

# CHAPTER 1

## Project Management Concepts (Part 1)



# Curriculum

<b>Integrated Curriculum Engagement (ICE)</b>	
Minimum number of ICE activities to complete	4
Weighting towards the final module mark	10%

<b>Assignments/ Projects</b>	<b>Assignment 1</b>	<b>Assignment 2</b>
Weighting	25%	30%
Duration	10 hours	10 hours
Total Marks	100	100
Period	3	4
Learning Units covered	LU1 - 4	LU1 – 6 (up to THEME 2)
Resources required	Refer to the assignment for	Refer to the assignment.

<b>Tests/ Examination</b>	<b>Examination</b>
Weighting	35%
Duration	2 hours
Total marks	100
Open/ closed book	Closed
Resources required	Calculator
Learning Units covered	ALL

# Resources

## Module Resources

Prescribed Material (PM) for this Module

Gido, J., Clements, JP., Baker, R., Harinarain, N., and Eresia-Eke, C. 2022. *Successful Project Management in South Africa*. 2nd edition. Cengage Learning. 9781473780415

**The prescribed articles and resources for this module are:**

Learning Unit	Articles/ Resources
1	Layton, MC. 2017. Agile project management for dummies cheat sheet. [Online]. Available at: <a href="http://www.dummies.com/careers/project-management/agile-project-management-for-dummies-cheat-sheet/">http://www.dummies.com/careers/project-management/agile-project-management-for-dummies-cheat-sheet/</a> [Accessed 25 September 2019]. ... ...

Software

Microsoft Project, latest (e.g. 2016 Edition)

# Module Outline

## Module Purpose

The purpose of this module is to provide the student with the knowledge and skills required to effectively apply the Project Management Body of Knowledge elements in planning, organising, controlling and leading Information Technology projects integrated solutions in an organisation

## Module Outcomes

<b>MO1</b>	Demonstrate knowledge of the key concepts, principles and best practices of information technology project management in organisations.
<b>MO2</b>	Create an integrated project solution using an effective information technology project management methodology.
<b>MO3</b>	Demonstrate the use of project tools and techniques to support the management of project lifecycle an information technology project environment.

# Chapter Concepts

## **Theme 1: Project Management for Information Technology Projects**

- LO1: Define the concepts of
  - Project
  - Project Management;
- LO2: Explain the objectives of project management;
- LO3: Discuss the attributes of project management;
- LO4: Explain the key constraints of an IT project

# What is a Project

- A *project* is an endeavor to achieve a specific objective through a unique set of interrelated activities and the effective utilization of resources.



A clear start and end date



A project has boundaries



A project creates something new



A project is not business as usual

# Project Attributes

- The following attributes help define a project:
  - Clear objective that establishes what is to be achieved
    - Tangible end product that must be produced and delivered
  - Series of interdependent activities to achieve the objective
  - Utilizes various resources to carry out the activities
  - Specific time frame
    - Start time and a date by which the objective must be achieved.

# Project Attributes Cont...

- The following attributes help define a project:
  - Unique, one-time endeavor
    - i.e. developing a new product or building a house
  - Sponsor or customer that provides the funds
  - Degree of uncertainty
    - Based on certain assumptions and estimates for the project budget, schedule, and work scope.

# Balancing Project Constraints

- The successful achievement of the project objective is usually constrained by many factors



# Project Manager Actions

- Prevent, anticipate, overcome problems and limitations
  - In order to complete the project scope on schedule, within budget, and to the customer's satisfaction.
- Have good planning and communication
  - Essential to preventing problems from occurring and to minimize their impact.
- Be responsible to make sure the customer is satisfied

# What is Project Management

- Is about planning, organising, and managing resources
- Aims to achieve specific goals within time, scope, and budget
- Involves coordinating tasks, teams, and stakeholders effectively
- Essential for delivering successful projects in any industry

# Core Project Management Processes

- **Scope Management:** defining and controlling what is included
- **Time Management:** scheduling tasks and milestones
- **Cost Management:** budgeting and controlling expenses
- **Risk Management:** identifying and mitigating potential issues
- **Communication Management:** ensuring stakeholder engagement

# Role of Project Manager

- **Phase 1**
  - Create and define new projects with key information
  - Set project milestones and critical deadlines.
  - Establish the project scope and objectives clearly from the outset.
  - Assign tasks to team members based on their roles and capacity.

# Role of Project Manager

- **Phase 2**
  - Monitor project progress through dashboards and visual indicators.
    - Schedule meetings, define agendas, and track action items.
  - Track task status (Not Started, In Progress, Completed).
    - Receive real-time updates on completed or delayed tasks.
  - Post comments and updates on tasks and milestones to keep everyone aligned.
    - Share documents, updates, and announcements within the project workspace.

# Role of Project Manager

- **Phase 3**
  - Identify and log risks and issues during project execution.
    - Prioritize risks based on severity and likelihood.
  - Assign responsibility for resolving each issue with due dates
  - Track actual spending against the project budget.
  - Manage allocation of resources (people, equipment, tools).
    - Generate reports on cost overruns or resource shortages

# Role of Project Manager

- **Finally...**
  - Conduct post-project evaluations to gather feedback and lessons learned.
  - Archive all project documents and performance data.
  - Celebrate successes and document best practices for future use.

# Benefits and Impact of Project Management



Drives organisational efficiency and strategic alignment



Reduces project failures and cost overruns



Facilitates innovation and continuous improvement



Empowers teams to deliver quality results consistently

# Module Lecturer

- Toju Oni
  - [toni@iie.ac.za](mailto:toni@iie.ac.za)
- Direct all questions to module lecturer
  - Available from week 3

# CHAPTER 1

## Project Management Concepts (Part 2)



# Chapter Concepts

## Theme 2: Project Management Concepts

- LO5: Discuss the life cycle of a project;
- LO6: Apply the elements of the project management process;
- LO7: Evaluate the engagement of project stakeholders in an IT project;
- LO8: Discuss the benefits of project management in an IT project;
- LO9: Discuss a project's critical success factors.

# Examples of Projects

- Developing and introducing a new product to market
- Developing a set of applications (apps) for mobile business transactions
- Modernising a factory
- Designing and implementing a computer system
- Extending your home
- Organising and hosting a conference
- Holding a high school reunion
- Building a shopping mall
- Performing a series of surgeries on an accident victim
- Rebuilding a town after a natural disaster
- Etc...

## Real World Project Management Example 1: The Mall of Africa

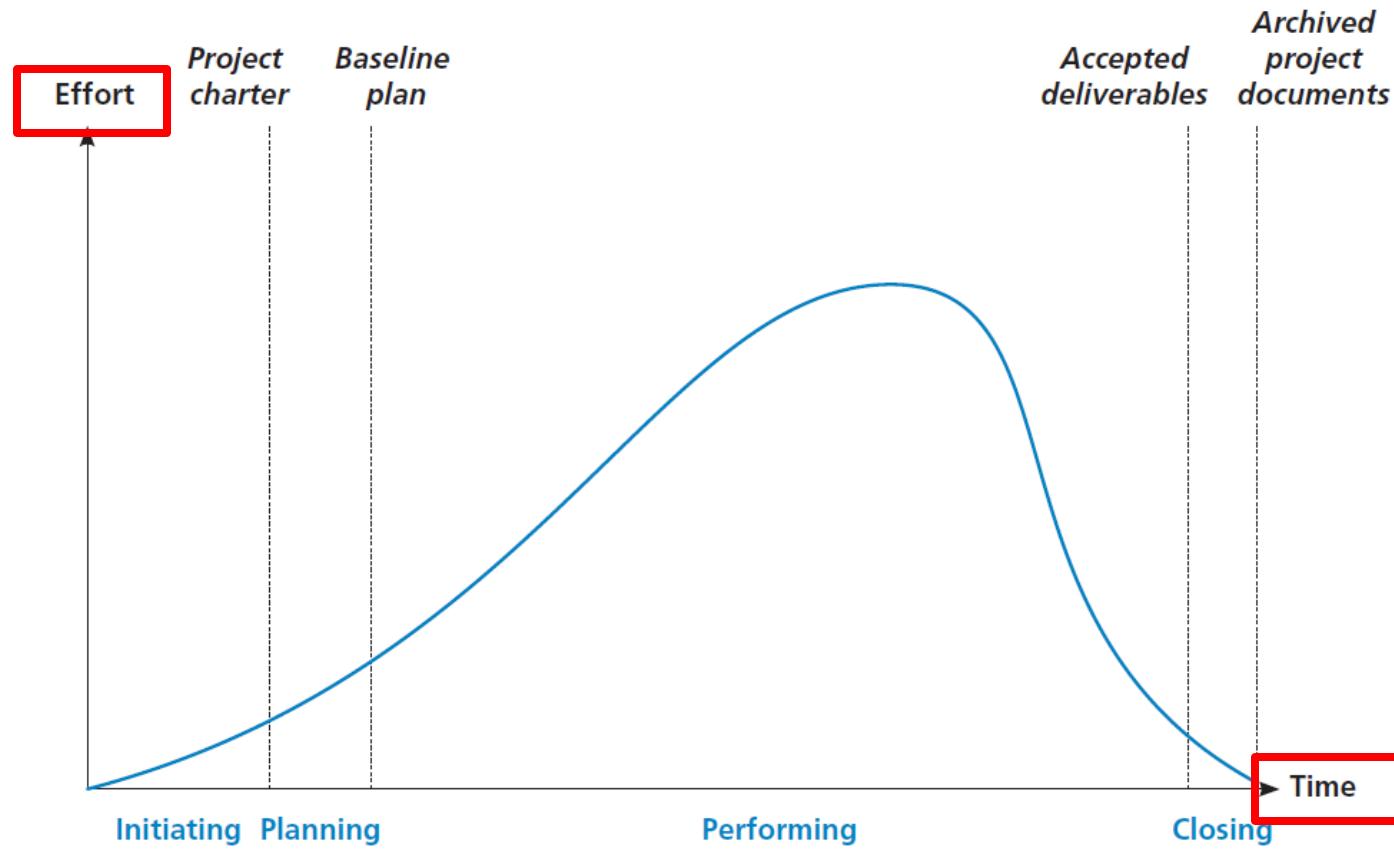
The Mall of Africa, valued at R2.3 billion, is the largest mall built in a single phase in South Africa. It has a gross leasable area of 132 000 m<sup>2</sup> and parking for 65 000 cars.

The mall forms the hub of the mixed-use of the Waterfall City in the heart of Midrand, with over 300 shops, bank, cellphone and technology stores, an array of health and beauty outlets as well as a unique town square overlooking a park with a mix of restaurants and fast-food outlets.

- A highly unified team was organised to fast track the construction of such a large project.
- The team overcame all unique challenges related to construction and logistics. At peak times, there were eight full-time safety officers managed by a full-time safety co-ordinator on site.
- The dedicated team comprising the main contractor and a professional team managed to incorporate as many green features as possible.
- They also installed rainwater harvesting system for irrigation and a grey water system for the restrooms. In addition, photovoltaic panels were installed to supplement the power supply and also to for the flow of natural light throughout the mall.
- The project team managed to efficiently pre-empt a National Union of Metalworkers of South Africa strike.
- The team also faced geotechnical challenges for which they had tailor-made plans in place.
- Time constraints and sequencing construction activities required the team to work through vast volumes of design and quality construction documentation.
- The highly unified team laid out the scope of each and every team member to ensure precision and attention to detail.
- Meticulous planning, innovative design solutions, constant interaction and communication with stakeholders enabled the highly professional team to resolves challenges along the way as well as meet the various deadlines and complete the construction of the Mall of

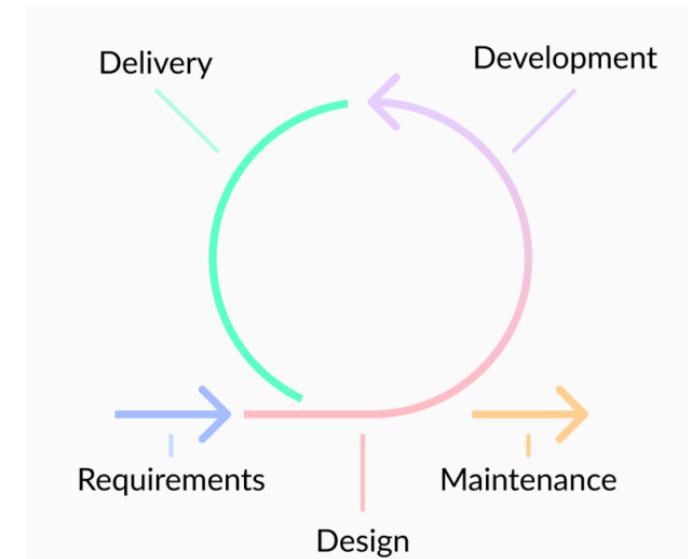
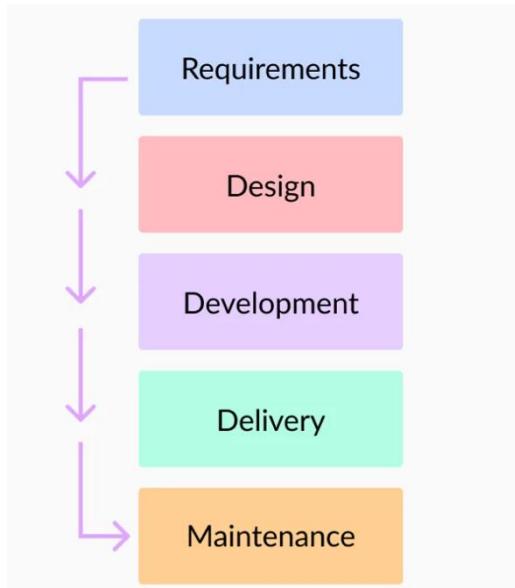
# The Project Life Cycle

- A framework project managers use to help them plan and execute projects strategically and effectively to meet project goals.



