



# IT Project Management

Essentials of IT project management  
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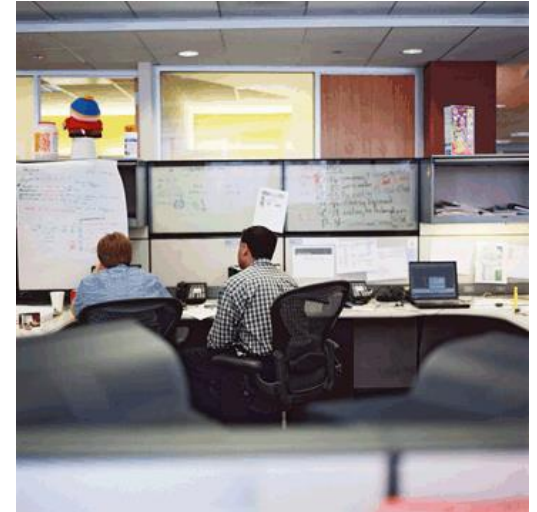
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# Essentials of IT project management

# Definitions

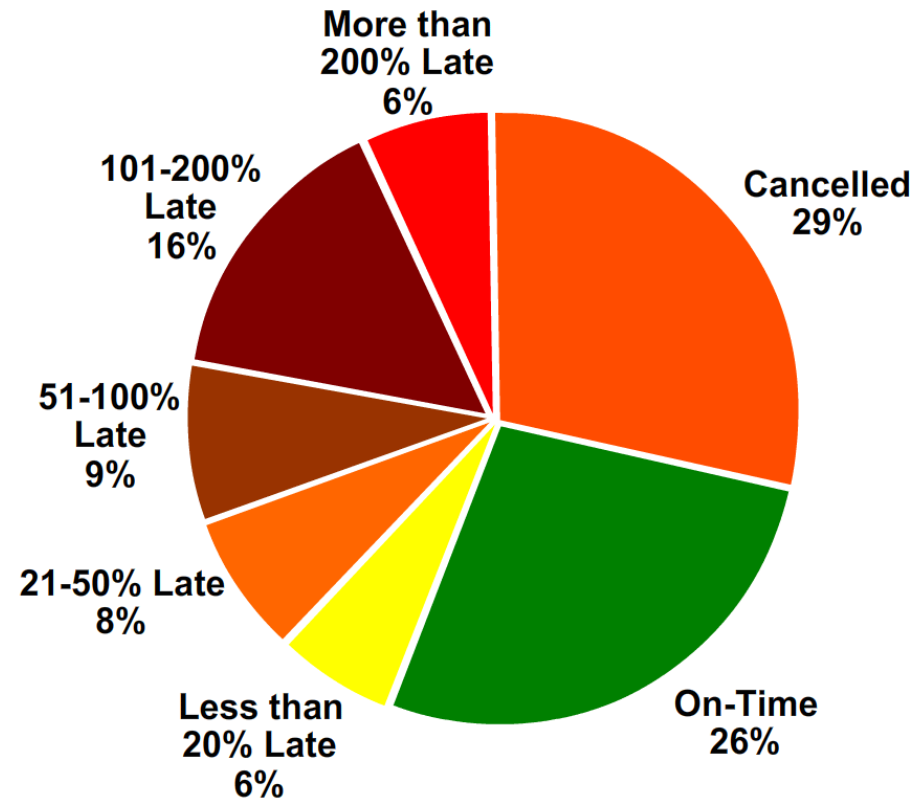
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- What do we mean by Project?
- “A project is a temporary discrete endeavor undertaken to create a unique product, service, or result. It is time-constrained, and often constrained by funding.”
- And, what is Project Management?
- “Project management is the process by which a project is planned, controlled, and measured in order to deliver the project work products. ”



