dialog and meaningful communication optimizes understanding
- Everyone's involvement and engagement levels
- Keep discussions transparent
- Leverage communication and interpersonal skills , feedback , and meeting management to maximize feedback loop and engagement between stakeholders.

Project Stakeholders



Stakeholder register

A project document including the identification, assessment, and classification of project stakeholders.

STAKEHOLDER REGISTER

Name	Organization	Project Role	Major Requirements	Expectations	Influence	Areas of Interest	Internal/External	Supporter?
Linda Michaels	CEO	Sponsor	Budget, schedule, quality	Community involvement	Major	Community	Internal	Yes
Ron Gordon		Mortgage lenders		Growth	Major	Development	External	Yes
	Community		Neighborhood improvements		Minor	House	External	Yes
Andrews family		Homeowners		Engage family and friends				Yes
	Lumber warehouse	Vendor			Major	Locally sourced supplies		
		Project Manager		Project goes as planned	Major	All	Internal	Yes

Collaboration Activities

- Daily stand up meetings
- Co-locating teams for face to face communication
- Scheduled sessions, such as milestone reviews , backlog grooming sessions , and project update meetings

Stakeholder engagement plan

A component of the project management plan that identifies the strategies and actions required to promote productive involvement of stakeholders in project or program decision making and execution.

F. MENTOR RELEVANT STAKEHOLDERS

Transformation Skills

4

في عالم اليوم الرقمي، قد تكون مجموعة المهارات المستخدمة اليوم قديمة أو محدودة غدا. In today's digital world, the skill set being used today may be obsolete or limited tomorrow.

3

أكثر وضوحا في الفرق التي تتحول من نهج إدارة مشروع واحد إلى آخر. Most noticeable in teams transforming from one project management approach to another.

2

يتطلب دعم التحول الصبر والتوجيه الحساس Supporting the transformation requires patience and compassionate mentoring.

1

تتغير وتتطور المنظمة والأعمال والعالم باستمرار. The organization, business, and the world are constantly changing and evolving.

Determining Relevant Stakeholders

- When refining the backlog, mentoring the product owner on grooming best practices.
- When onboarding a new project team member, guiding her on the processes used by the team

G. APPLY EMOTIONAL INTELLIGENCE TO PROMOTE TEAM PERFORMANCE

Emotional Intelligence

El helps you understand your emotions and those of others to help minimize conflict

Self Awareness Elements

الوصف	العنصر
- Knowing feelings. - Perceiving connections between feelings and behavior. - Recognizing how emotions affect performance. - Being conscious of values, goals.	- معرفة المشاعر. - إدراك الروابط بين المشاعر والسلوك. - التعرف على كيفية تأثير العواطف على الأداء. - أن تكون واعيا بالقيم والأهداف. Emotional awareness الوعي العاطفي
- Perceiving strengths and weaknesses. - Becoming aware of blind spots. - Knowing emotional triggers.	- إدراك نقاط القوة والضعف. - إدراك النقاط العمياء. - معرفة المحفزات العاطفية. Accurate self-assessment تقييم ذاتي دقيق
- Expressing potentially unpopular opinions. - Taking risks. - Displaying poise, self-assurance. - Having a firm knowledge of your self-esteem and proficiencies. - Being decisive.	- التعبير عن آراء يحتمل أن تكون غير شعبية. - المخاطرة. - إظهار الأثران ، الثقة بالنفس. - امتلاك معرفة راسخة باحترامك لذاتك وكفاءاتك. - أن تكون حاسما. Self-confidence الثقة بالنفس

