



30 Project Planning Techniques

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PROJECT MANAGEMENT COLLECTION

02

30 Project Planning Techniques



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1

PROJECT CHARTER



Translate an approved need into a clear mandate for the project.

1 PURPOSE & VALUE

A project charter formally authorizes the project and explains why it exists. It translates an approved need into a clear mandate for the team.



PURPOSE: Define the problem or opportunity and the expected benefits.



OBJECTIVES: Set measurable outcomes that show success.



BOUNDARIES: State what is in scope and what is out of scope.



SPONSOR: Name the sponsor who provides funding and visible support.



AUTHORITY: Grant the project manager authority to apply resources within agreed limits.

2 HOW TO APPLY

Prepare the charter early, before detailed planning. Record the key elements and obtain sponsor authorization.

1



Define the need, purpose and measurable objectives.

2



List major deliverables and high-level milestones.

3



State assumptions and key constraints.

4



Identify high-level risks and dependencies.

5



Confirm decision rights and the sponsor's authorization.



CONTROL:

Obtain sponsor authorization before making detailed commitments.

3 INPUTS & EVIDENCE



BUSINESS CASE:

Approved need, strategic alignment and expected benefits.



RELEVANT EVIDENCE:

Market or user research, problem statements, options considered and feasibility summaries.



OWNERS & ROLES:

Named sponsor, proposed project manager and key stakeholders.



SUPPORTING INFORMATION:

Initial scope, success measures, constraints and assumptions.



EXTERNAL DEPENDENCIES:

Key suppliers, partners and regulatory or legal requirements.



SOURCE OWNER:

Business sponsor provides the authorization and is accountable for the charter.

4 PRACTICAL EXAMPLE

Illustrative service launch project charter:



PURPOSE:

Launch a new online service for a pilot group.



OBJECTIVE:

Deliver a pilot for 200 users by 30 June.



KEY DELIVERABLE:

Working service, user support and evaluation report.



SPONSOR AUTHORIZATION:

Planning budget of \$20,000 (not the entire rollout).



BOUNDARIES:

Pilot only. Full rollout, additional regions and marketing are out of scope at this stage.

5 PITFALLS & LIMITS



NOT A DETAILED PLAN:

A charter is not a full schedule or detailed task list.



UNREALISTIC PROMISES:

Avoid commitments without feasibility evidence.



UNCLEAR AUTHORITY:

Do not start without a clear sponsor and decision rights.



MISSING STAKEHOLDERS:

Leaving out key stakeholders can lead to resistance and delays.



CHANGING CONTEXT:

Revisit the charter if the business case, scope or major assumptions change.



LIMITATION:

A charter does not guarantee funding for later phases.

6 ACTIONS & OUTPUTS



CONFIRM OWNER:

Agree the project manager, sponsor and approval date.



REVIEW AND APPROVE:

Check objectives, scope, resources and decision rights, then obtain formal approval.



COMMUNICATE:

Share the charter with key stakeholders and the project team.



REVISIT:

Update the charter when the business case, scope or external conditions change.



OUTPUTS:

Approved project charter, record of authorization and escalation route for major issues.



NEXT STEPS:

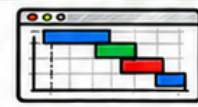
Use the charter to guide detailed planning and to align the team on agreed objectives.



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REQUIREMENTS WORKSHOPS



Elicit and reconcile stakeholder needs through a facilitated working session.

1 PURPOSE & VALUE

A requirements workshop brings decision makers and users together to discuss needs, clarify expectations and agree what the project must deliver.



ELICIT NEEDS:

Capture real user and business needs, not assumptions.



RECONCILE VIEWS:

Surface different perspectives and resolve conflicts early.



AGREE SCOPE:

Produce a shared and validated set of requirements.



REDUCE RISK:

Prevents rework and late changes by building common understanding.

2 HOW TO APPLY



1 Invite the right stakeholders e.g. decision makers, users and subject experts.



2 Prepare realistic scenarios to explore how the solution will be used.



3 Discuss and capture needs. Keep a focus on needs, not solutions.



4 Record conflicts, open questions and clear acceptance criteria.



5 Validate the output with stakeholders and confirm the next steps.



CONTROL:

Do not design solutions in the workshop. Capture needs only.

3 INPUTS & EVIDENCE



STAKEHOLDER LIST:

Decision makers, users and relevant subject experts, with roles and contact details.



BACKGROUND INFORMATION:

Business objectives, current process documentation and pain points.



SCENARIOS:

Realistic use cases or example situations to stimulate discussion.



EXISTING DATA:

Reports, customer feedback, support tickets or audits that show the current situation.



OWNERS:

Project sponsor, facilitator, business representatives and a scribe to capture outputs.

4 PRACTICAL EXAMPLE

Illustrative support service workshop:
The support team asks for faster service. The workshop defines the requirement that customer enquiries must receive an acknowledgement within one business day and records the agreed operating hours.

AGREED REQUIREMENTS (ILLUSTRATIVE):



Acknowledge customer enquiries within one business day.



Support operating hours:
Monday to Friday, 09:00 to 17:00 (local time).



RESULT:

Clear, agreed and measurable requirements that can be included in the project scope and plan.

5 PITFALLS & LIMITS



THE LOUDEST VOICE:

The most vocal stakeholder is not always the highest priority. Use evidence to assess needs.



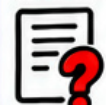
HIDDEN STAKEHOLDERS:

Important users may be missing. Actively seek different views.



UNCLEAR OR MIXED MESSAGES:

Separate needs from proposed solutions to avoid confusion.



UNRESOLVED ISSUES:

Record dissenting views and unanswered questions for follow-up.