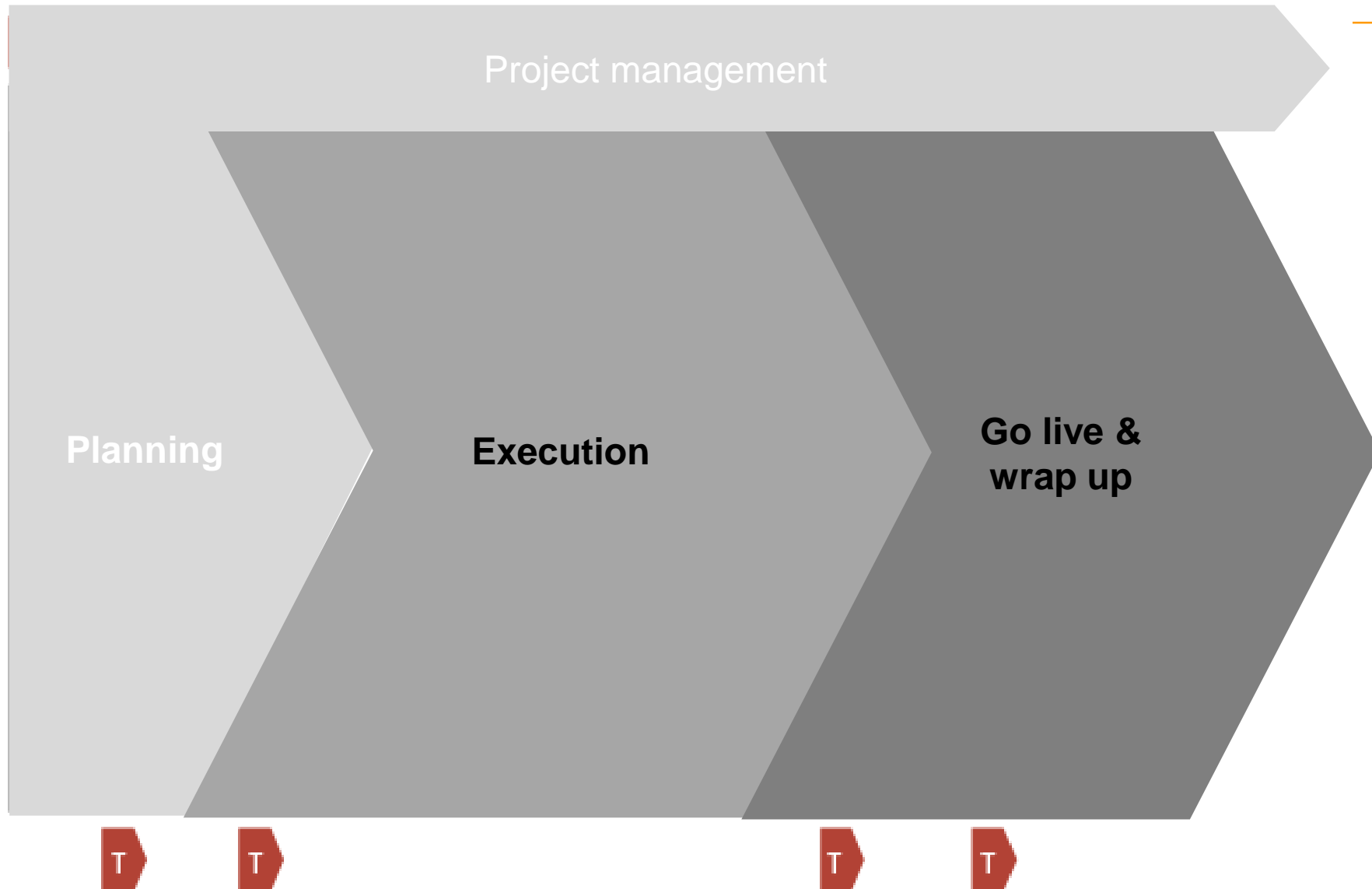
# Why is project management important?

- Statistics constantly point to the challenges in the successful delivery of IT projects
- Over 74% of projects are not delivered on time, on budget, or to expected quality.
- The most common reasons for these problems are:
  - Ill-defined or changing requirements
  - Unrealistic expectations or inaccurate estimates
  - Poor project planning or management