Self Regulation Elements

الوصف	العنصر
- Remaining cool under pressure. - Staying focused in a stressful environment. - Controlling rash, destructive emotions.	- بقي هادئ تحت الضغط. - الاستمرار في التركيز في بيئة مرهقة. - السيطرة على التسرع والعواطف المدمرة. السيطرة على النفس Self-control
- Acknowledging errors, challenging others' immoral conduct. - Establishing confidence via reputation for honesty, credibility. - Standing by principles. - Behaving in morally correct way, above suspicion.	- الاعتراف بالأخطاء وتحدي السلوك غير الأخلاقي للآخرين. - بناء الثقة من خلال السمعة الصادق والمصداقية. - التمسك بالمبادئ. - التصرف بطريقة صحيحة أخلاقيا فوق مستوى الشبهات. جدير بالثقة (الثقة) Trustworthiness
- Having well-ordered, meticulous approach to work. - Being accountable for fulfilling goals. - Satisfying obligations, delivering on promises.	- اتباع نهج جيد منظم ودقيق في العمل. - أن تكون مسؤولا عن تحقيق الأهداف. - الوفاء بالالتزامات والوفاء بالوعود. الضمير الحي Conscientiousness
- Adapting to changing events. - Interpreting events in a flexible way. - Handling numerous demands and changing priorities.	- التكيف مع الأحداث المتغيرة. - تفسير الأحداث بطريقة مرنة. - التعامل مع العديد من المطالب وتغيير الأولويات. القدرة على التكيف Adaptability
- Producing fresh ideas. - Considering innovative answers to problems. - Embracing new approaches and possibilities. - Looking for novel ideas.	- إنتاج أفكار جديدة. - النظر في حلول مبتكرة للمشاكل. - تبني نهج وإمكانيات جديدة. - إبحث عن أفكار جديدة. الابتكار Innovation

Motivation Elements

العنصر	الوصف
محرك الإنجاز Achievement drive	• تحديد الأهداف الصعبة، مع استغلال الفرص. • القيادة بجد للحصول على النتائج. • اكتشاف كيفية تنمية القدرات. • السعي للحد من عدم اليقين.
الالتزام Commitment	• اتخاذ القرارات بناءً على المبادئ الأساسية للفريق. • تحقيق الفائدة في السعي الشامل. • التضحية بمرور لتحقيق أهداف الكبيرة للشركة • البحث عن فرص لتحقيق مهمة الفريق.
المبادرة Initiative	• العمل أكثر من المعتاد نحو الأهداف. • إلهام الآخرين من خلال مآثر غير عادية. • تجاوز القواعد لإنهاء العمل. • اقتناص الفرص.
التفاؤل Optimism	• الأمل في النجاح بدلاً من الخوف من الفشل. • رؤية الانتكاسات ناتجة عن عوامل يمكن السيطرة عليها. • العمل نحو الأهداف بغض النظر عن العوائق.

Empathy Elements

العنصر	الوصف
فهم الآخرين Understanding others	• خدمة الآخرين على أساس الاحتياجات.. • مراقبة التلميحات العاطفية والاستماع بعناية. • إظهار البقاية وتقدير آراء الآخرين.
توجيه الخدمات Service orientation	• قدم المساعدة المناسبة بكل سعادة . • فهم وجهة نظر العملاء. • البحث عن استراتيجيات لزيادة رضا المستهلكين. • التعرف على احتياجات المستهلكين.
تطوير الآخرين Developing others	• تقدير ومكافأة إنجازات المنتسبين. • تقديم النقد المفيد. • التدريب والتوجيه.
الاستفادة من التنوع Leveraging diversity	• تقدير الأيديولوجيات المختلفة. • خلق الظروف التي يمكن أن تزدهر فيها أنواع مختلفة من المجموعات. • إظهار الاعتبار للمجموعات متنوعة. • الاعتراض على التمييز والعنصرية.
الوعي السياسي Political awareness	• فهم الحقائق السياسية وواقع الشركات. • استيعاب التأثيرات التي تحدث آراء العملاء والمستهلكين والمنافسين. • التعرف على النظم الاجتماعية الحرجة. • تفسير علاقات السلطات بشكل صحيح.