LIMIT:

A workshop cannot remove all uncertainty. Some requirements may evolve as more information becomes available.

6 ACTIONS & OUTPUTS



REQUIREMENTS LOG:

Maintain a log with each requirement, source, owner, rationale and validation status.



AGREED OUTPUT:

A prioritised list of validated requirements and acceptance criteria.



ASSIGN OWNERS:

Nominate owners for each requirement and set target dates for validation.



FOLLOW UP:

Review open questions and conflicts, and plan additional sessions if needed.



USE IN NEXT PHASE:

Feed the agreed requirements into solution design, estimation and project planning.



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REQUIREMENTS TRACEABILITY



Connect each approved requirement to its source, deliverable, acceptance evidence and change history.

1 PURPOSE & VALUE

Requirements traceability links each approved requirement to its source, deliverable, acceptance evidence and change history throughout the project.



CLEAR SCOPE:

Shows why the requirement exists and what it delivers.



BETTER CONTROL:

Reveals gaps, overlaps and unnecessary work early.



EASIER VERIFICATION:

Confirms each requirement is tested and accepted.



SHARED UNDERSTANDING:

Helps teams, stakeholders and suppliers stay aligned.

2 HOW TO APPLY

1



Assign a unique, stable ID to each approved requirement.

2



Map the requirement to its source, related work package, deliverable, test(s) and owner.

3



Review the traceability matrix at planning gates to find missing links.

4



Agree owners and keeping the links up to date.

5



Update links after approved changes and re-check for gaps.



CONTROL:

Every approved requirement must have links to all relevant items. Investigate and close any missing links.

3 INPUTS & EVIDENCE



REQUIREMENTS REGISTER:

Approved requirements with unique IDs and current status.



SOURCES:

Business case, stakeholder needs, contracts, regulations or policies that justify each requirement.



DELIVERABLES & WORK PACKAGES:

Products, services or work packages that satisfy the requirement.



ACCEPTANCE EVIDENCE:

Test cases, inspection criteria or demonstrations used to confirm the requirement is met.



OWNERS:

Named person responsible for deliverable, testing and maintaining the links.



CHANGE RECORDS:

Approved change requests and version history for each requirement.

4 PRACTICAL EXAMPLE

Illustrative traceability for a user onboarding requirement:



R-12

Requirement (R-12): New users must complete the online onboarding form.



D-04

Deliverable (D-04): Onboarding form in the customer portal.



T-09

Test (T-09): Verify a new user can submit the form and receive confirmation.



CHANGE IMPACT:

If D-04 is removed, R-12 no longer has a deliverable. This exposes an unmet obligation that must be resolved before approval.



RESULT:

R-12, D-04 and T-09 are linked, owners are assigned, and the link is checked at the next planning gate.

5 PITFALLS & LIMITS



POPULATED SHEET:

A complete spreadsheet does not prove a requirement is correct, approved or tested.



MISSING LINKS:

Requirements with no source, deliverable or test cannot be properly verified.



OUTDATED INFORMATION:

Links not updated after changes create a false view of coverage.



OVERLY DETAILED LINKS:

Excessive detail can be hard to maintain and may slow progress. Keep it practical and useful.



LIMITATION:

Traceability shows coverage not quality. It does not confirm the requirement is valid, achievable or delivers value.

6 ACTIONS & OUTPUTS



CHECK FOR ORPHANS:

Find requirements with missing links and deliverables with no supporting requirement.



INVESTIGATE:

Confirm whether each orphaned item is deliberate, needs a new link or should be removed.



UPDATE LINKS:

After approved changes, revise the traceability matrix and re-check affected items.



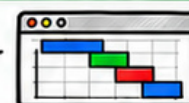
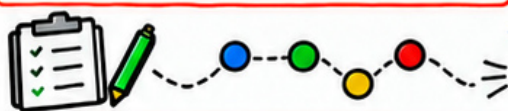
CONFIRM OWNERS:

Ensure responsible owners are assigned for deliverables and tests.



KEY OUTPUTS:

Updated requirements traceability matrix, list of issues to resolve, and a clear view of coverage for the next planning gate.



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AUTOMATED DASHBOARDS



SAVE TIME & STAY ON TRACK



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SCOPE STATEMENT



Set explicit boundaries for the product and the project work.



1 PURPOSE & VALUE

The scope statement describes what the project will deliver and the boundaries of the work. It aligns stakeholders and reduces the risk of scope creep.



CLEAR BOUNDARY:

Defines what is included and excluded.



SHARED UNDERSTANDING:

Aligns the customer, sponsor and delivery team.



BASIS FOR PLANNING:

Informs the schedule, budget, resources and risk assessment.



MANAGES EXPECTATIONS:

Helps avoid disputes and unrealistic requests later.

2 HOW TO APPLY

Prepare a clear scope statement with these elements:

1



DELIVERABLES:

List what will be produced as part of the project.

2



ACCEPTANCE CRITERIA:

State how each deliverable will be judged complete.

3



EXCLUSIONS:

Clearly list what is not included in the project.

4



CONSTRAINTS:

Note fixed limits such as time, budget or technology.

5



ASSUMPTIONS:

Record conditions believed to be true for planning.

6



INTERFACES:

Review dependencies with other teams and owners.

3 INPUTS & EVIDENCE



BUSINESS REQUIREMENTS:

Approved need, objectives and success criteria.



STAKEHOLDER INPUT:

Customer, sponsor and user representatives.



RELATED DOCUMENTS:

Project charter, requirements specification and contracts.



REFERENCE EVIDENCE:

Existing systems, standards and relevant policies.