# The Project Life Cycle

- There are different types of project life cycles teams can make use of depending on the type of project they're working on.
- Predictive/Waterfall Cycle
  - The plan is created upfront, with a defined schedule, scope, and costs.
  - A single product or service usually gets delivered at the end.
  - The project follows a linear progression
- Agile / Adaptive life cycle
  - The initial phase only happens once
  - Planning, execution, etc happen in iterations, usually multiple times.
  - Each iteration delivered is followed by feedback that informs the next iteration



# The Project Life Cycle

- Characteristics of the project life cycle include:
  - A start and finish with distinct phases
  - Project objectives defined at the beginning
  - A plan for achieving the objectives
  - Deliverables and tasks to be completed
  - Systems for managing projects
  - A list of stakeholders

# Initiating phase

- **First phase**
  - Identify need, problem, or opportunity
    - Can result in the sponsor authorizing a project to address the identified need or solve the problem
    - May take several months to identify the need, gather data, and define the project objective.
  - To select the right projects a project charter is developed. It includes:
    - Rationale or justification of project
    - Project objective
    - Expected benefits
    - General requirements and conditions
      - i.e. budget, completion date, major deliverables, and required reviews and approvals; and key assumptions
  - Decide if RFP needed (If it decides to use external resources)

## PROJECT PARTICIPANTS

Name	The Building of a Community Center at Road North Eastern Settlement in Dublin, Ireland	
Stakeholder	Project Sponsor	Ministry of the People and Social Development
	Customers	<ul style="list-style-type: none"> <li>➤ John Doe (Minister in the Ministry of the People and Social Development)</li> <li>➤ Dublin Regional Corporation</li> <li>➤ Industry of business associations</li> <li>➤ Public and private schools</li> <li>➤ College, university and trade schools</li> <li>➤ Residence</li> </ul>
	Contractors	Silver Construction Company
	Project Team and Project Manager	
Project Manager	Project Manager	David Gilmour
	Assistant Project Manager	Richard Ashcroft
Email address or Website	David.gilmour@silver.com silverconstruction.com	
Project Team	Rogers Waters, Oliver Bach	

## PROJECT DESCRIPTION

Goal Statement	To construct a community centre with the following dimensions 61Ft in Length and 30Ft in Width at Road North Eastern Settlement, Dublin, Ireland. Completion of the project must be achieved by September 21, 2022.
Description and Background	The Ministry of the People and Social Development has identified the community of Road North Eastern Settlement as an at risk community since there have been an increase in crime and lawlessness with the youths of this community. Road North Eastern Settlement is a community that has 75% of its population between the ages of 12 thru 35. It has been acknowledged that there are no training or recreational facilities available for the youths to be able to receive life training skills.
Objectives	The community center will be built to serve the social and educational needs of the community. There is a need for a centralized location where adult training programs, community events, home work/computer center and private functions can be held.

## ASSUMPTIONS, CONSTRAINTS, DEPENDENCIES, IMPACTS AND RISK

Assumptions	<ul style="list-style-type: none"> <li>➤ The land will be acquired by the Ministry of the People and Social Development</li> <li>➤ Project will be completed within time, scope, quality and budget</li> </ul>
Constraints	<ul style="list-style-type: none"> <li>➤ Town and Country has disapproved the construction of septic tanks on this facility. The necessary approvals from the Water and Sewerage Authority (WASA) will have to be acquired in order to connect to the sewer system</li> <li>➤ If funding is not released on time it will affect the completion of the project</li> <li>➤ Inclement weather</li> <li>➤ Increase in cost of construction materials</li> <li>➤ Stakeholder involvement</li> </ul>
Risks	<ul style="list-style-type: none"> <li>➤ Theft of materials</li> <li>➤ Vandalization of construction site</li> <li>➤ Noise pollution</li> </ul>

## PROJECT DESCRIPTION (CONTINUED)

Scope	To coordinate the construction of a Community Center at Road North Eastern Settlement and to oversee and recommend on all aspects from partnership, funding arrangement, construction and completion. Upon completion project should include the following as described below and in detailed in Appendix I: <ul style="list-style-type: none"> <li>➤ Landscaping</li> <li>➤ Foundation with poured concrete and concrete blocks</li> <li>➤ Main building (brick)</li> <li>➤ Asphalt paved parking for 15 cars</li> </ul>				
Deliverables	<ul style="list-style-type: none"> <li>➤ See Section 2.3 and Appendix I</li> <li>➤ Air conditioning, landscaping, finish work, including inside and exterior doors, interior cabinetry and cabinetry hardware, bathroom fixtures, kitchen appliances, counter tops, backsplash material and flooring will be selected by contractor grade one quality option</li> <li>➤ Lighting fixtures</li> </ul>				
Schedule	<table border="1" style="width: 100%;"> <tr> <td>Start Date</td> <td>March 24, 2022</td> </tr> <tr> <td>End Date</td> <td>September 21, 2022</td> </tr> </table>	Start Date	March 24, 2022	End Date	September 21, 2022
Start Date	March 24, 2022				
End Date	September 21, 2022				
Time Reporting	Progress reports will be prepared on a weekly basis Status reports will be prepared every month				

## COST ESTIMATE

Costing	Estimated cost 1.5 million dollars (TTD)
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## MILESTONES

Progress Milestones	As described in Section 2.3 completion of the project must be achieved by August 15, 2013. Progress milestones associated with this project are as follows:  March 24, 2022 April 5, 2022 April 17, 2022 May 15, 2022 May 23, 2022 June 5, 2022
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NAME/SIGNATURES	ROLES AND RESPONSIBILITY
David Gilmour	Project Manager
Richard Ashcroft	Assistant Project Manager
Rogers Waters	Quality Assurance Officer
Oliver Bach	Administrative Assistant

WE AGREE THAT THIS IS A Viable PROJECT. WE AUTHORIZE THE BEGINNING OF THE PROJECT PLANNING STAGE.

Signature:	Signature:
Date:	Date:
Project Sponsor	Senior Manager

# Planning phase

- **Second phase**
  - Once you have the green light for the project, it's time for planning.
  - Show how project scope will be achieved within budget and on schedule
  - Develop baseline plan
    - What needs to be done – scope, deliverable
    - How it will get done – activities, sequence
    - Who will do it – resources, responsibilities
    - How long it will take – durations, schedule
    - How much it will cost – budget
    - What the risks are and how they will be managed (contingency plans)
    - Communication plan - who needs information, how often you'll communicate, and how you'll communicate
  - Benchmark the baseline plan to allow for comparison with actual progress.
  - Detail the processes, systems, and tools you'll use to manage and track your projects.

# Planning phase

- **Second phase**

- Example of baseline plan

- Suppose you decide to employ a few folks to help you construct a swimming pool.  
You then decide on a budget, timeline, and project scope.
- Budget = \$5000
- Timeline = First 2 weeks of September
- Project Scope = Deliver swimming pool as planned

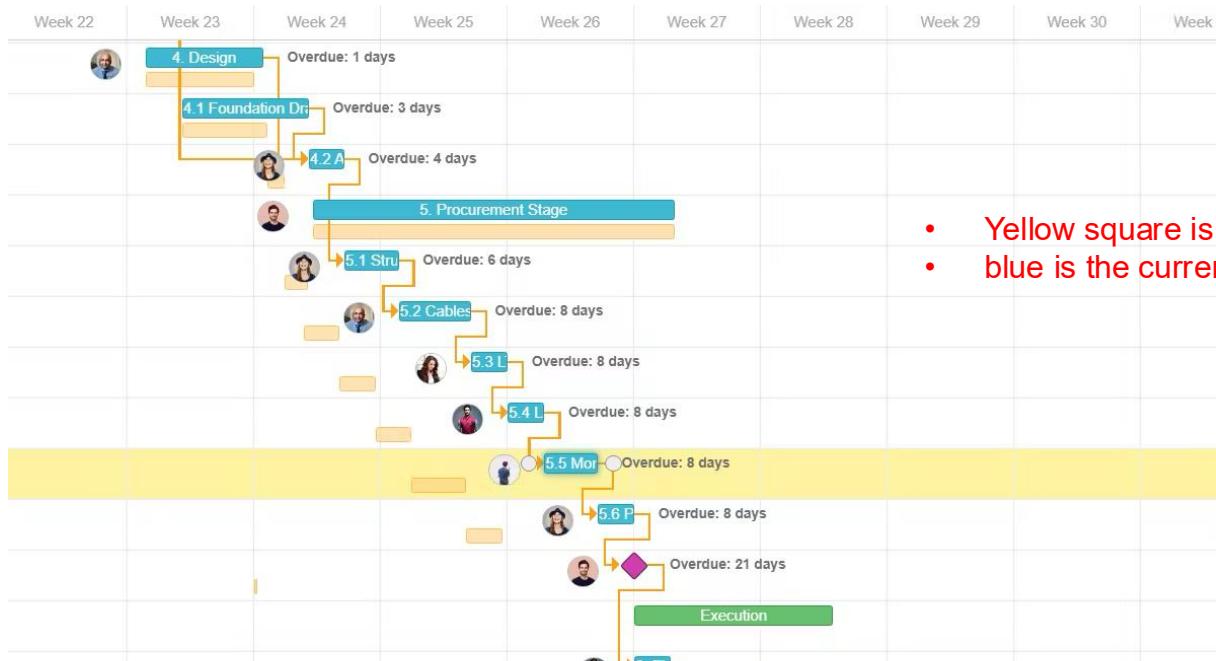
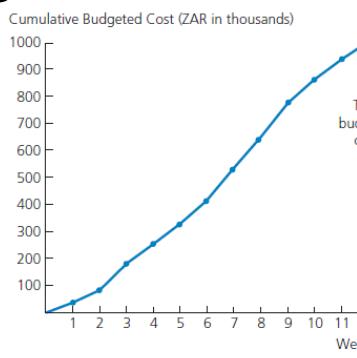


FIGURE 1.3 Work Breakdown Structure

# Creating a Baseline Plan

- Define scope
- Create WBS
- Assign responsibility
- Define specific activities
- Sequence activities
- Estimate activity resources
- Estimate activity durations
- Develop project schedule
- Estimate activity costs
- Determine budget