Social Skills Elements

العنصر	الوصف
التواصل Communication	• إدارة المشاكل الصعبة بشكل مباشر. • تبادل المعلومات بشكل فعال. • تنمية التواصل الواضح. • تحقيق الوعي المتبادل.
بناء الروابط القلبية Building bonds	• بناء علاقات مع الزملاء. • إنشاء شبكات عرضية كبيرة. • إبقاء الآخرين على اطلاع. • البحث عن علاقات مجزية للطرفين.
التشارك والتعاون Collaboration and cooperation	• تعزيز بيئة تعاونية. • زراعة خيارات التعاون. • الموازنة بين الواجبات الوظيفية والعلاقات المهنية. • العمل سوياً؛ تقاسم الاستراتيجيات والمعرفة والأصول.
دعم التغيير Change catalyst	• تحدي الوضع الحالي للمطالبة بالتغيير. • الدعوة للتغيير. • تقدير أهمية التغيير. • إظهار التغيير المتوقع من الآخرين.
معالجة الخلافات Conflict management	• كشف التصادمات وإطلاق الخلافات في العلن. • إدارة الأفراد الصعبة. • الحث على المناقشة المفتوحة للقضايا. • الدقة الهندسية لكلا الجانبين.
التأثير Influence	• اظهار العروض التقديمية. • كسب الناس. • تنسيق أحداث مبهرة لبيع فكرة. • بناء التضامن والموافقة..
القيادة Leadership	• تحفيز الاهتمام بالرؤية الجماعية والهدف. • نمذجة القيادة الفعالة. • تولي الدور القيادي بغض النظر عن اللقب الرسمي. • توجيه أداء الآخرين.
قدرات الفريق Team capabilities	• بناء هوية الفريق. • استقطاب أعضاء المجموعة. • عرض خصائص الفريق. • حماية الفريق وسمعته الطيبة.

Organaizatiojn Theory

The study of how people, teams, and organizations behave.

5. Keeping the Business in Mind

1. Creating a High-Performing Team	
1. إنشاء فريق عالي الأداء	
	
A. Build a Team	أ. بناء فريق
B. تحديد قواعد الفريق الأساسية Ground Rules DefineTeam	
C. التفاوض بشأن اتفاقيات المشروع Negotiate Project Agreements	
D. تمكين أعضاء الفريق وأصحاب المصلحة Team Members and Stakeholders Empower	
E. تدريب أعضاء الفريق وأصحاب المصلحة Team Members and Stakeholders Train	
F. إشراك ودعم الفرق الافتراضية Support Virtual Teams	
G. بناء تفاهم مشترك حول المشروع Shared Understanding about a Build Project	

	4. Keeping the Team on Track
	4. إبقاء الفريق على المسار الصحيح
A. Lead a Team	أ. قيادة فريق
B. Support Team Performance	ب. دعم أداء الفريق
C. Address and Remove Impediments	ج. معالجة وإزالة العوائق والعقبات والحواجز
D. Manage Conflict	د. إدارة المنازعات
E. Collaborate with Stakeholders	هـ. التعاون مع أصحاب المصلحة
F. Mentor Relevant Stakeholders	و. توجيه أصحاب المصلحة المعنيين
G. Apply Emotional Intelligence to Promote Team Performance	ز. تطبيق الذكاء العاطفي لتعزيز أداء الفريق
	Performance

2. Starting the Project

2. بدء المشروع

أ. تحديد منهجية طرق المشروع المناسبة
A. Determine the appropriate project methods methodology

ب. تخطيط وإدارة النطاق
B. Plan and Scope Manage

ج. تخطيط وإدارة الميزانية والموارد
C. Plan and Manage Budget and Resources

د. تخطيط وإدارة الجدول الزمني
D. Plan and Manage Schedule

هـ. تخطيط وإدارة جودة المنتجات والتسليمات
E. Plan and Manage Quality of Deliverables Plan and Manage Quality

و. دمج أنشطة تخطيط المشروع
F. Integrate Project Planning Activities

ز. تخطيط وإدارة المشتريات
G. Plan and Manage Procurement

ح. إنشاء هيكل حوكمة المشروع
H. Establish Project Governance Structure

ط. تخطيط وإدارة إغلاق المشروع أو المرحلة
I. Plan and Manage Procurement Plan

3. Doing the work	
3. القيام بالعمل	
a. Risk assessment and management	أ. تقييم وإدارة المخاطر
B. Execute Project to Deliver Business Value	ب. تنفيذ المشروع لتقديم قيمة مرتبطة الأعمال
C. Manage Communications	ج. إدارة الاتصالات
D. Engage Stakeholders	د. إشراك أصحاب المصلحة
E. Create Project Artifacts	هـ. إنشاء عناصر المشروع
F. Manage Project Changes	و. إدارة تغييرات المشروع
G. Manage Project Issues	ز. إدارة قضايا المشروع
H. Ensure Knowledge Transfer for Project Continuity	ح. ضمان نقل المعرفة لاستمرارية المشروع

5. Keeping the Business in Mind
5. وضع الأعمال في الاعتبار



أ. إدارة متطلبات التوافق
A. Manage Compliance Requirements

ب. تقييم وتقديم مزايا المشروع وقيمه
B. Evaluate and Deliver Project Benefits and Value

ج. تقييم ومعالجة التغييرات في بيئة العمل الداخلية والخارجية.
C Evaluate and Address Internal and External Business Environment Changes

د- دعم التغيير التنظيمي
D. Support Organizational Change

A. Manage compliance requirements

Compliance Requirements subject to legal or regulatory constraints.