INTERFACE INFORMATION:

Dependencies with other projects or operational teams.



OWNERS:

Project sponsor approves; product owner confirms scope; project manager maintains it.

4 PRACTICAL EXAMPLE

Illustrative website project scope:



Deliverables:

- Five public pages (home, about, services, news and contact).
- A contact form with email notifications.



Acceptance criteria:

All pages approved by the customer and contact form successfully sends test messages.



Excluded items:

Payment processing and ongoing content writing are not included.



Result:

Clear scope helps the team focus on the defined website and avoids later disputes.

5 PITFALLS & LIMITS



VAGUE EXCLUSIONS:

Unclear boundaries lead to scope creep and extra work requests.



SUBJECTIVE LANGUAGE:

Terms like "high quality" or "user friendly" are open to different interpretations.



MISSING STAKEHOLDER INPUT:

Key owners not consulted can lead to rework and delays.



IGNORING INTERFACES:

Overlooking dependencies with other teams can cause conflicts.



LIMITATION:

The scope statement may need updates as the project progresses. Use change control for any additions.

6 ACTIONS & OUTPUTS



DRAFT SCOPE STATEMENT:

Write and review the scope using the elements in panel 2.



VALIDATE WITH OWNERS:

Confirm with the sponsor, product owner and key stakeholders.



PUBLISH BASELINE:

Obtain formal approval and share the scope statement with the project team.



MANAGE CHANGES:

Route proposed additions or modifications through the agreed change control process.



KEY OUTPUTS:

Approved scope baseline, list of deliverables and acceptance criteria, exclusions, constraints and assumptions.



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WORK BREAKDOWN STRUCTURE



Decompose the total approved scope into a deliverable-oriented hierarchy.



① PURPOSE & VALUE

Break the total approved scope into a deliverable-oriented hierarchy of smaller components called work packages.



CLARIFIES SCOPE:

Shows exactly what will be delivered and what is out of scope.



IMPROVES PLANNING:

Provides a clear basis for estimates, scheduling and resource needs.



SUPPORTS ACCOUNTABILITY:

Each work package can have an owner and acceptance criteria.



BUILDS SHARED UNDERSTANDING:

Gives the project team and stakeholders a common view of the total work.

② HOW TO APPLY



Start with the total approved scope and identify the main deliverables.



Break each deliverable into smaller components until you reach work packages.



Apply the 100% rule: include all work needed with no overlap and no gaps.



Include management work, quality activities and external interfaces (e.g. suppliers).



Review and agree the WBS with key stakeholders.



CONTROL:

The WBS must be 100% of the approved scope with no overlap.

③ INPUTS & EVIDENCE



APPROVED SCOPE:

Project charter, scope statement and any agreed scope changes.



REQUIREMENTS & EVIDENCE:

Business requirements, technical requirements and acceptance criteria for each deliverable.



STAKEHOLDERS & OWNERS:

Sponsor, key stakeholders and a proposed owner for each work package.



EXTERNAL INFORMATION:

Supplier contracts, regulatory requirements and external interfaces.



BASELINE EVIDENCE:

Agreed scope documents, assumption and constraint logs, and reference architectures where relevant.

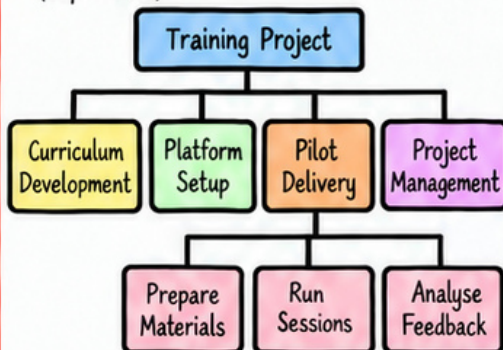


PROJECT RECORDS:

Decisions, meeting notes and previous project documents.

④ PRACTICAL EXAMPLE

Illustrative training project WBS (top levels):



INTERPRETATION:

The pilot deliverable is broken down into specific work packages for materials, sessions and feedback analysis. This is an illustrative example only.

⑤ PITFALLS & LIMITS



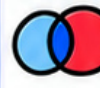
NOT A SCHEDULE:

A WBS is not a task list or calendar. It shows what is delivered, not when it happens.



INCOMPLETE SCOPE:

Missing work packages create gaps. Use the 100% rule to check completeness.



OVERLAP:

Avoid duplicate work packages and unclear boundaries between items.



OMIT HIDDEN WORK:

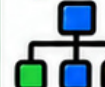
Include coordination, approvals, quality and project management work, even if not visible to end users.



TOO MUCH DETAIL:

Do not decompose to an unmanageable level. Stop when work packages are planable.

⑥ ACTIONS & OUTPUTS



FINALIZE THE WBS:

Create and agree the deliverable-oriented hierarchy with all key stakeholders.



ASSIGN OWNERS:

Give each work package a clear accountable owner.



LINK TO COSTS:

Connect each work package to estimated cost and resource needs.



DEFINE ACCEPTANCE EVIDENCE:

Specify measurable acceptance criteria for each work package.



PRODUCE OUTPUTS:

Final WBS, work package dictionary, owner list, and links to cost estimates and acceptance evidence.



USE FOR NEXT STEPS:

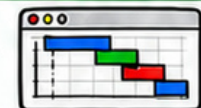
Input to estimating, scheduling, risk planning and progress tracking.



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Explain the content and completion conditions of each work package.



1 PURPOSE & VALUE

The WBS dictionary describes each work package in detail, so everyone understands what is included, how it is completed, and who is responsible.



CLARITY:

Explains the scope, deliverables and completion conditions.