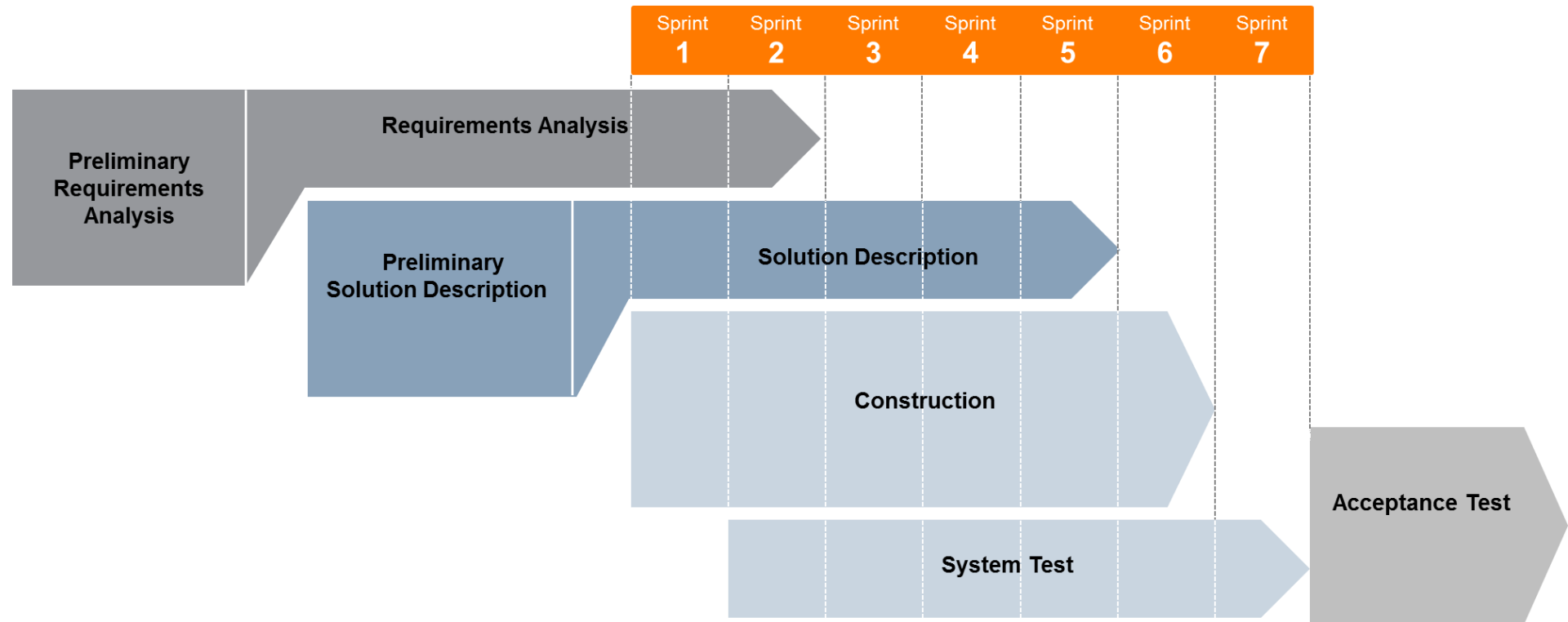


**Source – Software Productivity Council**

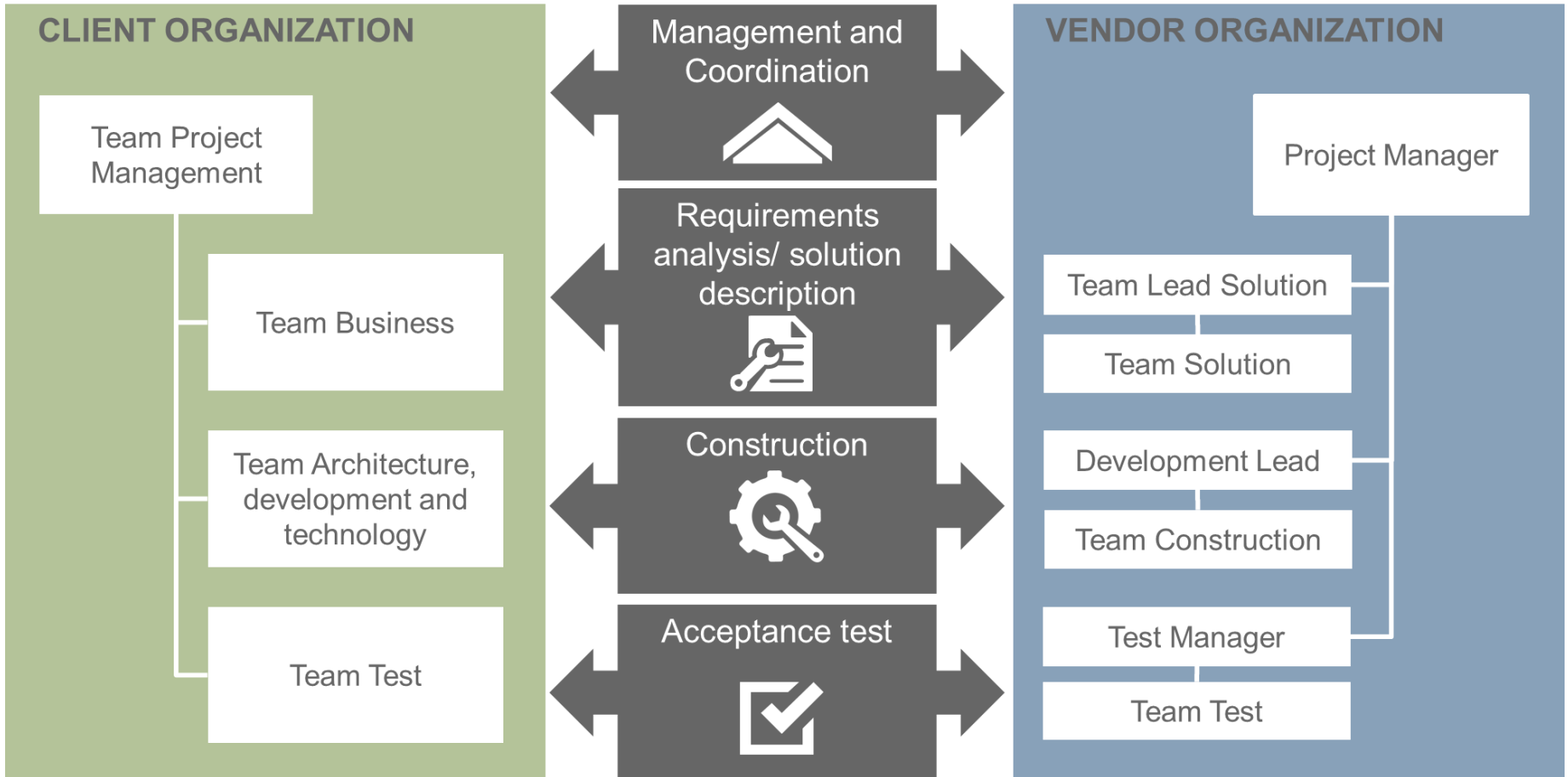
# Agile methodology - overview



# Execution model for agile development projects



# Organizational model





# Project Planning

# Planning phase

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- *Project planning phase = perform all the up-front work required before getting into the Sprint phase and provide the direction and scope of the project*
- **Identify project stakeholders:** who are they, what are their expectations and goals?
- **Define and confirm project scope:** What is the project deliverable? What are the high-level requirements? What is the work to be done and how will we break it down to parts?
- **Estimate work:** how much work will the project deliverables require?
- **Plan work:** when will the work be performed? who will perform the work?
- **Define metrics:** how will we measure the progress of the project?
- **Create test approach:** how will you test your deliverables, in sprint, in system test? What test environments will you use?

# The Stakeholder

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## Who is a stakeholder?

- A stakeholder is someone (can be a person, group or organization) whose interests may be positively or negatively impacted by the project.
- Though not a complete list, stakeholders typically include groups or individuals who:
  - Generate, review, and approve requirements
  - Review and sign off deliverables
  - Participate in the design and implementation decision making process
  - Provide input and/or develop deliverables
  - Are key users of the application
  - Are affected by the application

# Define Stakeholder Goals and Expectations

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- Identify the project stakeholders, decision makers and major influencers.