Requirements for compliance must be identified, tracked, and managed throughout the project

Compliance Requirements might include specific practices, privacy laws, handling of sensitive information

Risk Register

- Used to track and manage risks during the project
- Compliance-related risks might include: identified risk, risk owner, Impact of a realized risk and Risk responses
- Create testing and validation plans to ensure project deliverables meet compliance requirements
- Recommended to perform a summary check of compliance before the end of the project
- legal and regulatory compliance for deliverables should be validated on an ongoing basis during the project.

Variance Analysis

Variances related to compliance are critical because of potential impact on usability of the deliverable.

Configuration Management System

- Track and record the project's deliverable components,
- Allows for tracking, versioning, and control.
- Compliance information, including proof of validation that each deliverable meets identified compliance requirements.
- Handed over with the deliverables so customer can continue to track in their configuration management system.

Execution Reports

Project Manager creates the report and it will be include of:

- Project Activities
- Deliverable Status
- Overall Progress

Potential Threats to Compliance

- Identification of new vulnerabilities
- Changes in legal or regulatory requirements.
- Errors in testing and validation to confirm compliance
- Errors or bugs in deliverables.
- Lack of awareness of compliance requirements.

Nonfunctional Requirements

Type	Considerations
Availability	• How and when is the service available? • If the service were to become unavailable, how quickly can it be restored to working?
Capacity	• What level of service performance, speed, and throughput is required? • Given the number of stakeholders using the service, is there enough supply to meet demand?
Continuity	• If there were a disaster of some kind, how quickly could the service be recovered to support operations.
Security	• How well is the service and its information protected from security risks and threats? • How do you guarantee the confidentiality, integrity, and availability of the information?

Signn offs and Approvals

- Identify stakeholders authorized
- Deliverables meet requirements
- Approvals through the project
- Early warning of threats
- Capture variances and course of action

Tolerances

- Tolerance levels enable the project manager to effectively manage certain issues without needing to escalate every issue.
- Areas of tolerance might include:
 - Budget
 - Time
 - Quality
 - Non-functional requirements

Escalation Procedures

- When noncompliance issue is identified , determine if it's within the tolerance level for the project manager to handle.
- These procedures should be defined during project and risk planning

Quality Management Plan

- Describes the resources and activities needed for the project team to achieve the necessary quality objectives.
- Quality requirements might include:
 - Quality standards
 - Quality objectives of the project
 - Quality roles and responsibilities
 - Project deliverables and processes
 - Quality Control and Quality Management activities planned.
 - Quality tools
 - Major procedures relevant

Audits

- Conducted by a team external to the project, such as an internal audit team or PMO
- Used to **verify compliance** with organizational policies, processes, and procedures.
- Possibly used to **verify implementation** of change requests.

QA Tools

- Data gathering: Checklists
- Data analysis: Alternatives analysis, document analysis, process analysis, or formal root cause analysis
- Decision making techniques
- Data representations: Affinity diagrams, cause and effect diagrams, flowcharts, histograms, matrix diagrams, and scatter diagrams
- Audit reports
- Design for X: Focuses on a particular value X and its impact on design quality
- Problem solving techniques
- Quality management methods: Six Sigma, Plan-Do-Check Act

B. evaluate and deliver project benefits and value

PMI Talent Triangle

The PMI Talent Triangle reflects the skills needed by today's project professionals and changemakers as they navigate the evolving world of project management.

Ways of Working

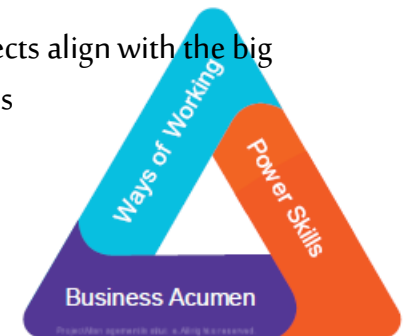
Mastering diverse and creative ways (predictive, adaptive, design thinking) to get any job done

Power Skills

The critical interpersonal skills required to apply influence, inspire change and build Relationships

Business Acumen

Effective decision-making and understanding of how projects align with the big picture of broader organizational strategy and global trends



Strategic Alignment and Business Management Skills

STRATEGIC PLAN

A high level business document that explains an organization's vision and mission plus the approach that will be adopted to achieve this mission and vision, including the specific goals and objectives to be achieved during the period covered by the document.