CONSISTENCY:

Aligns the team and reduces misunderstandings.



BETTER PLANNING:

Provides the basis for estimating, scheduling and resource allocation.



CONTROL:

Helps track progress and confirm that deliverables are accepted.

2 HOW TO APPLY

Create a dictionary entry for each work package in the approved WBS. Include the required information and keep it clear and concise.

1



Assign a unique document ID for the work package.

2



Write a clear description of the work and deliverables.

3



Define what is in scope and what is out of scope (boundaries).

4



Name the owner responsible for delivery.

5



Record key assumptions and dependencies.

6



State measurable acceptance criteria.

7



Explain the estimate basis (e.g. method, inputs, unit).

3 INPUTS & EVIDENCE



APPROVED WBS:

List of work packages with unique codes and hierarchy.



RELEVANT DOCUMENTS:

Project scope, requirements, technical specifications and standards.



OWNERS & STAKEHOLDERS:

People who will do the work and people who will accept the results.



REFERENCE INFORMATION:

Existing plans, design documents, contracts and organizational policies.



EVIDENCE NEEDED:

Completed entry for each work package, reviewed and agreed by the owner and the acceptor.

4 PRACTICAL EXAMPLE

Illustrative WBS dictionary entry for work package WP-3.2.



ID:

WP-3.2



DESCRIPTION:

Deliver two pilot sessions and produce an approved feedback report.



DELIVERABLES:

Two pilot sessions with attendance records and a feedback report approved by the project manager.



BOUNDARIES:

Venue booking is included in another work package and is not part of WP-3.2.

5 PITFALLS & LIMITS



VAGUE DESCRIPTIONS:

A label such as "testing" is insufficient. Describe the actual work and deliverables.



DUPLICATE OWNERSHIP:

Do not assign the same work package to more than one owner.



UNCLEAR BOUNDARIES:

Overlapping scope leads to gaps, rework and conflict. Be explicit about what is in and out of scope.



MISSING ASSUMPTIONS OR DEPENDENCIES:

Important constraints may be ignored, affecting estimates and the schedule.

6 ACTIONS & OUTPUTS



1. DEVELOP ENTRIES:

Create or update the dictionary for all work packages using the required information.



2. REVIEW WITH PEOPLE DOING AND ACCEPTING THE WORK:

Check that descriptions, boundaries and acceptance criteria are clear and realistic.



3. AGREE AND FINALIZE:

Resolve open questions and gain agreement from owners and acceptors.



4. OUTPUTS:

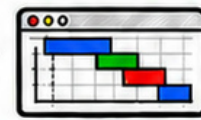
A complete and approved WBS dictionary, stored with the project documents and used for estimating, scheduling and progress tracking.



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DELIVERABLE ACCEPTANCE PLANNING



Define how stakeholders will decide whether a deliverable is complete.

1 PURPOSE & VALUE

Defines how stakeholders will decide whether a deliverable is complete and ready for use.



CLARITY:

Sets clear, measurable acceptance criteria.



ALIGNMENT:

Ensures the right stakeholders agree on what good looks like.



QUALITY:

Confirms the deliverable meets agreed requirements and is fit for purpose.



REDUCES DISPUTES:

Minimizes rework and misunderstanding through objective evidence.



SMOOTHER HANDOVER:

Supports a controlled and well-documented transition to operations or the next phase.

2 HOW TO APPLY

Before execution, agree and document:

1



MEASURABLE CRITERIA:

Define specific, testable conditions for acceptance.

2



REQUIRED EVIDENCE:

List the documents, reports or test results needed.

3



REVIEWER:

Identify who will check the evidence.

4



APPROVAL AUTHORITY:

Confirm who can formally accept the deliverable.

5



REVIEW WINDOW:

Set the time allowed for review, feedback and correction before approval.



CONTROL:

No deliverable is accepted until all agreed criteria are met and evidence is verified.

3 INPUTS & EVIDENCE



REQUIREMENTS:

Approved scope, acceptance criteria and quality standards for the deliverable.



DELIVERABLE PACKAGE:

Completed output ready for review.



EVIDENCE:

Test results, inspection reports, demonstrations, user manuals or other agreed proof.



OWNERS & ROLES:

Reviewer(s) and approval authority (e.g., sponsor, product owner, operations team).



RELATED INPUTS:

Change log, open issues / defects, dependencies and operational readiness items.



BASELINE & RECORDS:

Approved plan and handover record to be updated after acceptance.

4 PRACTICAL EXAMPLE

Illustrative deliverable: Data migration package to operations.



ACCEPTANCE CRITERIA:

Reconciliation passes, all exceptions are resolved or formally approved, and all critical data is available.



EVIDENCE:

Reconciliation report, list of exceptions with approved resolutions, and completed handover record.



APPROVAL:

Operations team reviews the evidence and signs the handover record.



RESULT:

The migration package is accepted after reconciliation passes, exceptions are resolved or approved, and operations signs the handover record. (Illustrative example)

5 PITFALLS & LIMITS



COMPLETION ≠ EFFORT:

Time spent or percentage complete is not the same as meeting acceptance criteria.



SILENCE IS NOT APPROVAL:

No response is not automatic acceptance unless this is formally agreed in advance.



VAGUE CRITERIA:

Unclear or subjective criteria lead to disputes and rework.



MISSING EVIDENCE:

Approval can be delayed if required evidence is incomplete or unavailable.



CHANGING REQUIREMENTS:

Late changes may invalidate previous acceptance and require re-review.

6 ACTIONS & OUTPUTS



DEFINE AND AGREE:

Set measurable criteria, evidence list, reviewer, approval authority and review window before work begins.