Level 0

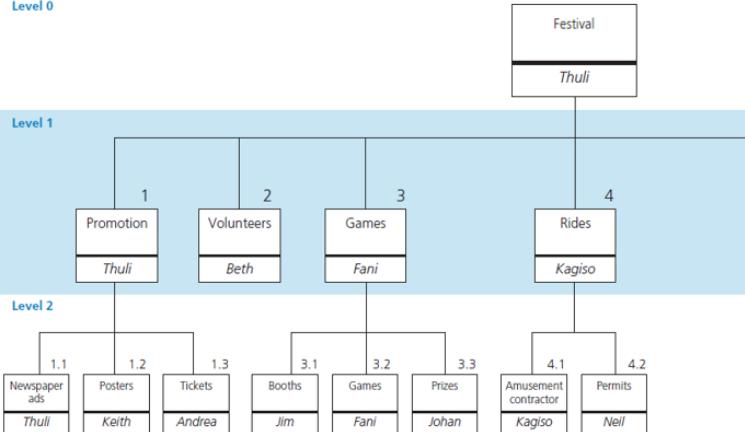


FIGURE 1.4 Network Diagram

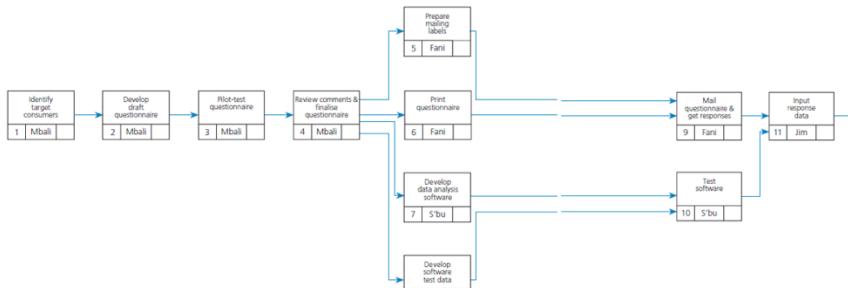


FIGURE 1.5 Project Schedule Consumer Market Study Project

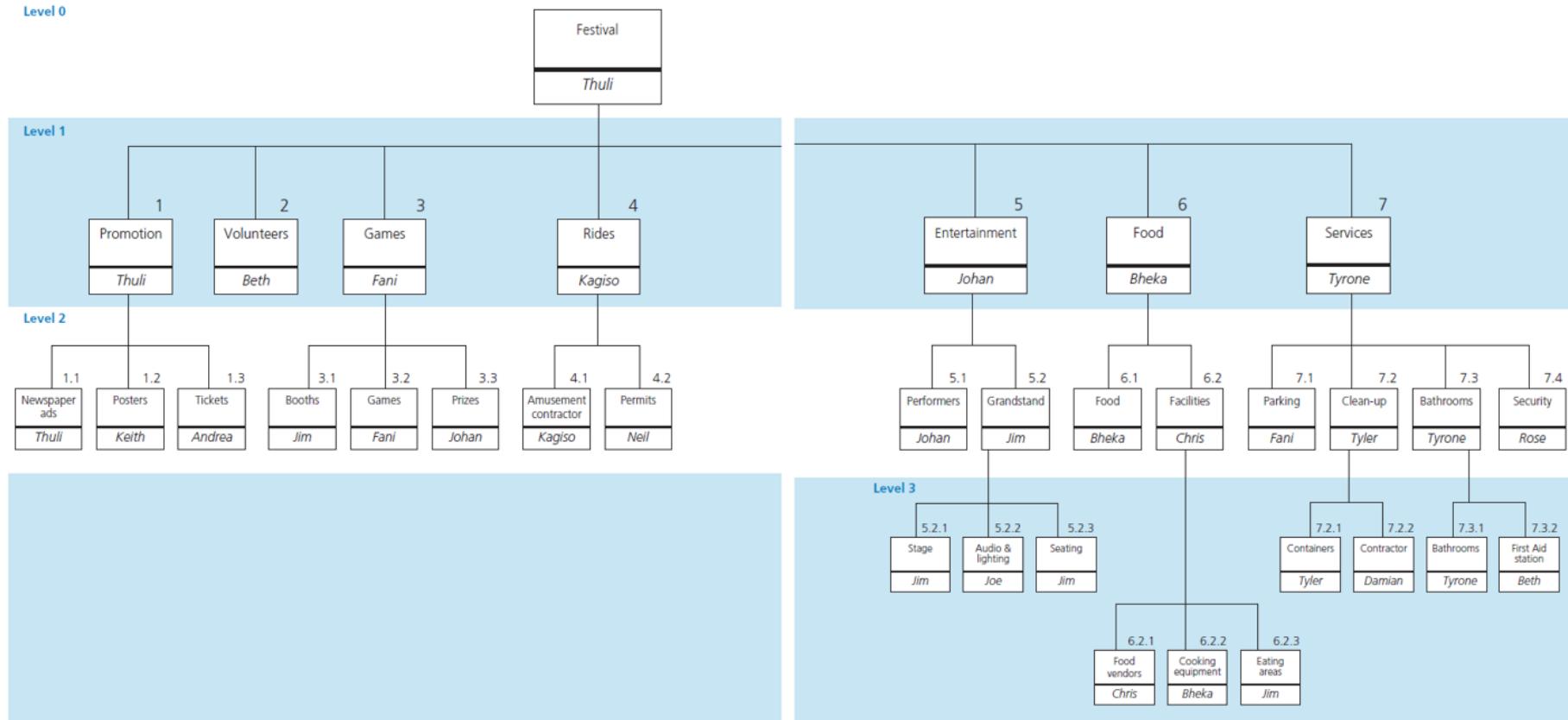
Consumer market study project

Activity	Respon.	Dur. Estim.	Earliest		Latest		Total Slack
			Start	Finish	Start	Finish	
1 Identify target consumers	Mballi	3	0	3	-8	-5	-8
2 Develop draft questionnaire	Mballi	10	3	13	-5	5	-8
3 Pilot-test questionnaire	Mballi	20	13	33	5	25	-8
4 Review comments & finalise questionnaire	Mballi	5	33	38	25	30	-8
5 Prepare mailing labels	Fani	2	38	40	38	40	0
6 Print questionnaire	Fani	10	38	48	30	40	-8
7 Develop data analysis software	S'b'u	12	38	50	88	100	50
8 Develop software test data	Mballi	2	38	40	98	100	60
9 Mail questionnaire & get responses	Fani	65	48	113	40	105	-8
10 Test software	S'b'u	5	50	55	100	105	50
11 Input response data	Jim	7	113	120	105	112	-8
12 Analyse results	Jim	8	120	128	112	120	-8
13 Prepare report	Jim	10	128	138	120	130	-8

# Create WBS and assign responsibility

- **Breakdown project scope into work elements to be executed by the project team**
- Assign responsibility by determining who will be the person or organization responsible for each work item in the WBS.

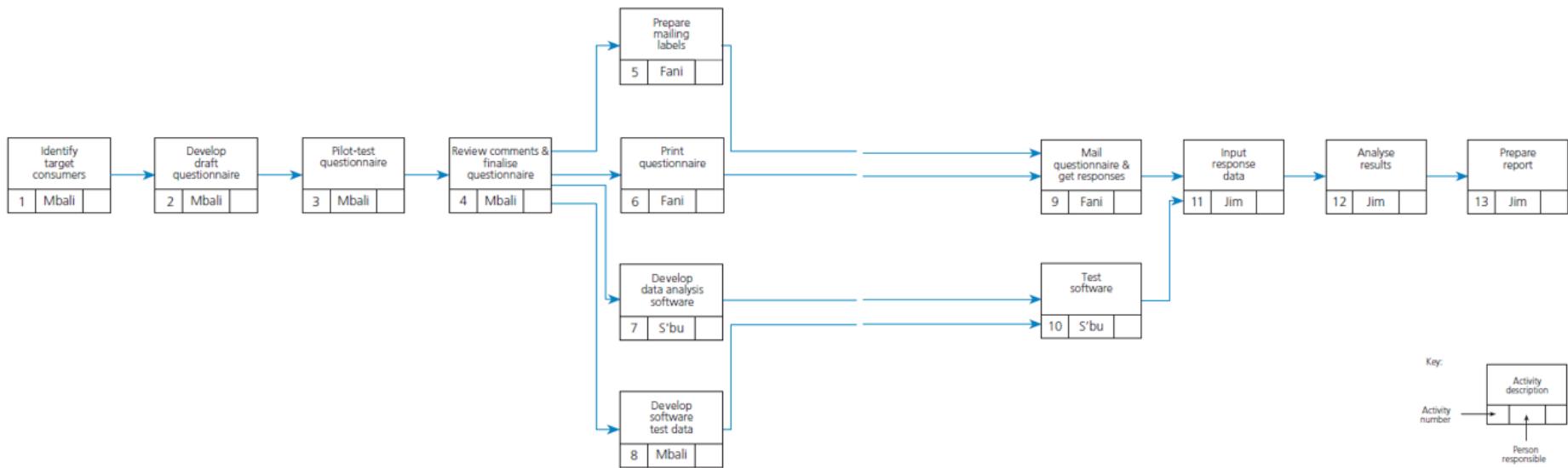
FIGURE 1.3 Work Breakdown Structure



# Sequence activities

- Network diagram that reveals the **sequence of activities** for a project.
- Sequencing activities by showing the necessary sequence and dependent relationships in a project.

FIGURE 1.4 Network Diagram



# Develop the project schedule

- Determine the **start and finish times** for each **activity**
- Finalize a project deadline based on the estimates

**FIGURE 1.5** Project Schedule Consumer Market Study Project

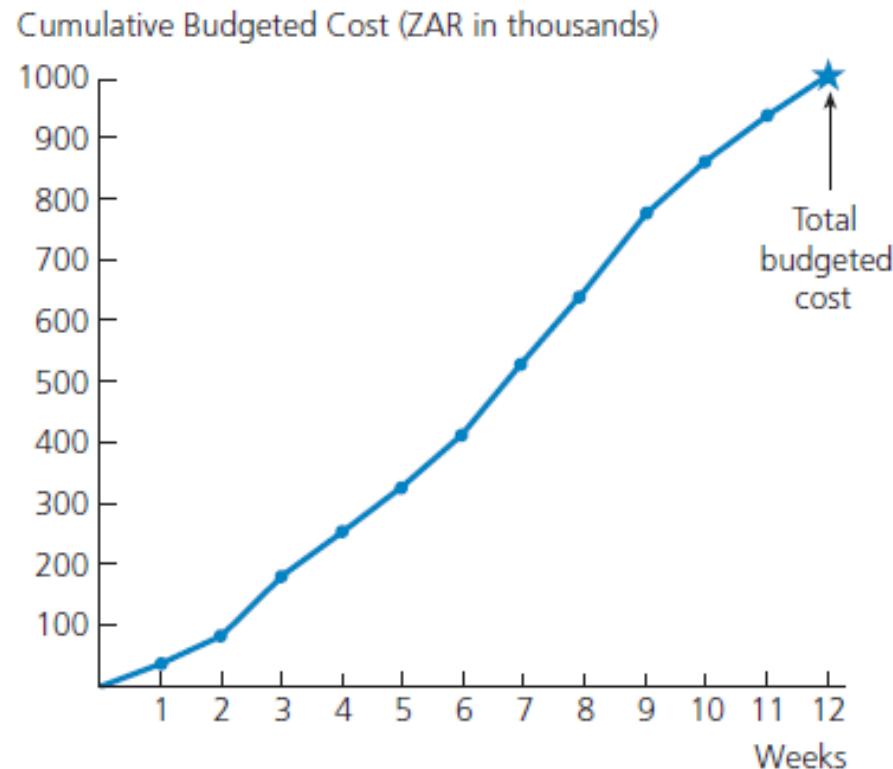
## Consumer market study project

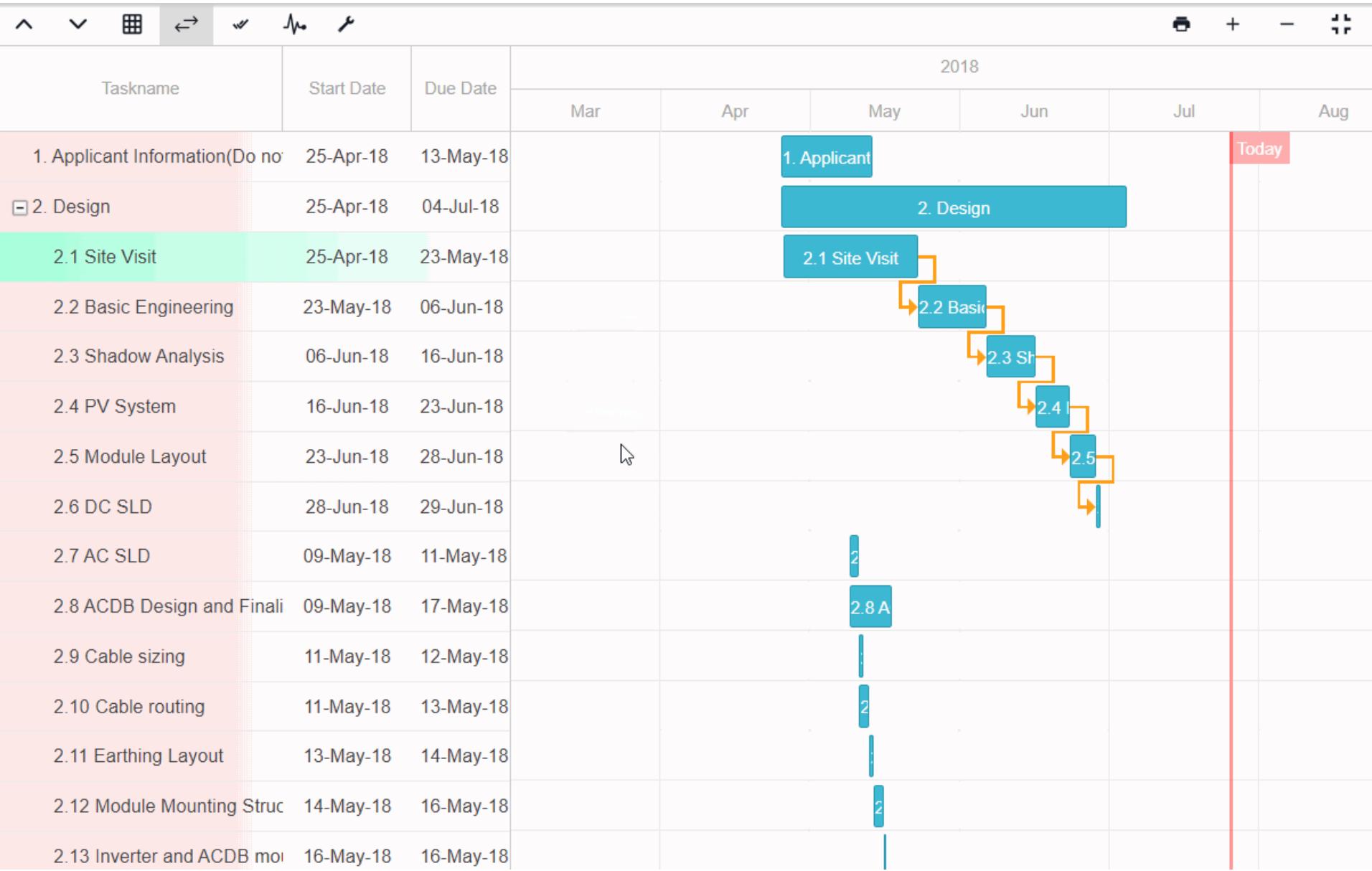
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4	Review comments & finalise questionnaire	Mbali	5	33	38	25	30	-8
5	Prepare mailing labels	Fani	2	38	40	38	40	0
6	Print questionnaire	Fani	10	38	48	30	40	-8
7	Develop data analysis software	S'bu	12	38	50	88	100	50
8	Develop software test data	Mbali	2	38	40	98	100	60
9	Mail questionnaire & get responses	Fani	65	48	113	40	105	-8
10	Test software	S'bu	5	50	55	100	105	50
11	Input response data	Jim	7	113	120	105	112	-8
12	Analyse results	Jim	8	120	128	112	120	-8