Strategic Management Elements and Frameworks

Some agile projects use a goal-setting framework such as OKRs (Objectives and Key Results) that describes the organization's objectives and desired key results.



Objectives and Key Results

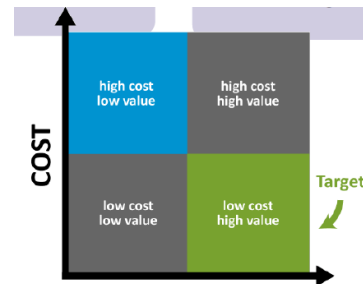
OKRs is a goal setting framework used by individuals, teams, and organizations to define measurable goals and track their outcomes. It helps clarify investment ideas and the metrics used to measure success.

Business Value

- An informal term that goes beyond economic value.
- Components include:
 - Shareholder value
 - Customer value
 - Employee knowledge
 - Channel partner value

Value Analysis

Process of examining each of the components of business value and understanding the cost of each one



Benefits Management Plan

A document that describes how and when the benefits of a project will be derived and measured.

Component	Description
Target benefits	The expected tangible and intangible business value to be realized from the project.
Strategic alignment	How the benefits align with the business strategies of the organization.
Timeframe	When the benefits (short-term and long-term) will be realized, usually by project phase
Benefits owner	The person or group that monitors, records, and reports the benefits.
Metrics	The direct and indirect measurements of the realized benefits.
Risks	The risks associated with achieving the targeted benefits.

Benefits Transition and Sustainment



Any improvement or modification to delivered benefits is a new project



Any improvements or modifications to delivered benefits are proposed as work for the next/future iteration and placed/reprioritized on the backlog



Organizations and teams tailor solutions for benefits realization and sustainment — e.g., post-implementation support (aka “DevOps” or “hypercare”)

Benefits Owner



A benefits owner may be a business analyst, sponsor or operations manager.



The product owner is responsible for making sure project work reaps benefits for the organization.

Release Management

- Agile projects have the ability to convert high value capabilities into delivered solutions early.
- The Product Owner defines the initial capabilities that make up the Minimum Business Increment (MBI).
- In traditional projects, release occurs at the end when everything is done.
- The MBI offers enough of the high value aspects of a solution to start using it and benefit from it.

Benefit Cost Analysis

A systematic approach to estimating the strengths and weaknesses of alternatives used to determine options which provide the best approach to achieving benefits while preserving savings.

- Also called cost-benefit analysis.

Return on Investment (ROI)

A financial metric of profitability that measures the gain or loss from an investment relative to the amount of money invested

- Sometimes called the rate of return - Usually expressed as a percentage

Present Value (PV)

The current value of a future sum of money or stream of cash flows given a specific rate of return.

$$PV = \frac{FV}{(1 + r)^n}$$

Net Present Value (NPV)

Present value of all cash outflows minus the present value of all cash inflows.

Net Present Value Formula


$$NPV = \sum \frac{CF_n}{(1 + i)^n} - \text{Initial Investment}$$


Internal Rate of Return (IRR)

The interest rate that makes the net present value of all cash flow equal to zero.

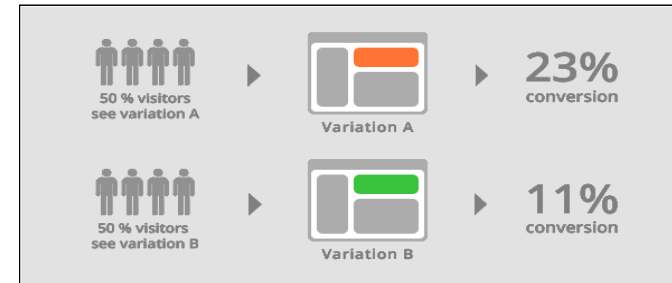
Net Promoter Score (NPS)

Measures a customer's willingness to recommend a provider's products or services to another on a scale of 100 to 100