LINK AND TRACK:

Track each acceptance criterion to specific evidence and an owner.



SCHEDULE TIME:

Allow enough time for review, feedback and correction before the planned handover date.



RESOLVE ISSUES:

Log and address any exceptions or defects, and obtain formal approval for resolutions.



OUTPUTS:

Documented acceptance plan, review records, signed handover record and updated project records (e.g., change log).



MILESTONE MAPPING



Identify and plan zero-duration checkpoints that mark key outcomes or decisions.



1 PURPOSE & VALUE

Milestone mapping identifies meaningful zero-duration checkpoints that mark the completion of key outcomes or decisions.



CLEAR DIRECTION:

Highlights what must be achieved and when.



BETTER CONTROL:

Supports progress tracking and timely decision-making.



SHARED UNDERSTANDING:

Aligns the team and stakeholders on key points in the project.



FOCUSED EFFORT:

Concentrates attention on delivering agreed outcomes, not just completing tasks.

2 HOW TO APPLY

Follow these steps to create a clear milestone map for your project.

1



List major approvals, decisions and external dates that must be met.

2



Define the evidence required for each milestone.

3



Link each milestone to its predecessor work or deliverables.

4



Agree the target date and confirm with relevant stakeholders.

5



Place the milestones on the project timeline and review regularly.



CONTROL:

A milestone has zero duration and is achieved only when the defined evidence is complete.

3 INPUTS & EVIDENCE



KEY INPUTS:

Project scope, schedule, key approvals, contracts, regulatory dates and stakeholder commitments.



MILESTONE EVIDENCE:

Specific items that confirm the milestone is achieved, such as signed approvals, delivered outputs, test results or go-nogo decisions.



OWNERS:

Assign a clear owner responsible for providing the evidence and confirming completion.



DEPENDENCIES:

Identify predecessor tasks or deliverables that must be finished before the milestone.



SOURCE DOCUMENTS:

Approved plans, meeting minutes, sign-off records and relevant external communications.

4 PRACTICAL EXAMPLE

Illustrative project: Launch a pilot service. "Pilot readiness" is a milestone reached only after security review, training and support sign-off are complete.

REQUIRED EVIDENCE:



Security review completed and approved.



User training delivered and attendance confirmed.



Support team sign-off received.



MILESTONE:

Pilot readiness (zero duration) occurs on the date all three evidence items are complete.

5 PITFALLS & LIMITS



NOT AN ACTIVITY:

A milestone marks an event, not a multiweek activity or a period of work.



ARBITRARY DATES:

Avoid setting dates without checking feasibility, resource availability and dependencies.



MISSING EVIDENCE:

Unclear or incomplete evidence leads to disputes and false progress.



CHANGING SCOPE:

Frequent scope changes can make milestone dates unreliable. Update the map when scope changes.



OVERUSE:

Too many milestones can clutter the plan and reduce focus. Keep only meaningful checkpoints.

6 ACTIONS & OUTPUTS



ASSIGN OWNERS:

Nominate a responsible owner for each milestone and confirm the evidence they will provide.



SET FORECAST DATES:

Agree and record forecast dates for each milestone.



COMPARE WITH BASELINE:

Show forecast dates beside the approved baseline to highlight slippage or early achievement.



MONITOR AND UPDATE:

Review milestone status regularly and update forecast dates based on latest evidence.



OUTPUTS:

Milestone map with owners, evidence and forecast vs baseline dates, used for tracking and reporting.



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ACTIVITY DECOMPOSITION



Convert work packages into executable activities with observable completion.



1 PURPOSE & VALUE

Break each work package into smaller activities that can be assigned, scheduled, tracked and completed, with clear and observable outputs.



EXECUTABLE ACTIVITY:

A specific piece of work that delivers a tangible result.



OBSERVABLE COMPLETION:

You can verify it is finished using defined acceptance criteria.



VALUE:

Improves planning realism, clarity of responsibility and progress tracking.



SCOPE LINK:

Activities roll up to the work package and then to the approved project scope.

2 HOW TO APPLY

1



REVIEW THE WORK PACKAGE:

Understand the deliverable, objectives and acceptance criteria.

2



ASK WHAT WORK PRODUCES IT:

List the main steps needed to create the deliverable.

3



DEFINE START AND FINISH:

Set clear entry and completion conditions for each activity.

4



SIZE FOR MONITORING:

Keep activities at a practical level so progress can be tracked and managed.

5



SEQUENCE AND CHECK:

Order the activities and confirm they collectively deliver the work package output.

3 INPUTS & EVIDENCE



WORK PACKAGE DESCRIPTION:

Approved scope, deliverable definition and acceptance criteria.



REQUIREMENTS & DESIGNS:

Functional and technical requirements, reference designs, standards and constraints.



KEY STAKEHOLDERS:

Subject matter experts, team members and the work package owner.



TOOLS & INFORMATION:

Templates, methods, historical information and applicable guidelines.



EVIDENCE NEEDED:

Approved work package, input documents and named owners to define and validate the activities.

4 PRACTICAL EXAMPLE

Illustrative example: Reporting package.



1. AGREE FIELDS:

Confirm the data fields to be included and document the definition.



2. CONFIGURE EXTRACTION:

Set up the data extraction process according to the agreed specification.



3. VALIDATE TOTALS:

Check that extracted totals match source data and investigate any differences.



4. APPROVE THE REPORT:

Submit the report for review and obtain formal sign-off to complete the package.

5 PITFALLS & LIMITS



TOO MUCH DETAIL:

Excessive breakdown creates unnecessary maintenance burden and makes plans hard to manage.



VAGUE ACTIVITIES:

Unclear descriptions hide ownership, make progress difficult to verify and obscure dependencies.