- Understand the goals and expectations of the stakeholders.
- Align the goals and expectations to the project scope.
- Establish a process to assess and monitor stakeholder expectations to ensure the project outcomes remain aligned throughout the project's duration.

## Activity

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- Who are your stakeholders? What are their expectations?
  - Work in groups for 5 min

# Define and Confirm Project Scope

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What is the project deliverable? What are the high-level requirements? What is the work to be done and how will we break it down to parts?

- The project scope outlines the work the project will deliver and sets client expectations.
- It allows for the creation of rough estimates and clear understanding of the scope is required to produce these
- Time spent clarifying the scope early will reduce the likelihood of reworking estimates and work plans later.
- As part of the project scope confirmation:
  - define high-level requirements along with acceptance criteria and create a high-level design or blueprint, for each area of the solution.
  - Identify and break down the components of the solution to the level of detail sufficient for estimating.

# Tips for Confirming Project Scope

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- Focus on business value
- Address what is not included in scope.
- Capture everything the client says.
- Document assumptions carefully.
- Take the scope definition to the stakeholders.

# Scheduling

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The purpose of scheduling:

- provide a “roadmap” that represents how and when the project will deliver the products defined in the project scope and by the project team.

Its main objective:

- establish the time required for a project by organizing work and resources with right skills to achieve business objectives.