NPS = % of Promoters – % of Detractors

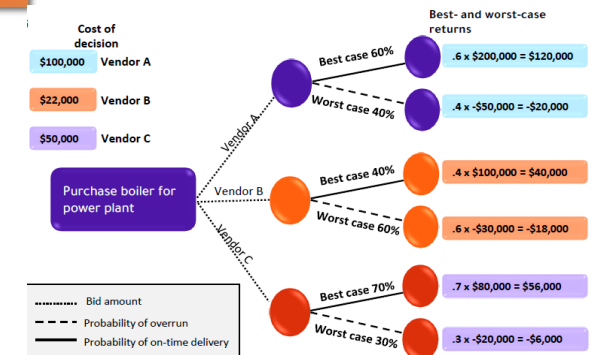
AB Testing

Used in marketing, AB testing is a method for determining user preferences.



Decision Tree Analysis

A diagramming and calculation technique for evaluating the implications of a chain of multiple options in the presence of uncertainty.



C. Evaluate and address internal and external business environment changes

Internal Business Environment

- Organizational changes can dramatically impact the scope of a project.
- Project manager and project sponsor need to have visibility into business plans, reorganizations, process changes, and other internal activities.

External Business Environment

PESTLE is an acronym to identify the external business environment factors that can affect the value and desired outcomes of a project.

Update Baselines

In traditional project plans, the completed initial plan is the baseline

Backlog Reprioritization

Product owner re prioritizes the backlog as stories or requirements change.

Product Owner Duties



Role is to **help** the project team **prioritize** work based on the value that the capability will provide to the business.



Accountable for the **ultimate business value** of the solution produced by the project team.



Creates and socialize the **product vision**.



Coordinates different **business needs** from different stakeholders together into the product backlog.



Responsible for **defining and prioritizing the user stories** with the help of the team.



Answers team questions about the needed solution.



Provides **timely feedback** to the team.

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Updated Roadmaps

- Swimlane roadmaps provide high level visibility to the overall project tasks, deliverables, and milestones.
- Roadmap should reflect changes made to the backlog.

Change Management

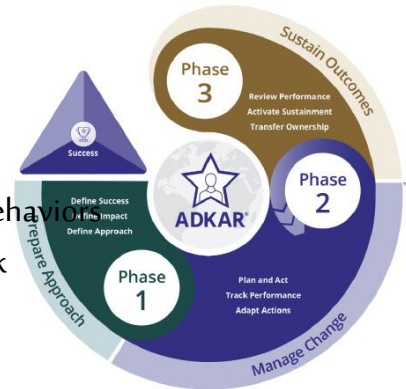
A comprehensive, cyclic, and structured approach for transitioning individuals, groups, and organizations from a current state to a future state in which they realize desired benefits. It is different from project change control, which is a process whereby modifications to documents, deliverables, or baselines associated with the project are identified and documented, and then are approved or rejected.

Change Management Framework

“Organizational change requires individual change”

The **ADKAR** model names five milestones an individual must achieve in order to change successfully:

- A: Awareness of the need for change
- D: Desire to support the change
- K: Knowledge of how to change
- A: Ability to demonstrate new skills and behaviors
- R: Reinforcement to make the change stick