MISSING DEPENDENCIES:

Overlooking logical links can lead to rework and delays.



INCORRECT SIZING:

Activities that are too large are hard to monitor; too small create overhead with little added value.



SCOPE CREEP:

Adding activities outside the work package can dilute focus, keep the breakdown aligned to the approved scope.

6 ACTIONS & OUTPUTS



ASSIGN OWNERS:

Allocate a responsible person for each activity.



DOCUMENT ACTIVITY DETAILS:

Record description, start and finish conditions, and key inputs.



MAINTAIN TRACEABILITY:

Link each activity back to the parent work package and approved scope.



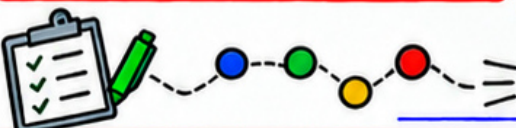
REVIEW AND VALIDATE:

Confirm the list is complete, sequence is logical and owners agree the plan.



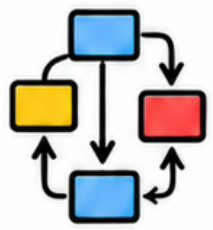
OUTPUTS:

Approved activity list with owners, clear completion criteria and traceability to the work package and project scope.





DEPENDENCY MAPPING



Make logical relationships and external inputs visible before dates are promised.

1 PURPOSE & VALUE

Dependency mapping shows how work packages relate and which external inputs are needed, so dates are realistic and risks are visible early.



CLARITY:

Reveals what must happen before, after and in parallel.



BETTER PLANNING:

Highlights critical paths and potential delays.



COORDINATION:

Shows interface points and responsible owners.



RISK REDUCTION:

Exposes assumptions and external dependencies early.



REALISTIC DATES:

Supports achievable schedules based on agreed logic.

2 HOW TO APPLY



List all work packages in scope.



Identify predecessors and successors for each.



Distinguish mandatory logic (must happen) from discretionary logic (preferred sequencing).



Record interface owners for external inputs, handovers and approvals.



Capture assumptions and conditions for each dependency.



CONTROL:

Do not create dependencies without a clear reason and owner. Validate the logic with work owners.

3 INPUTS & EVIDENCE



PROJECT SCOPE:

Work breakdown structure and work package descriptions.



RELEVANT EVIDENCE:

Design outputs, technical specifications, data requirements and external supplier commitments.



OWNERS & STAKEHOLDERS:

Work package owners, interface owners and external data or service providers.



EXISTING INFORMATION:

Approved plans, contract terms, implementation approach and ongoing risk or issue logs.



DEPTH & DETAIL:

Enough detail to identify real dependencies, while avoiding unnecessary complexity.

4 PRACTICAL EXAMPLE

Illustrative example for a software release:



Stable build available



Test data delivered

Both are required before User Acceptance Testing (UAT) starts.

UAT depends on a stable build of the software.

UAT also depends on test data from the data owner.

The data owner commits to a delivery milestone, after which UAT can start.

ILLUSTRATIVE DEPENDENCIES:

- UAT cannot start until the build is stable.
- UAT cannot start until test data is delivered.
- The data owner is responsible for the delivery milestone.

5 PITFALLS & LIMITS



INVENTING CONSTRAINTS:

Do not create hard dependencies to force a preferred date.



RESOURCE VS TECHNICAL:

Do not confuse shared resources with technical dependencies. Shared resources may cause scheduling conflicts but are not always logical dependencies.



MISSING INPUTS:

Overlooking external inputs, approvals or interface work leads to unrealistic dates.



CIRCULAR LOGIC:

Avoid circular dependencies where A depends on B and B depends on A.



INCOMPLETE DETAIL:

High-level maps can miss important links. Refine and validate with work owners.

6 ACTIONS & OUTPUTS



VALIDATE WITH OWNERS:

Review the dependency map with work package and interface owners to confirm the logic.



CHECK FOR GAPS:

Look for missing links, external inputs and handoffs between teams or suppliers.



TEST THE LOGIC:

Check for circular dependencies and unreasonable sequences.



AGREE UPDATES:

Refine the map based on feedback and record any changes with rationale.



USEFUL OUTPUTS:

A dependency map or network diagram showing predecessors, successors, dependency type, owners and key assumptions.



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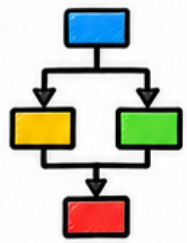
CARD 10 OF 30

30 Project Planning Techniques





CRITICAL PATH PLANNING



Find the longest duration path that determines the modeled finish date.

1 PURPOSE & VALUE

Critical path planning identifies the longest duration path through the activity network, which determines the modeled project finish date.



FOCUS:

Find driving activities that cannot slip without delaying the finish date.



CLARITY:

Shows the sequence and dependencies between activities.



PRIORITISATION:

Highlights critical and near-critical work for monitoring and control.



BETTER DECISIONS:

Supports realistic planning, resource allocation and risk management.

2 HOW TO APPLY

Follow these steps to perform critical path planning.



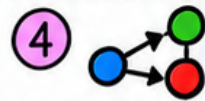
1 Build a complete activity network with logical dependencies.



2 Estimate activity durations using agreed methods.



3 Calculate early and late dates (ES, EF, LS, LF) for each activity.



4 Identify the critical path (no total float) and near-critical paths.



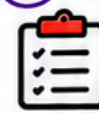
5 Inspect driving activities and remaining durations.



CONTROL:

Recalculate the critical path whenever the schedule is updated.