# Determine budget

- Once you know the required work , resources, and timeline, the next step is to figure out the cost associated with them
  - Aggregate all the costs associated with each activity and each work package
    - Add indirect costs and profits
    - Allocate the costs over time to determine the time-phased project budget.

**FIGURE 1.6** Time-Phased Project Budget





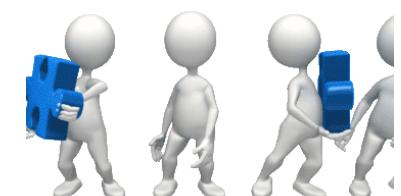
# Planning phase

- **Second phase**
  - Lastly work towards stakeholder buy-in
    - Organize a meeting to discuss your plan, address any questions or concerns your customers/stakeholders may have, and make changes in real-time.

# Performing phase

- **Third phase**

- Planning into motion using baseline plan
- Achieve project objectives
  - Project manager leads project team to complete project
- Increase pace as more resources are added
- Monitor and control progress to ensure work remains on schedule and within budget (compare achievements to baseline plan)
- Take corrective action if offtrack
  - Regular team and client meetings
- Manage and control changes with sponsor approval
- Achieve customer satisfaction with acceptance of deliverable



# Closing phase

- **Final phase**

- Project winds down and comes to a close
- Collect and make final payments
- Recognize and evaluate staff
- Conduct post project evaluation
- Document lessons learned
- Archive project documents
- Record lessons learned
- Create a knowledge base
  - Helpful to retrieve the lessons and information that can help with doing business with the customer or other customers in the future.



# Stakeholder Engagement

Individuals and entities involved in, or who may influence, or may be affected by a project

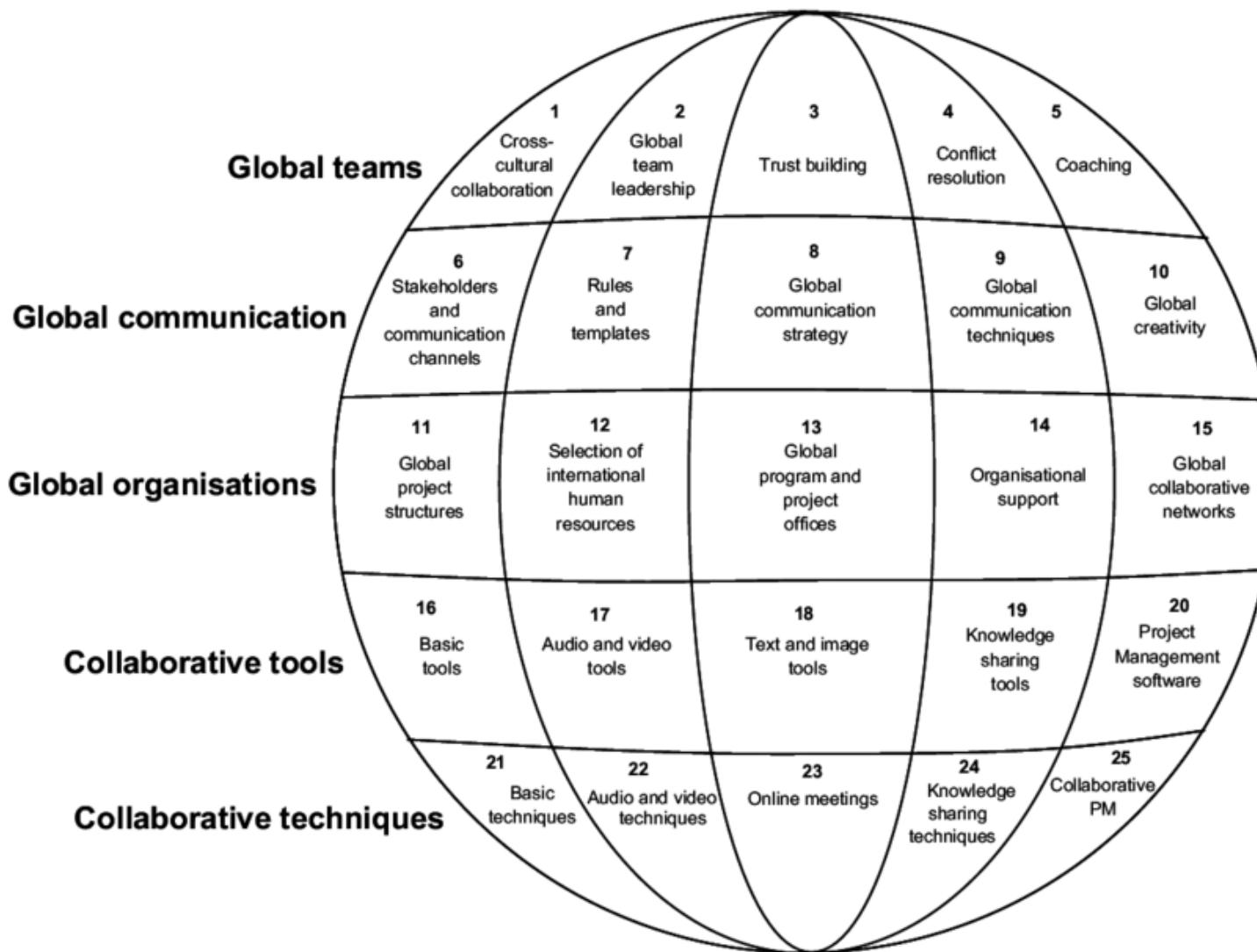
## Who are stakeholders?



## What to create

- Stakeholder register
  - Created as identify stakeholders
  - Include
    - ❖ Key contact information
    - ❖ Role or specific topics of interest
    - ❖ Expectations
    - ❖ Any known issues
    - ❖ Areas of potential influence
- Issue log

# Global Project Management



# Global Project Management

## Globalization

- Adds a unique dimension to managing projects.
  - Changes the dynamics of the project and adds a layer of complexity
    - i.e. If participants are not aware of what they might encounter regarding cultural differences and multinational economic transactions.
- Factors that can create a dynamic/unstable environment:
  - Cultural differences
  - Currency fluctuations and exchange rates
  - Regulations, such as hours per day, holidays, and religious observances
  - Political relations between countries
  - Availability of high-demand workforce skills

# Global Project Management

## Helpful competencies

- Some competencies can be helpful, even required, for global project management success:
  - Foreign language skills
  - Knowledge and understanding of:
    - ❖ Cultures
    - ❖ World history and contemporary events
    - ❖ International economics
    - ❖ Geography

# Global Project Management

## Helpful competencies

- For international project success, awareness and understanding of:
  - Cultures
  - Customs and etiquette
  - Geopolitical environment
- Technology adoption and translation software
  - Technology adoption to international environments and use of good language translation software is also very important for international project management.

# Critical Success Factors

- **Planning and communication** are critical to successful project management. They prevent problems from occurring or minimize their impact on the achievement of the project objective when they do occur.
- Taking the time to develop a **well thought-out plan** before the start of the project is critical to the successful achievement of any project.
- A project must have a **clear objective** of what is to be achieved and defined in terms of end product or deliverable, schedule, and budget; and is agreed upon by the customer.
- **Involve the sponsor** or customer as a partner in the successful outcome of the project through active participation during the project.
- Achieving customer satisfaction requires **ongoing communication** with the customer to keep the customer informed and to determine whether expectations have changed.
- The key to effective project control is **measuring actual progress** and comparing it to planned progress on a timely and regular basis and taking any needed corrective action immediately.
- After the conclusion of a project, the **project performance** should be evaluated to learn what could be improved if a similar project were to be undertaken in the future. **Feedback** should be obtained from the sponsor or customer and the project team.
- **Learning and understanding the culture and customs** of other project participants will demonstrate respect, help build trust, and aid in developing an effective project team; and it is critical for successful global project management.

# CHAPTER 1

## Project Management Concepts (Part 3: Agile Methodology)



# Chapter Concepts

## **Theme 3: Introduction to Project Management Guides, Frameworks and Methodologies**

- LO12: Define the concept of project standard, project guide and project methodology;
- LO13: Differentiate between project management methodologies and standards;
- LO14: Explain the role and benefits of agile project management in an IT project;
- LO15: Discuss agile project management in the context of technology projects;

# Project Management

- Everyone manages projects whether they're a certified project manager or not.
  - Can result in a struggle to manage multiple projects, meet deadlines, and adapt to changing requirements.
  - Companies who use a standard project management methodology have less project failures

# What Is a Project Standard?

- Definition: Documented set of rules or
  - Defines **what** should be done during a project.
- Purpose: Ensure consistency, quality, and compliance
- Examples:
  - PMBOK® Guide
    - Provides a set of standardized guidelines, terminology, and best practices for managing projects.
  - ISO 21500 Guide
    - International standard for project management guidelines.
- These standards do **not prescribe how** to run a specific project but define **what should be consistently followed**.

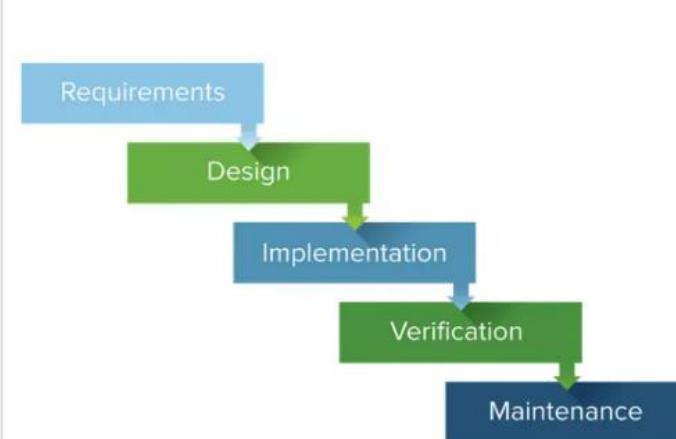
# What Is a Project Guide?

- Definition: Advisory document on applying project management practices
- Examples: Agile Project Management Guide, Scrum Guide



# What Is a Project Methodology?

- Definition: Defines **how** to execute a project using specific tools, steps, and roles.
- Purpose: Provides a structured approach to manage and deliver projects.
- Examples: Agile, Waterfall, etc...



# Project Standard vs Project Methodology?

<b>Feature</b>	<b>Standard</b>	<b>Methodology</b>
Focus	What should be done	How it should be done
Prescriptiveness	Low (guiding)	High (step-by-step)
Customization	Generalized	Often customized
Examples	PMBOK, ISO 21500	Agile, Waterfall, PRINCE2
Purpose	Alignment and consistency	Execution and delivery
Use Case	Reference or foundation	Day-to-day project execution

# Agile Project Management (APM)

- Agile project management is based on an incremental, iterative approach
- Products are seen as **long-term, value-generating assets**, not just short-term projects.
- Instead of in-depth planning at the beginning of the project, Agile methodologies are open to changing requirements over time
  - Encourages constant feedback from the end users.
  - The goal of each iteration is to produce a working product.