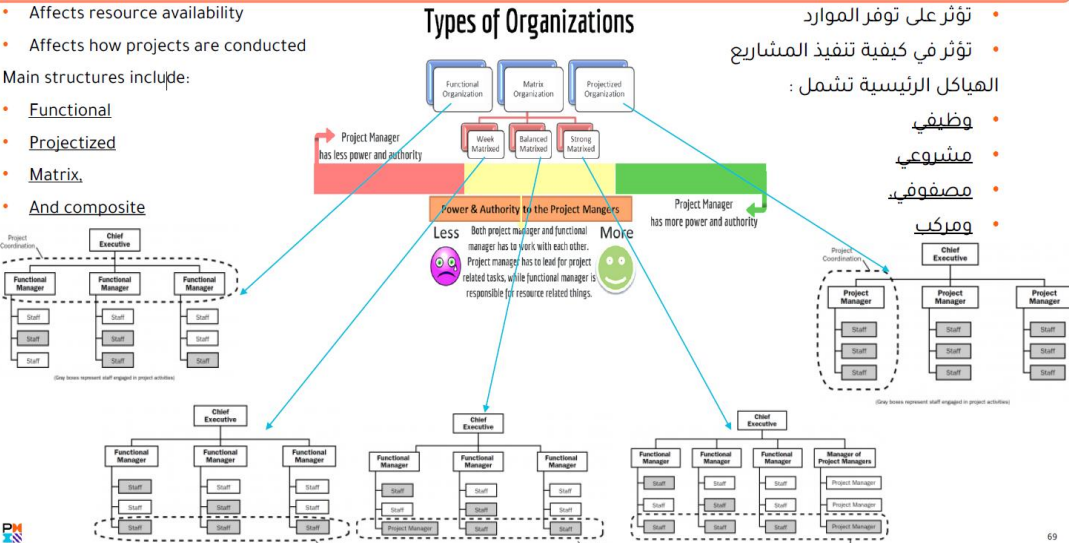
Roll Out Plan

Once a change is approved and built, the project manager needs to plan for its successful implementation.

Roll out plans enable the project manager to define:

- The knowledge transfer
- Training,
- And readiness activities required to implement the change.

Organizational Structures



Relative Authority in Organizational Structures

- Relative authority is the project manager's authority relative to the functional manager's authority over the project and the project team.

Relationship	Functional	Matrix	Projectized
Team members are loyal to	Functional department	Conflicted loyalty	Project
Team members report to	Functional manager	Both functional manager and project manager	Project manager
Project manager's role is	Part-time	Full-time	Full-time
Team members' role is	Part-time	Part-time	Full-time
Control of project manager over team members is	Low	Medium	High

PMO

Project Management Office (PMO): A management structure that standardizes the project related governance processes and facilitates the sharing of resources, methodologies, tools, and techniques.

Agile Centres of Excellence (ACoEs) and also known as Value Delivery Office (VDO)

ACoEs enable, rather than manage, project efforts:

- Coach teams
- Build agile mindset, skills and capabilities throughout the organization
- Mentor sponsors and product owners.

PMO type	Definition
Supportive PMOs	Provide a <u>consultative role</u> to projects by supplying templates, best practices, training access to information, and lessons learned from other projects.
Controlling PMOs	Provide <u>support and require compliance</u> through various means. Compliance may involve adopting project management frameworks or methodologies; using <u>specific</u> templates, forms, and tools; or conforming to governance.
Directive PMOs	<u>Take control of the projects</u> by directly managing the projects. A relatively small number of PMOs fall into this category.

I. PLAN AND MANAGE PROJECT/ PHASE CLOSURE

Transitions (Handovers)



Deliverables are handed to the customer or owner. Transition/handover specifications for deliverables are in the project management plan.



A tailored solution that delivers value — most likely in an incremental way — to the organization.



Every iteration output is handed to the product owner.

Lessons learned repository

A store of historical information about lessons learned in projects.

Final Report: Summary of project or phase performance result

Description	Describe activity undertaken, including deliverables or milestones
Scope objectives	Document scope evaluation criteria and give evidence of met completion criteria
Quality objectives	Describe evaluation criteria for project and product quality. Verify objectives are met, give actual milestone delivery dates and reasons for any variances
Cost objectives	Restate acceptable cost range, give actual costs and reasons for any variances
Validation information	Include required approvals for final product, service or result—e.g., user satisfaction survey results
Schedule objectives	Verify project objectives were completed on time; report on any variance and effects of the variance
Benefits realization	State how the final product, service or result achieved the business needs and expected benefits; if partial, give details of variance and fulfillment schedule
Risks or issues encountered	List risks and issues and state how they were addressed

FINAL REPORT: A summary of the projects information on performance, scope, schedule, quality, cost, and risks.

Continuous improvement

An ongoing effort to improve products, services, or processes.

Continuous Improvement Approaches

Agile project management contains small development cycles that are used to develop the product by feature and receive client feedback on each feature.

Continuous Improvement Tools

- **Lessons Learned Register** is an important component of each project.
 - Use it as a source of improving the processes in other projects.
 - Avoid filing it away at the end of a project and not referring to it.
- **Retrospectives**
 - Common in agile projects at the end of each iteration.
 - Help the team look back at an iteration and plan improvements for the next one.
- **Experiments** provide a way to improve team efficiency and effectiveness.
 - Some techniques include AB testing and team feedback to identify improvements.
 - Perform experiments one at a time to isolate the results.