3 INPUTS & EVIDENCE



ACTIVITY INFORMATION:

Approved scope, work breakdown structure (WBS), activity list and descriptions.



DEPENDENCIES:

Predecessors, successors and relationship types with agreed logic.



DURATION ESTIMATES:

Activity duration estimates with basis, assumptions and constraints.



RESOURCES & CONSTRAINTS:

Resource availability, calendar rules, required dates and other constraints.



OWNERS:

Project schedule lead to build and maintain the network, activity owners to validate durations and dependencies.

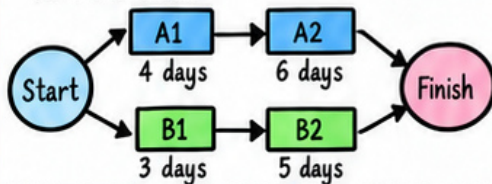


EVIDENCE:

The current schedule file, data dictionary, estimation basis and change log.

4 PRACTICAL EXAMPLE

Illustrative network with a common start and finish:



Path A total duration: $4 + 6 = 10$ days

Path B total duration: $3 + 5 = 8$ days

RESULT: Path A is critical.



INTERPRETATION:

Path A is the longest duration path, so the modeled finish date is 10 days from the start.



NOTE:

This is an illustrative example only. Actual networks will have more activities and paths.

5 PITFALLS & LIMITS



CALENDAR RULES:

Different working calendars, public holidays or shift patterns can change the critical path.



CONSTRAINTS:

Imposed start or finish dates and other constraints can change which path is critical.



RESOURCE LIMITS:

Limited resource availability can delay activities and create a different critical path.



NOT PERMANENTLY FIXED:

The critical path can change whenever durations, logic, resources or constraints change.



MODELLING ASSUMPTIONS:

Incomplete or unrealistic dependency logic or duration estimates can give a misleading result.

6 ACTIONS & OUTPUTS



REVIEW DRIVING LOGIC:

Check the critical and near-critical paths and understand why they are driving the finish date.



UPDATE AND RECALCULATE:

Whenever activity durations, dependencies, resources or constraints change, recalculate the critical path.



ENGAGE OWNERS:

Discuss remaining durations with activity owners and confirm any changes to logic or constraints.



OUTPUTS:

Updated schedule showing the current critical path, early and late dates, total float and a list of near-critical activities.



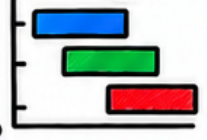
USE FOR DECISIONS:

Focus monitoring, risk management and recovery actions on critical and near-critical activities.





THREE-POINT ESTIMATING



Estimate activity duration using optimistic, most likely and pessimistic values.

1 PURPOSE & VALUE

Three-point estimating expresses duration uncertainty using optimistic (O), most likely (M) and pessimistic (P) estimates.



CAPTURES UNCERTAINTY:

Reflects possible variation in how long work may take.



BETTER PLANNING:

Produces a realistic estimate than a single value.



SUPPORTS RISK AWARENESS:

Highlights the range of outcomes for the schedule.



USE EARLY:

Helpful for activities with significant uncertainty or limited historical data.



SAME SCOPE & ASSUMPTIONS:

All three estimates must cover the same scope, resources and assumptions.

2 HOW TO APPLY

Use a documented estimation model.

PERT WEIGHTED ESTIMATE:

$$E = (O + 4M + P) / 6$$

1



Define the activity, scope and assumptions.

2



Assess O, M and P with relevant experts using the same scope.

3



Choose and document the estimation model (e.g. PERT weighted estimate).

4



Calculate the expected duration and record the range (O to P).

5



Review and agree the estimate with stakeholders.



CONTROL:

Use the same scope, units and assumptions for all three values.

3 INPUTS & EVIDENCE



ACTIVITY DESCRIPTION:

Clear scope, deliverables and acceptance criteria.



SUBJECT MATTER EXPERTS:

Team members with relevant experience provide O, M and P.



HISTORICAL DATA:

Past similar activities, lessons learned and performance records.



ASSUMPTIONS AND CONSTRAINTS:

Resource availability, dependencies and any known risks.



OWNER:

Activity owner facilitates estimation and confirms inputs.



EVIDENCE TO KEEP:

Workshop notes, estimate rationale and agreed values for O, M and P.

4 PRACTICAL EXAMPLE

Illustrative estimate for a design activity (using the PERT weighted estimate):

Optimistic (O): 4 days

Most likely (M): 7 days

Pessimistic (P): 16 days

$$E = (4 + 4 \times 7 + 16) / 6$$

$$= (4 + 28 + 16) / 6$$

RESULT: 8 days



INTERPRETATION:

The expected duration is 8 days, with a possible range from 4 to 16 days, depending on how conditions unfold. This is an illustrative example only.

5 PITFALLS & LIMITS



NOT A PROMISE:

The weighted mean is not a guaranteed completion date.



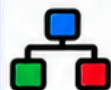
NOT A CONFIDENCE LEVEL:

It does not represent a specific percentile or probability of completion.



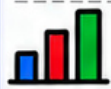
AVOID FALSE PRECISION:

Estimates are approximate and should not be given to more detail than the uncertainty justifies.



MODEL DEPENDENCY:

Different estimation models can give different results. Document the model used.



CHANGING CONDITIONS:

If scope, resources or risks change, revisit the estimate.

6 ACTIONS & OUTPUTS



RECORD THE ESTIMATE:

Save O, M, P, the chosen model, assumptions and rationale in the schedule or estimation log.



SHARE AND AGREE:

Review the estimate with stakeholders and obtain agreement.



USE IN SCHEDULE:

Enter the expected duration in the schedule and retain the O to P range for reference.