## Agile Project Management

- Core focus areas of Agile product development include:
  - **Continuous improvement**
  - **Scope flexibility**
  - **Team collaboration and input**
  - **Delivery of essential, valuable outcomes**
- Agile tools and frameworks support adherence to:
  - **The Agile Manifesto values**
  - **The 12 Agile Principles**



# Agile Values (Manifesto)

- Intentionally streamlined expression of the core values of agile project management
  - Used as a guide to implement agile practices into your products.
- Value is placed on
  - Individuals & interactions > Processes & tools
  - Working software > Comprehensive documentation
  - Customer collaboration > Contract negotiation
  - Responding to change > Following a plan

# Agile principles

- A set of guiding principles that help product teams implement agile practices
  - Used to check if your work and thinking are truly agile.



# Agile principles

## 1 Satisfy the customer

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

## 2 Welcome changing requirements

Even late in development. Agile processes harness change for the customer's competitive advantage.

## 3 Deliver working software frequently

from a couple of weeks to a couple of months, with preference to the shorter timescale.

## 4 Work together

Business people and developers must work together daily throughout the project.

## 5 Build projects around motivated individuals

Give them the environment and support they need, and trust them to get the job done.

## 6 Face-to-face conversation

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

# Agile principles

## 7 Focus on working software

Working software is the primary measure of progress.

## 8 Promote sustainable development

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

## 9 Ensure technical excellence

Continuous attention to technical excellence and good design enhances agility.

## 10 Simplicity

The art of maximizing the amount of work not done – is essential.

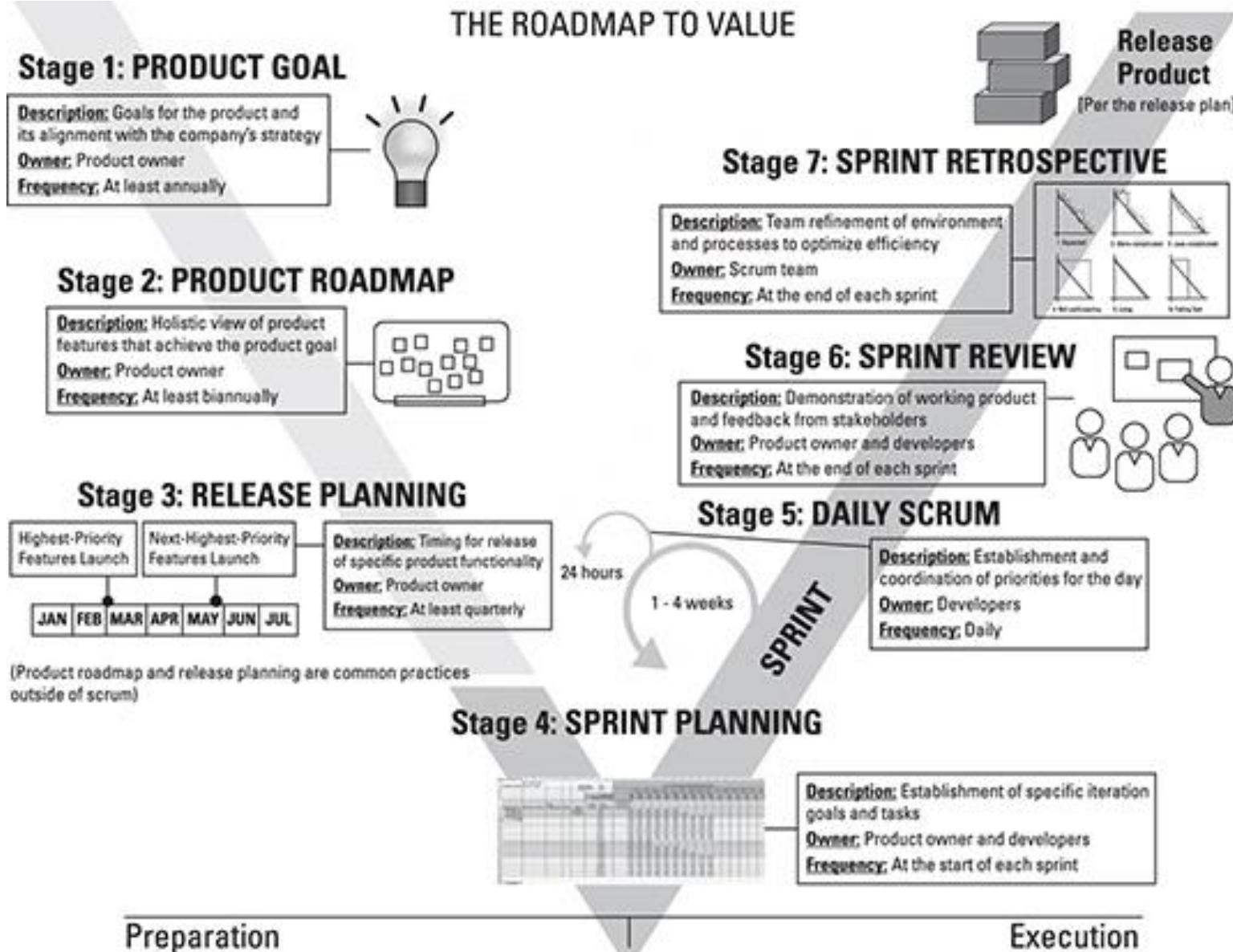
## 11 Self-organizing teams

The best architectures, requirements, and designs emerge from self-organizing teams.

## 12 Reflect and adjustment

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

# High-level view of an APD cycle.



# Agile Principles Summary



Deliver working software frequently

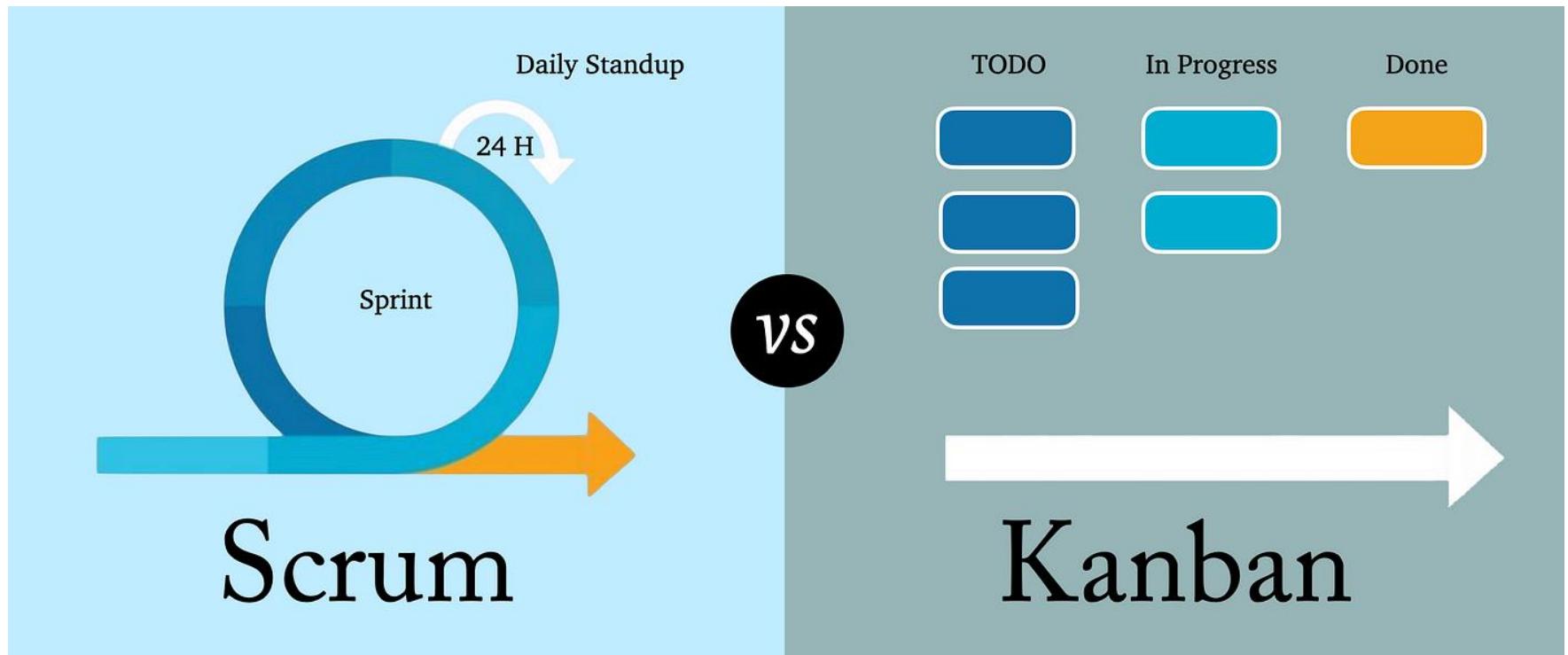


Welcome changing requirements



Motivate individuals & regular reflection

# Top Methodologies Used to Implement Agile



# Scrum Methodology

- An iterative development model often used to manage complex software and product development.
- Fixed-length iterations called sprints lasting one to two weeks long
- Allow the team to ship software on a regular
- At the end of each sprint, stakeholders and team members meet to plan next steps.

# Advantages of Scrum

- + **More transparency and project visibility**

With daily stand-up meetings, the whole team knows who is doing what and issues are identified in advance, improving communication and enabling the team to take care of issues right away.

- + **Increased team accountability**

There is no project manager. Instead, the team collectively decides what work they can complete in each sprint, working together collaboratively, with accountability.

- + **Easy to accommodate changes**

With short sprints and constant feedback, it's easier to accommodate changes.

- + **Increased cost savings**

Constant communication ensures the team is aware of all issues and changes sooner, helping to lower expenses and increase quality.

# Disadvantages of Scrum

- **Risk of scope creep**

Some Scrum projects can experience scope creep due to a lack of a specific end date, tempting stakeholders to keep requesting additional functionality.

- **Team requires experience and commitment**

The team needs to be familiar with Scrum principles to succeed, as well as needs to commit to the daily meetings and stay on the team for the entire project.

- **The wrong Scrum Master can ruin everything**

The Scrum Master is very different from a project manager. The Scrum Master does not have authority over the team, so he or she must trust the team to complete the work.

- **Poorly defined tasks can lead to inaccuracies**

Project costs and timelines won't be accurate if tasks are not well defined. If the initial goals are unclear, planning becomes difficult and sprints can take more time than originally estimated.

# Roles in Scrum

## Product Owner

The Scrum Product Owner has the vision of what to build and conveys that to the team. He or she focuses on business and market requirements, prioritizing the work that needs to be done, managing the backlog, providing guidance on which features to ship next, and interacting with the team and other stakeholders to make sure everyone understands the items on the product backlog.

## Scrum Master

Often considered the coach for the team, the Scrum Master helps the team do their best possible work. This means organizing meetings, dealing with roadblocks and challenges, and working with the Product Owner to ensure the product backlog is ready for the next sprint.

## Scrum Team

The Scrum Team is comprised of five to seven members. Unlike traditional development teams, there are not distinct roles like programmer, designer, or tester. Everyone on the project completes the set of work together.

# Steps in the Scrum Process

## 1 Product backlog

The product backlog is not a list of things to be completed, but rather it is a list of all the desired features for the product.

## 2 Sprint planning

Before each sprint, the Product Owner presents the top items on the backlog in a sprint planning meeting. The team determines the work they can complete during the sprint and moves the work from the product backlog to the sprint backlog.

## 3 Backlog refinement/grooming

The product backlog is not a list of things to be completed, but rather it is a list of all the desired features for the product.

## 4 Daily Scrum meetings

The Daily Scrum is a 15-minute stand-up meeting that happens at the same time and place every day during the sprint. During the meeting each team member talks about what they worked on the day before, what they'll work on today, and any roadblocks.

## 5 Sprint review meeting

At the end of each sprint, the team presents the work they have completed as a live demo rather than a presentation.

## 6 Sprint retrospective meeting

Also at the end of each sprint, the team reflects on how well Scrum is working for them and talks about any changes that need to be made in the next sprint.

# Kanban Methodology

- Visual framework used to implement Agile and shows:
  - what to produce
  - when to produce it
  - how much to produce.
- Encourages small, incremental changes to your current system
  - Does not require a certain set up or procedure

# Kanban Board

- A tool to implement the Kanban method for projects
  - Made up of different columns i.e.
    - ❖ to do, in progress, and done
    - ❖ backlog, ready, coding, testing, approval, and done



# Advantages of Kanban

## + Increases flexibility

Kanban is an evolving, fluid model. There are no set phase durations and priorities are reevaluated with new information.