The schedule will also be used to communicate and emphasize project dates, milestones and critical paths to stakeholders



# What Makes a Good Work Plan?

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- The project's work plan is the output from the scheduling work, and should answer the following questions:
  - What work needs to be done?
  - How should the work be done?
  - Who should do the work?
  - When should each part of the work begin and end?
  - How much will the project cost?
- The work defined in the plan should be:
  - Manageable
  - Deliverable-focused
  - Measurable in terms of progress



# When and How to Baseline a Work Plan

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- A baseline is a snapshot of the work plan at a point in time
- A baseline is used for comparison purposes. It serves as the “budget” against which you can compare actuals
- The baseline is typically used for calculations of various metrics.
- Create a baseline before actuals are charged against the plan.
- Baseline the entire project only the first time a baseline is taken.

## What if...

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- Discuss amongst yourself what the effects could be in the execution phase, if dependencies between tasks are not correctly identified
  
- Work in groups for 5 min

# Project execution

# Essential Project management activities in the execution phase

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The execution phase of the project is when you start to deliver on the plans you made in the earlier phases.

The main responsibilities of the project manager is to facilitate successful execution by:

- Monitoring and controlling issues and risks
- Tracking and measuring the performance and the progress of the project
- Actively communicating with stakeholders, including your teams
- Ensuring efficient change management

# Monitor and control issues and risks: Risk Management vs. Issue Management

<b>Risks</b>	<b>Issues</b>
Risks describe what may happen.	Issues describe what has already occurred.
Risks are uncertain circumstances or events that could stand in the way of an organization achieving its objectives.	Issues are problems that are currently impacting the project's planned execution.
Risks are managed by risk management, which is a systematic approach to identifying, evaluating, and managing risks.	Issues are managed by issue management, which is focused on resolving issues and monitoring progress.
Risk management involves planning.	Issue management involves responding.

## Quiz: Is it an Issue or a Risk?

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1. A database that your system must rely upon for data may not be completed on time. If the delay occurs, your team's rollout schedule will be impacted.
2. You've just identified that a required function was overlooked and needs to be developed.
3. Resources with specific skills required may not be available for the next phase of development.



# Metrics

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**Metrics** = *measurements of a project's progress and/or performance.*

Metrics can be used to track a project's performance in many dimensions (process efficiency, test effectiveness, code quality etc), but the most commonly used metrics for tracking progress against plan are:

- Base measures: the measures from which all other metrics are calculated.
- Cost and schedule metrics (control metrics): measures the performance against baseline work plan and initial estimates



# Base measures, examples

Budget at Completion (BAC)	The total amount of effort budgeted to complete the project (i.e., all of the tasks). Project baseline budget
Planned Value (PV)	The amount of effort <u>budgeted</u> to complete each of the tasks that were planned to be completed by now.
Earned Value (EV)	EV is the amount of effort <u>budgeted</u> to complete each specific task that is earned once the task is completed.
Actual Cost (AC)	AC is the <u>actual</u> amount of effort spent completing a specific task.
Actual to Date (ATD)	ATD is the actual amount of effort expended completing all work to date, whether complete or in progress.
Estimate to Complete (ETC)	ETC is the <u>forecast</u> or <u>estimated</u> amount of effort required to complete each of the remaining tasks on the project
Estimate at Complete (EAC)	forecasted total effort or ATD + ETC.

# Cost and schedule metrics (control metrics), examples

Acronym	Full Name	Formula	Purpose
<b>CPI</b>	<b>Cost Performance Index</b>	<b><math>EV / AC</math></b>	<b>“Is the project completing tasks within the planned budget?”</b>
<b>SPI</b>	<b>Schedule Performance Index</b>	<b><math>EV / PV</math></b>	<b>“Is the project completing tasks to the planned schedule?”</b>
<b>CV</b>	<b>Cost Variance</b>	<b><math>EV - AC</math></b>	<b>“How close is the project to planned effort or cost?”</b>
<b>SV</b>	<b>Schedule Variance</b>	<b><math>EV - PV</math></b>	<b>“How close is the project to planned schedule?”</b>

# Summary

# Follow the project management principles

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- You must deliver
  - Production of high quality deliverables on time and on budget is your job.
- Knowledge is power
  - Train yourself everyday. Understand the big picture.
  - Know your work, defend your work.
- Communicate actively
  - Advise of issues and risk in a timely and persistent manner.
  - “Management by walking”
- Be truthful
  - Deal only in facts that you have verified first hand. When dealing with information, ask yourself, “How do we know that?”
- Follow methodology
  - Use industry-standard proven methods and processes. Understand the steps/deliverables involved. Learn them and live them.
- Know the people
  - Know your team, be an advocate for them
  - Know the stakeholders and their stake in the project

# Problem solving or non-model behavior

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- "Har du tuklet med den?"