## + Reduces waste

Kanban revolves around reducing waste, ensuring that teams don't spend time doing work that isn't needed or doing the wrong kind of work.

## + Easy to understand

The visual nature of Kanban helps to make it intuitive and easy to learn.

## + Improves delivery flow

Kanban focuses on the just-in-time delivery of value and delivering work to customers on a regular cadence.

## + Minimizes cycle time

Cycle time is the amount of time it takes for work to move through the team's workflow. In Kanban projects, the entire team helps to ensure the work is moving quickly and successfully through the process.

# Disadvantages of Kanban

- **Outdated board can lead to issues**

The team must be committed to keeping the Kanban board up to date, otherwise they'll be working off inaccurate information.

- **Teams can overcomplicate the board**

The Kanban board should remain clear and easy to read. Adding bells and whistles to the Kanban board just buries the important information.

- **Lack of timing**

The columns on the Kanban board are marked by phase, with no timeframes associated.



# Core Practices and Principles of Kanban



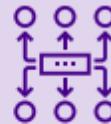
## Visualize the workflow

A visual representation of your work allows you to understand the big picture and see how the flow of work progresses. By making all the work visible you can identify issues early on and improve collaboration.



## Limit work in progress (WIP)

Work in progress limits determine the minimum and maximum amount of work for each column on the board or for each workflow. By putting a limit on WIP, you can increase speed and flexibility, and reduce the need for prioritizing tasks.



## Manage and enhance the flow

The flow of work throughout the Kanban board should be monitored for possible improvements. A fast, smooth flow shows the team is creating value quickly.



## Make process policies explicit

Everyone needs to understand how things work or what qualifies as "done". Modify the board to make these processes more clear.



## Continuously improve

The Kanban method encourages small, continuous changes that stick. Once the Kanban system is in place, the team will be able to identify and understand issues and suggest improvements.

# Benefits of Agile in IT Projects

## + **Change is embraced**

With shorter planning cycles, there's always opportunity to refine and reprioritize the backlog to accommodate changes throughout the project.

## + **End-goal can be unknown**

Agile is beneficial for projects where the end-goal is not clearly defined. As the project progresses, the goals will become evident and the team can adapt.

## + **Faster, high-quality delivery**

Breaking down the project into iterations allows the team to focus on high-quality development, testing, and collaboration. Conducting testing during each iteration means that bugs get identified and solved more quickly.

## + **Strong team interaction**

Agile embraces frequent communication and face-to-face interactions.

## + **Customers are heard**

Customers have many opportunities to see the work being delivered, share their input, and have an impact on the end product.

## + **Continuous improvement**

Feedback is encouraged from users and team members throughout the project, so lessons learned are used to improve future iterations.

# Disadvantages of Agile in IT Projects

- **Planning can be less concrete**

Because project managers are often reprioritizing tasks, it's possible some items scheduled for delivery may not be complete in time. And, additional sprints may be added at any time in the project, adding to the overall timeline.

- **Team must be knowledgeable**

Agile teams are usually small, so team members must be highly skilled in a variety of areas and understand Agile methodology.

- **Time commitment from developers is required**

Active involvement and collaboration is required throughout the Agile process, which is more time consuming than a traditional approach.

- **Documentation can be neglected**

Agile prefers working deliverables over comprehensive documentation. While documentation on its own does not lead to success, teams should find the right balance between documentation and discussion.

# Key Challenges in Agile for IT

- Team discipline and self-management
- Leadership commitment
- Lack of clear empirical frameworks



# When to Use Agile in Technology Projects

- **Requirements are unclear or expected to change**
  - supports evolving needs and frequent feedback loops.
- **The project involves high uncertainty or complexity**
  - helps manage unknowns through iteration and learning.
- **Customer feedback is critical during development**
  - enables continuous delivery and real-time validation.
- **You need early and incremental value delivery**
  - allows for regular releases with working features.
- **Flexibility is more important than strict planning**
  - adapts easily to changes in priorities or market demands.

# When NOT to Use Agile

- **Fixed-price contracts**
  - limits flexibility, making it hard to accommodate change or improvements.
- **Strict, well-defined requirements and scope**
  - reduces the need for Agile's iterative planning.
- **Heavily regulated environments**
  - can restrict the adaptability Agile depends on.
- **Extensive upfront documentation and technical specs**
  - conflict with Agile's preference for evolving plans and lightweight processes.

# How to Get Started with Agile

- Agile is flexible in its very nature. There is no wrong or right way to get started with Agile.

## Stand up Meetings

A simple way to get started with Agile is to incorporate daily stand-up meetings into your project. Daily stand-up meetings are easy to incorporate into any project methodology you already use (even Waterfall) and don't require any training or knowledge transfer.

## Kanban Board

Another way to incorporate Agile practices is to create and use a Kanban board. The Kanban board is simple tool to help your team visualize the flow of work as it's getting done. Use the board during stand-up meetings to discuss current work in progress or display it where your team can easily access it to make updates to task status.

## Changing Team Roles

Some methods of Agile may result in the need to change team roles. For example, working with Scrum, the team may need to take more responsibility and boost speed of delivery. A good place to start with Scrum is to talk about the roles and responsibilities. Every project must have a Scrum Master, Product Owner, and Scrum Team. Clarifying these roles will help teams understand their responsibilities and remain accountable.

# How to Get Started with Agile

- Finding the Best Agile Tool to help track and manage your projects. Consider:



## Familiar and Easy to Use

When switching to a new tool, familiarity is key. You don't want your team spending valuable time learning a new program. Agile project management software should be flexible and intuitive to use.



## Collaboration & Communication

Find a tool that facilitates collaboration between internal and external stakeholders. Cloud tools enable people to work in real-time, view and edit projects from anywhere, stay up to date on current status, and communicate with others viewing the project.



## Searchable, Central Storage

It's increasingly important to use cloud storage services like Dropbox, Google Drive, Box, or OneDrive for project documentation storage. Whatever service you use, make sure your Agile tool can seamlessly connect with them to store vital assets.



## Mobile Ready

The modern worker relies on their smartphone, tablet and other mobile devices to get work done. And many workers want to access parts of their project management software while they are on the go. Be sure to evaluate all the mobile options a tool has to offer.



## Work Visualization

Today, work design is infinitely different. The "one-size-fits-all" approach to project management no longer works. Find a tool that includes multiple ways to visualize and manage your work - whether it be waterfall or agile - with Gantt charts, spreadsheet, kanban boards, calendars, reports, and dashboards.

# Other Agile Methodologies

## Extreme Programming (XP)

This type of software development is intended to improve quality and responsiveness to evolving customer requirements.

## Dynamic Systems Development Method (DSDM)

DSDM addresses the common failures of IT projects. The eight principles of DSDM are: focus on the business need, deliver on time, collaborate, never compromise quality, build incrementally from firm foundations, develop iteratively, communicate continuously and clearly, and demonstrate control.

## Feature-driven development (FDD)

There are five basic activities in FDD: develop overall model, build feature list, plan by feature, design by feature, and build by feature.

## Lean Software Development (LSD)

LSD can be characterized by seven principles: eliminate waste, amplify learning, decide as late as possible, deliver as fast as possible, empower the team, build integrity in, and see the whole.

## Adaptive system development (ASD)

ASD represents the idea that projects should always be in a state of continuous adaptation, and has a cycle of three repeating series: speculate, collaborate, and learn.

## Crystal Clear

This methodology can be used with teams of six to eight developers and it focuses on the people, not processes or artifacts. Crystal Clear requires the following: frequent delivery of usable code to users, reflective improvement, and osmotic communication preferably by being co-located.

# Combining Agile Methodologies

- Use Agile for planning and control
- Hybrid methods can add flexibility
- Deciding on a standard way to manage projects will help to:
  - streamline the process
  - increase team output
  - keep projects on track.
- Once you've picked the best method, finding the right agile project management tool can help:
  - implement and track the process and ensure no detail is missed.

# Summary & Takeaways

- Agile is flexible, iterative, customer-focused
- Visual tools enhance team collaboration
- Project success improves with feedback and empowerment

# CHAPTER 1

## Project Management Concepts (Part 4)



# Chapter Concepts

## **Theme 3: Introduction to Project Management Guides, Frameworks and Methodologies**

- LO13: Differentiate between project management methodologies and standards;
- LO16: Apply different project management approaches and methodologies in managing an IT project.

# Traditional Project Management

- Provides a robust and systematic approach to project execution
  - Emphasizing a structured, sequential methodology.
- Well-suited for industries where:
  - Predictability, control, and adherence to strict specifications are paramount
  - i.e. construction, manufacturing, and large-scale infrastructure development.
- This approach ensures that projects progress through clearly defined phases, minimizing deviations and optimizing resource utilization.

# Traditional Project Management

1

## Linear, Sequential Phases

Projects advance through distinct stages: Initiation, Planning, Execution, Monitoring, and Closure. Each phase must be completed before the next begins, ensuring a methodical progression.

2

## Emphasis on Upfront Planning

Extensive planning and detailed documentation are conducted at the outset. This includes comprehensive requirements gathering, scope definition, and resource allocation to minimise surprises later in the project lifecycle.

3

## Centralised Decision-Making

A clear hierarchical structure with defined roles and responsibilities ensures that decision-making is centralised. The Project Manager maintains authority and oversees all aspects of the project.

4

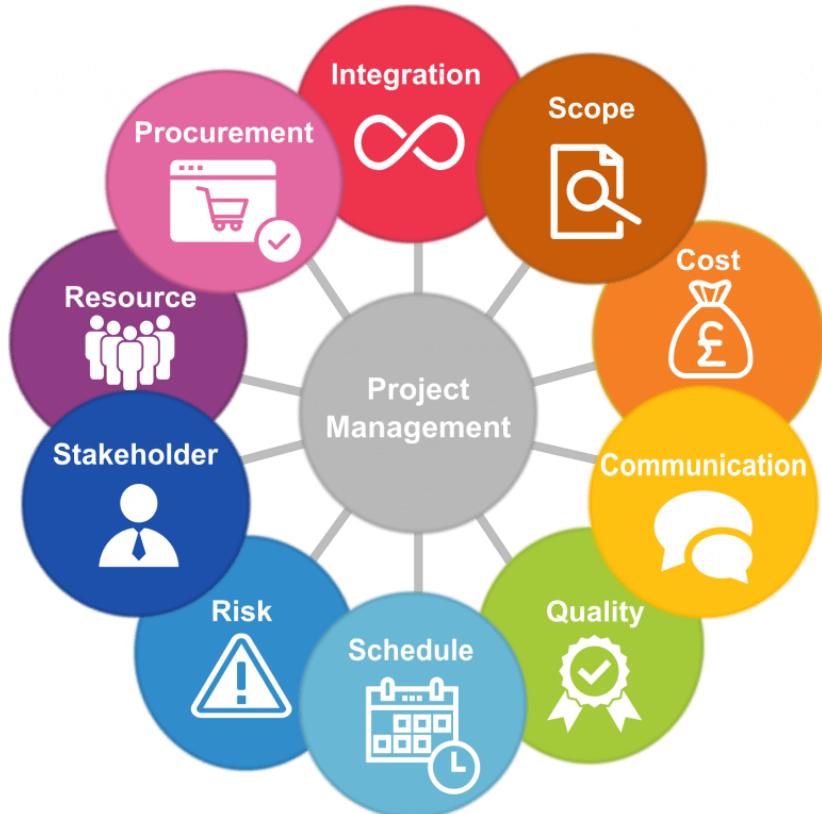
## Assumes Stable Requirements

This approach is most effective when project requirements and the surrounding environment are expected to remain stable throughout the project's duration, allowing for predictable outcomes.

# Traditional Project Management

- Its strength lies in its meticulous, step-by-step progression, providing a high degree of control and accountability.
  - All aspects of a project are defined upfront
  - Aim is to mitigate risks and ensure that the final deliverable meets the initially agreed-upon specifications.
- Advantageous for projects with clear and unchanging objectives.
  - Deviation from the established plan could lead to significant cost overruns or compromised quality.

# Core Focus Areas in TPM



## Clear Project Objectives and Scope Definition

Establishing precise, measurable, achievable, relevant, and time-bound (SMART) objectives is foundational. This clarity prevents scope creep and ensures all stakeholders understand the project's purpose and boundaries.

## Detailed Project Planning and Scheduling

Comprehensive planning involves breaking down the project into manageable tasks, setting milestones, and estimating durations. This culminates in a detailed project schedule, often visualised through Gantt charts or similar tools.

## Resource Allocation and Role Assignment

Identifying and assigning the necessary human, material, and financial resources, along with their specific responsibilities for each team member, is crucial for efficient execution.

## Risk Identification and Mitigation Strategies

Proactive identification of potential risks, assessing their likelihood and impact, and developing mitigation strategies to avoid them is a continuous process throughout the planning phase.

## Process Compliance and Quality Control

Adhering to established processes and standards, coupled with rigorous quality control measures, ensures that deliverables meet the required specifications and stakeholder expectations.

# Key Principles of TPM



## Predictability

Achieved through rigorous upfront planning, detailed task breakdown, and a clear understanding of the project scope. This minimises uncertainties and allows for accurate forecasting of timelines and costs.



## Process-Oriented

Strong emphasis on following predefined steps, methodologies, and standards. This ensures consistency, repeatability, and a structured approach to every phase of the project.



## Accountability

Clear definition of roles, responsibilities, and reporting lines ensures that every team member understands their contribution and is accountable for their tasks and deliverables.

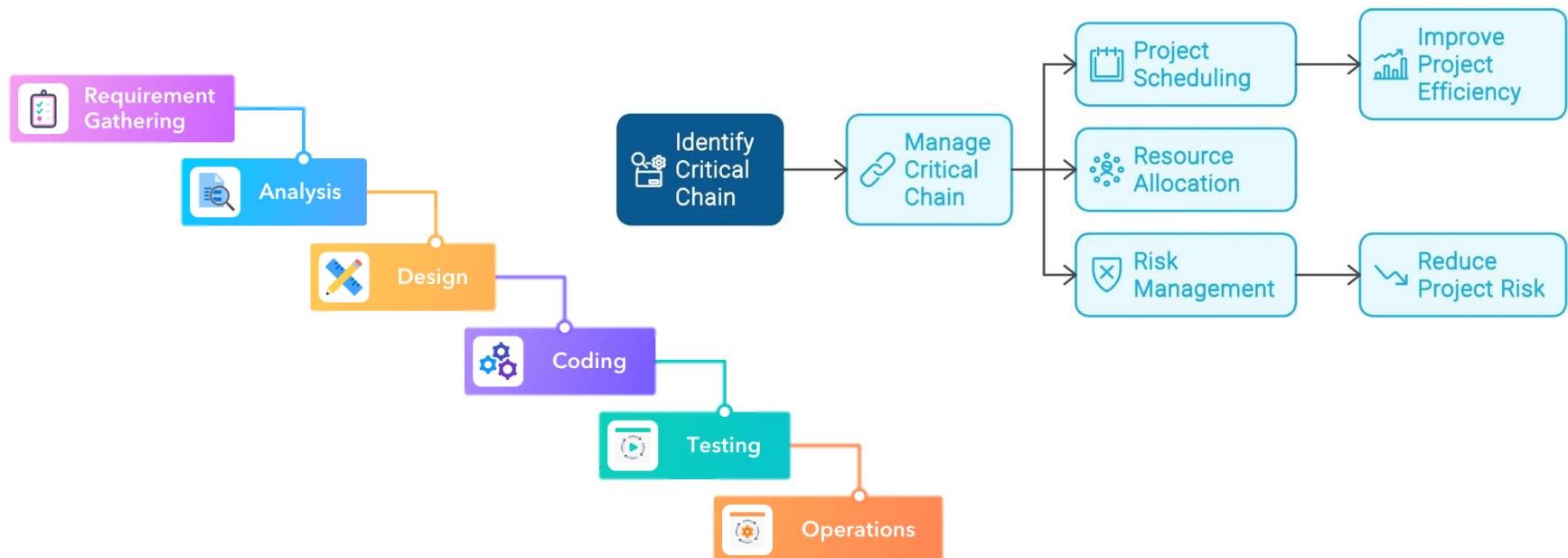


## Control

Exercised through continuous monitoring of progress, adherence to baselines, and a formal change management process. Any deviations require documented approval, maintaining strict control over the project.

# TPM Methodologies

- Two prominent traditional project management methodologies: **Waterfall** and **Critical Chain (CCPM)**



# Waterfall Methodology

- Follows a linear, sequential flow resembling a cascading waterfall.
  - Each phase must be completed before the next begins, with no overlap.
  - Ensures that all requirements are fully understood and documented upfront

# Waterfall Methodology: Core Processes



## Initiation

Define project scope, high-level requirements, identify stakeholders, and assess initial risks and benefits.



## Planning

Develop a comprehensive project plan, allocate resources, create detailed schedules, and outline communication strategies.



## Execution

Implement the planned activities step-by-step, ensuring no phase begins before the previous one is fully completed and approved.



## Monitoring

Track project progress against the baseline plan, manage risks, control changes, and adjust within established constraints.



## Closure

Conduct a final project review, document lessons learned, obtain formal acceptance, and hand over deliverables.

# Waterfall Methodology: Advantages

## Predictability

- Clear milestones and deliverables enhance forecasting.

## Strong Control

- Maintains tight control over scope, cost, and schedule.

## Clear Roles

- Defines precise roles and responsibilities for all team members.

## Well-Documented

- Aids stakeholder communication and future reference.

# Waterfall Methodology: Disadvantages

## Rigidity

Difficult to integrate changes once a phase is complete, often leading to project delays.

## Late Testing

Defects are typically discovered late in the cycle, making them more costly to fix.

## Unsuitable

Not ideal for projects where requirements are likely to evolve or are initially unclear.

## Rework Risk

- High risk of rework if initial requirements are incomplete or misinterpreted, impacting budgets and timelines.

# Critical Chain Project Management (CCPM): Core Processes

- **Identify Critical Path**
  - Pinpoint the longest sequence of dependent tasks, considering resource constraints.
  - Focus on task dependencies and duration to determine the project's shortest possible time.
- **Resource Analysis**
  - Analyse and ensure availability of all necessary resources for critical tasks.
  - Optimise resource allocation to prevent bottlenecks and delays.

# Critical Chain Project Management (CCPM): Core Processes

- **Buffer Management**
  - Implement project-level and feeding buffers to absorb task variations and protect the overall schedule.
  - Buffers are strategically placed at the end of the critical chain and at points where non-critical paths merge.
- **Continuous Monitoring**
  - Track progress and buffer consumption to maintain schedule adherence.
  - Proactively adjust resource allocation and task sequencing to keep the project on track.

# Critical Chain Project Management: Advantages



## Resource Optimisation

Minimises delays by optimising resource use across all tasks.



## Improved Risk Management

Strategic buffers enhance schedule reliability and absorb unforeseen issues.



## Focus on Critical Tasks

Encourages teams to prioritise and concentrate on tasks that directly impact project completion.



## Shortened Duration

Can significantly reduce overall project duration compared to traditional Waterfall methods.

# Critical Chain Project Management: Disadvantages

## Complex Planning

Requires detailed upfront planning and extensive resource analysis.

## Tool Dependency

Relies on sophisticated software for buffer and resource tracking.

## Less Intuitive

Teams may find CCPM concepts challenging without prior experience.

## Uncertainty Impact

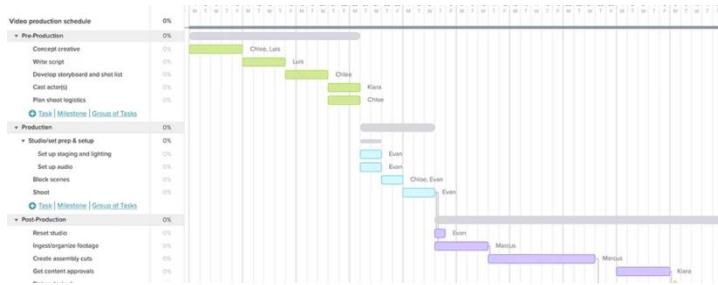
May be less effective for projects with high levels

# Comparison Summary

Feature	Waterfall Methodology	Critical Chain Project Management
Best For	Well-defined, stable projects with clear, unchanging requirements (e.g., construction, manufacturing).	Resource-constrained projects needing schedule optimisation and high reliability (e.g., R&D, complex engineering).
Key Focus	Sequential phases, clear documentation, strict scope control.	Resource levelling, buffer management, critical chain flow.
Change Management	Rigid; difficult and costly to mid-project changes.	More adaptive to task-level delays via buffers, but structural changes are still challenging.
Risk Management	Identified upfront; managed through strict adherence to plan.	Managed via project and feeding buffers, variability proactively.
Ease of Understanding	Simple and intuitive for most teams.	Requires significant training and mindset shift due to new concepts.
Documentation	Extensive and formal at each phase hand-off.	Focus on tracking critical chain and buffer consumption, less emphasis on detailed phase-end documentation.

# Tools Supporting TMP

## Gantt Charts



Provide a visual timeline of a project's tasks, dependencies, and milestones. Graphically project schedules

## Risk Registers and Change Control

Risk ID No.	Risk Category	Risk Description	Impact Description	Impact	Likelihood	Priority Score	Action	Mitigation Strategy	Expected Response	Response Owner	Status
1	Operational Risk	Equipment failure	Production downtime and delayed project timelines.	2	3	6	Watch	Implement preventive maintenance schedule.	Reduced downtime and faster issue detection.	Operations Manager	In Progress
2	Financial Risk	Budget overrun	Project delay and resource reallocation.	3	4	10	Avoid	Establish budget monitoring and controls.	Keep budget within approximate limits.	Finance Team	Open
3	Compliance Risk	Non-compliance with safety regulations	Potential fines and project disruption.	4	3	12	Share	Regular training on regulatory standards.	Ensure compliance and avoid fines.	Compliance Officer	Closed
4	Cybersecurity Risk	Data breach	Loss of sensitive data and partnership legal repercussions.	5	2	10	Balance	Regularly update security protocols.	Reduced vulnerability to cyber threats.	IT Security Team	Closed
5	Regulatory Risk	Negative press coverage	Loss of customer trust and brand reputation damage.	3	4	12	Exploit	Monitor social media and respond proactively.	Maintain brand reputation and customer trust.	PR Team	Open
6	Environmental Risk	Hazardous waste spill	Environmental damage and legal action.	6	2	10	Contingency	Train staff on handling hazardous materials.	Mitigate risk of environmental incidents.	Health & Safety	In Progress

## Work Breakdown Structure (WBS)



Total scope of work to be carried out by the the project team. Breaks down complex projects projects into manageable components (work work packages).

**Risk Registers** are essential documents that list identified risks, their potential impact, likelihood, and planned strategies.

**Change Control Boards (CCBs)** are formal groups reviewing, evaluating, approving, delaying, or rejecting project's scope, schedule, or budget, ensuring strict control project modifications.

# Traditional vs Agile Approaches

## *Traditional Approach*

Sequential phases, detailed documentation, comprehensive planning, formal change control, defined roles

## *Agile Approach*

Iterative development, minimal documentation, adaptive planning, embraces change, self-organising teams

# Traditional Approach in IT

- Waterfall Methodology
  - **Good for:**
    - ERP system implementation
    - Data centre setup
    - Compliance-driven projects (e.g., banking or healthcare systems with rigid requirements)
  - **Weaknesses in IT:**
    - Not flexible for changing requirements
    - Late discovery of issues (testing happens at the end)

# Traditional Approach in IT

- Critical chain Management Methodology
  - **Good for:**
    - IT projects with **resource constraints**
    - When multiple projects **share resources**
    - Projects where **schedule compression** is needed
  - **Weaknesses in IT:**
    - Less intuitive when dealing with **iterative work**
    - May need adjustments for **fast-changing or agile environments**

# When to Use Traditional Approach

## *Project Characteristics*

- Clear initial requirements and goals
- Low level of uncertainty
- Low requirements change rate
- Formal documentation required

## *Typical Projects*

- Operative routine projects
- Construction projects
- Engineering projects
- Larger projects with many team members

## *Organisational Factors*

- Multiple organisational units involved
- Less experienced team members
- Expected team member fluctuation
- System criticality is high

# Should You Use Traditional Methods in IT?

- Traditional methods can work **if the environment is:**
  - **Stable**
  - **Requirements are clear**
  - **Time/scope are fixed.**
- But many modern IT projects benefit from **Agile or hybrid approaches** due to:
  - High uncertainty
  - Rapidly changing requirements
  - Continuous delivery needs

# Methodology Alone Is Not Enough

- Inappropriate methodology can have negative impact on project success or at least make managing project harder.

✖ "If the organisation and project team do not fully understand project scope and context, there are no tools or techniques within any methodology that will guarantee project success."

# Preconditions for Successful Methodology Usage

1

## *Coherence with Company Processes*

Methodology must align with existing organisational processes.

2

## *Appropriate Level of Detail*

Sufficient detail that aligns with organisational processes.

3

## **Understanding Limitations**

Clear understanding of the context in which the methodology is applicable.

# Factors Influencing Methodology Selection

1

## *Project Characteristics*

- Size and criticality
- Project priorities
- Requirements flexibility

2

## *Team Factors*

- Team size and experience
- Number and location of stakeholders

3

## **Constraints**

- Costs and time
- Risks
- Possibility of iterative approach

# The Challenge of Methodology Selection

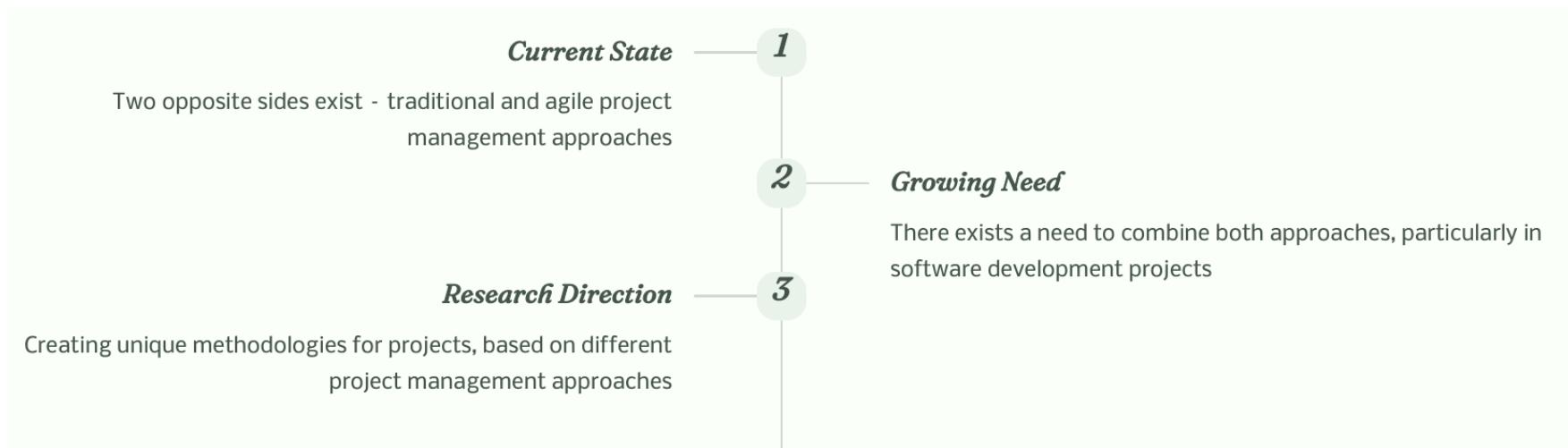
- **Project Context**
  - Custom software development at a small IT company for a large organisation with bureaucratic processes.
- **Project Characteristics**
  - Unclear requirements, formal documentation required, smaller team, mainly linear project plan with 2 iterations.
- **Key Question**
  - What approach is most appropriate for this specific project?

# The Case for Mixed Approaches

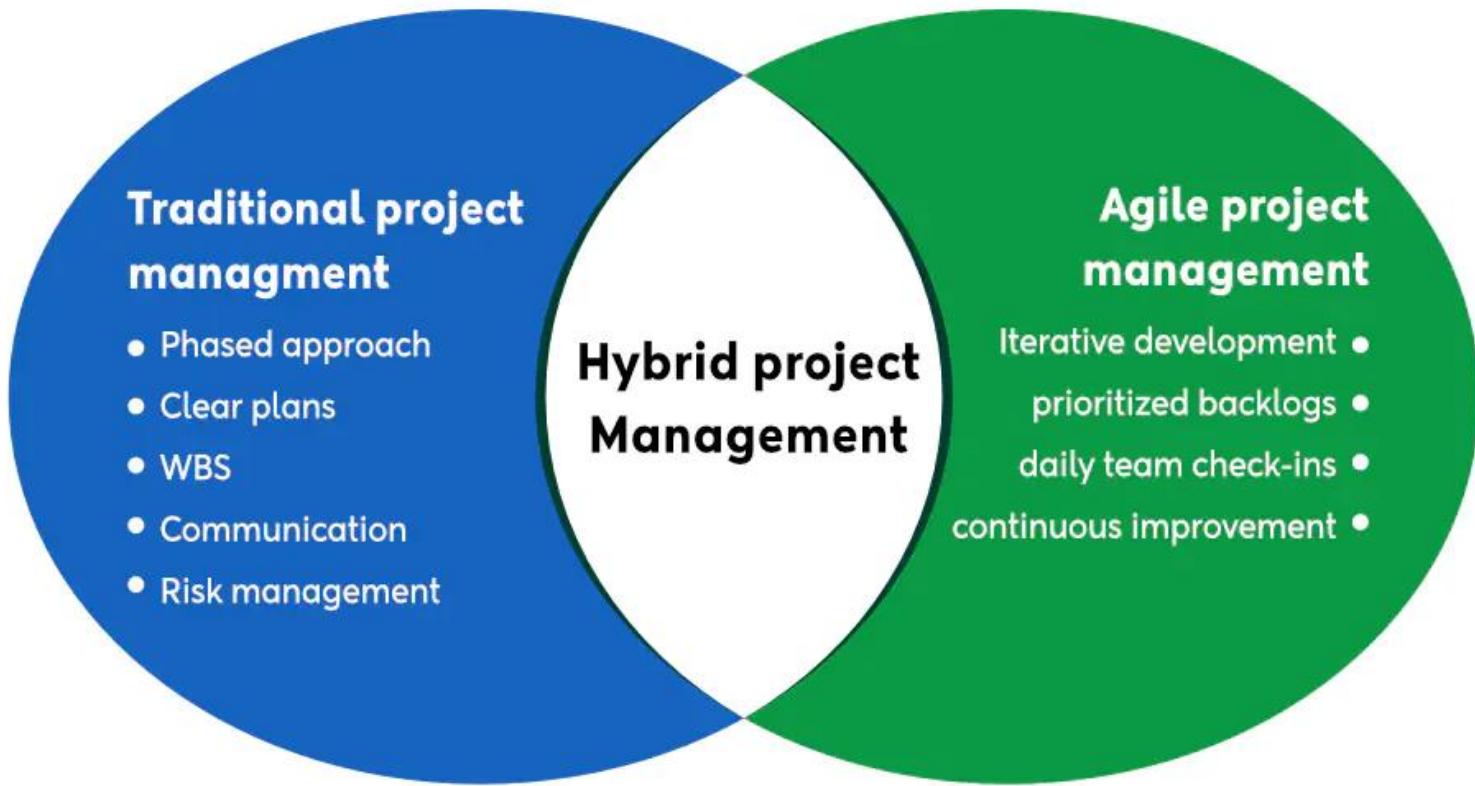
- For a custom software development project where:
  - Company processes are lightweight
  - Customer processes are complex and rigid
  - Project characteristics don't clearly align with either traditional or agile approach
  - Conclusion: One methodology is not enough.

# Mixed Approaches

- Is it possible to combine different approaches within a single project management methodology?



# Hybrid project Management



Project management and team collaboration tool

# What is Hybrid (Mixed) Project Management?

- Strategically combines the strengths of both traditional (e.g., Waterfall) and agile methodologies.
- Customised approach
  - Adapting to the unique complexity and context of a project, rather than a rigid, fixed methodology.

# What is Hybrid (Mixed) Project Management?

1

## Blends Strengths

Integrates the predictive control of Waterfall with the iterative adaptability of Agile.

2

## Context-Driven

Tailored to project complexity, stakeholder requirements, and industry standards.

3

## Flexible Framework

Not a one-size-fits-all, but an evolving model based on project needs.

4

## Phased Application

For example, Waterfall for initial planning and Agile for iterative execution phases.

# Why Adopt a Mixed Approach?

- **1. Adaptability to Change**
  - Different parts of a project often require different levels of flexibility.
  - A mixed approach allows you to:
    - Be **flexible where change is frequent**
    - Be **structured where stability is critical**
  - This helps manage both evolving needs and fixed objectives more effectively.

# Why Adopt a Mixed Approach?

- **2. Better Alignment with Project Needs**
  - Not all tasks or teams operate the same way.
  - A mixed approach enables you to:
    - Apply the **right tools and techniques** for each phase, team, or deliverable
    - Customize the process to fit the **nature and complexity of the work**
  - This increases efficiency and relevance across the project lifecycle.

# Why Adopt a Mixed Approach?

- **3. Balanced Risk and Control**
  - Purely flexible methods may lack risk control; purely structured methods may be too rigid.
  - A mixed approach offers:
    - **Freedom for teams** to innovate and iterate
    - **Clear oversight** to manage risks, budgets, and quality
  - This reduces surprises while allowing creativity and responsiveness.

# Why Adopt a Mixed Approach?

- **4. Improved Communication Across Stakeholders**
  - Different stakeholders (e.g. executives, developers, clients) have different expectations.
  - A mixed approach can:
    - Support **high-level reporting and planning**
    - Allow **technical teams to work in ways that suit them**
  - This bridges the gap between strategic goals and on-the-ground execution.

# Why Adopt a Mixed Approach?

- **5. Optimized Resource Use**
  - Some parts of a project require heavy coordination and planning; others are straightforward.
  - A mixed approach allows:
    - **Efficient use of resources** where needed
    - **Faster delivery** where less structure is required
  - This helps manage time, people, and budgets more effectively.

# Why Adopt a Mixed Approach?

- **6. Tailored Fit for Organizational Culture**
  - Organizations rarely operate in a single style.
  - A mixed approach:
    - Aligns with existing practices and comfort levels
    - Avoids forcing a single model on diverse teams or departments
  - This supports smoother adoption and better collaboration.

# Benefits of Mixed Agile/Traditional Management



## Improved Adaptability

Adapts to changes without sacrificing project governance and structure.



## Better Risk Management

Iterative feedback loops facilitate early identification and mitigation of risks.



## Enhanced Communication

Fosters transparency and regular dialogue among all project stakeholders.



## Optimised Resources

Efficient allocation of resources across distinct project phases for maximum impact.

# Challenges and Considerations

- Demands a nuanced understanding of both methodologies and a clear strategy to prevent inconsistencies and confusion.

## Skilled Project Managers

Requires expertise in both traditional and agile frameworks for effective oversight.

## Potential Confusion

Risk of ambiguity in processes and expectations among teams and stakeholders.

## Clear Protocols Needed

Essential to define roles, responsibilities, and communication channels explicitly.

## Integration Risks

Without proper integration, inconsistent processes can undermine project success.

# Real-World Examples & Best Practices

## Tech-Hardware Projects

Combines **Agile** for rapid software iterations with **Waterfall** for meticulous hardware design and production.



## Marketing Campaigns

Utilises **Agile** for creative content development and campaign execution, alongside **Traditional** methods for strict budget control and compliance.



# Benefits of Effective Project Management Methodology



Increased probability of successful project delivery



Consistency and flexibility leading to team efficiency



Better control of project goals and scope



Faster time to market



Reduced risks



More efficient processes

# Conclusion: Reality or Illusion?

- **A Practical Reality**
  - Offering a balanced and effective path for navigating complex and dynamic projects.
  - Its success hinges on thoughtful customisation and an organisation's readiness to embrace a flexible framework.
- **Success Factors:**
  - Thoughtful tailoring to specific project needs and robust organisational readiness.
- **Balanced Approach:**
  - Provides a middle ground, combining the best of both worlds for diverse challenges.
- **Illusion Only If:**
  - Attempted without a clear strategic roadmap, adequate training, and strong integration.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Government Infrastructure Project**
  - A government department is building a new highway.
  - The project scope is clearly defined, the budget is fixed, and strict compliance regulations must be followed.
  - Any design change will require multiple approvals and could delay the project.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Mobile App for a Start-Up**
  - A start-up is developing a new social media app.
  - The market is competitive, and customer preferences may change rapidly.
  - The team needs to release a minimal viable product (MVP) quickly and then improve it based on user feedback.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Hospital IT System Upgrade**
  - A hospital is implementing a new patient record management system.
  - The system is complex and has both well-defined requirements (regulatory and data security) and areas where user interface preferences are still evolving.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Event Planning for a Corporate Conference**
  - A company is organizing a 2-day international conference. The date and venue are fixed.
  - Tasks like booking speakers, catering, and travel must follow a strict timeline.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Developing a Video Game**
  - A gaming studio is developing a new open-world video game.
  - Creative design and gameplay mechanics may change often as testing and prototyping take place.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Construction of a Shopping Mall**
  - A developer is building a large shopping mall with multiple tenants.
  - There are strict architectural blueprints, safety standards, and a fixed opening date set by investors.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Custom Software for a Corporate Client**
  - A software company is creating a custom internal application for a large corporation.
  - Some features are already well-defined by the client, but others will require testing and adaptation during development.

# Activity

- Decide whether **Agile, Traditional (Waterfall), or Hybrid** project management is best suited:
- **Marketing Campaign for a New Product Launch**
  - A company is planning a multi-channel marketing campaign (TV, social media, events) for a new product.
  - Some creative elements will evolve based on testing, but certain milestones (launch date, ad slots) are non-negotiable.