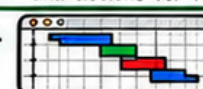
RUN SCHEDULE RISK ANALYSIS:

When a confidence date is needed, use schedule risk analysis (e.g. Monte Carlo) with the three-point estimates.



OUTPUTS:

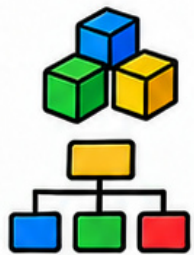
Documented estimate, range, estimation model, assumptions and actions for follow-up.



BOTTOM-UP ESTIMATING



Build a total estimate from detailed estimates of manageable work components.



① PURPOSE & VALUE

Bottom-up estimating builds a total from detailed estimates of manageable work components (work packages).



REALISTIC TOTAL:

Uses specific work details to improve estimate accuracy.



BETTER CONTROL:

Reveals cost and effort drivers early, at a granular level.



CLEAR BASIS:

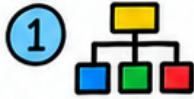
Links the estimate to the work breakdown structure (WBS) and project scope.



SUPPORTS PLANNING:

Identifies resource needs, procurement and sequencing before commitment.

② HOW TO APPLY



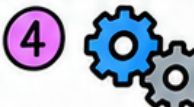
Break the scope into work packages in the WBS.



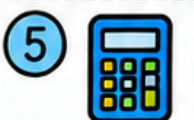
Estimate quantities, rates and effort for each work package.



Add indirect costs consistently, such as overheads and support.



Check for overlap and exclusions between packages.



Sum the package estimates to get the project total, before separately defined reserves.

③ INPUTS & EVIDENCE



WORK BREAKDOWN STRUCTURE:

Approved scope broken into work packages with clear descriptions and boundaries.



TECHNICAL INFORMATION:

Designs, specifications, quantities and rates from subject matter experts.



RESOURCE & SUPPLIER INPUT:

Estimates from team members, contractors and suppliers with relevant experience.



HISTORICAL DATA:

Past project records, cost databases and productivity rates where relevant.



OWNERS:

Package owners, cost estimator, engineering, procurement and finance provide and review inputs.

④ PRACTICAL EXAMPLE

Illustrative project with three work packages:

	Package A - detailed design:	\$8,000
	Package B - construction:	\$12,000
	Package C - testing:	\$5,000

Direct cost total (before reserves and overhead):

$$\begin{aligned} &\$8,000 + \$12,000 + \$5,000 \\ &= \$25,000 \end{aligned}$$



INTERPRETATION:

The total of the work-package estimates is \$25,000, before separately defined reserves and overhead costs.

⑤ PITFALLS & LIMITS



INCOMPLETE SCOPE:

Detailed numbers can still be wrong if the scope is missing or unclear.



DOUBLE COUNTING:

Avoid counting the same work in more than one package.



INCONSISTENT ASSUMPTIONS:

Using different rates, units or methods reduces reliability.



OMITTED INDIRECT COSTS:

Leaving out overhead or support costs understates the total.



LIMITATION:

Time-consuming to develop and maintain. Accuracy depends on the quality of inputs and a well-defined WBS.

⑥ ACTIONS & OUTPUTS



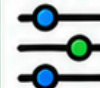
RECONCILE TO WBS:

Check that every work package is included, with no overlap or exclusions, and that totals roll up to the project scope.



DOCUMENT ASSUMPTIONS:

Record quantities, rates, sources and any constraints for each package.



DEFINE RANGES:

Note estimate range or uncertainty for key packages where appropriate.



SET REVIEW DATES:

Agree when estimates will be updated as design matures or new information becomes available.

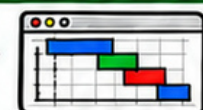


OUTPUTS:

Work-package estimates, total project estimate, and a consolidated assumption log for future updates.



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ANALOGOUS ESTIMATING



Estimate the effort or cost of new work using a comparable past project.

1 PURPOSE & VALUE

Uses a similar past project (an analogy) to provide a quick, early estimate with explicit adjustments for key differences.



FAST START:

Provides a realistic early estimate when detailed information is limited.



BUILDS ON EXPERIENCE:

Uses real project data and lessons learned.



SUPPORTS DECISIONS:

Helps compare options and assess feasibility.



SETS A BASELINE RANGE:

Gives an initial estimate to plan and refine as more evidence becomes available.

2 HOW TO APPLY

Select a relevant past project and adjust for key differences in scope, location, complexity and productivity.



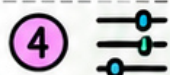
Find a comparable project from your historical data.



Compare scope, location, complexity and productivity.



Identify differences and decide adjustment factors (e.g. more pages, higher review effort, new skills).



Apply adjustments to the analogous effort or cost.



Record assumptions and the level of uncertainty.



CONTROL:

Do not simply copy the past value. Adjust for differences and document your reasoning.

3 INPUTS & EVIDENCE



HISTORICAL PROJECT DATA:

Actual effort or cost, scope (description, size), quality level and outcomes from similar work.



DIFFERENCE INFORMATION:

Known changes in scope, location, complexity, technology, team capability and constraints.



OWNERS:

Project manager, subject-matter experts and team members who delivered the past project.



SOURCES:

Project files, timesheets, post-project reviews and lessons learned.



EVIDENCE QUALITY:

Check data is reliable, recent and truly comparable. Note any gaps or uncertainty.

4 PRACTICAL EXAMPLE

Illustrative example for a technical guide:

A 40-page guide required 80 hours and had standard review and few illustrations. A new guide is similar but needs more review and more illustrations.

Base effort (from past project): 80 hours

Adjustments:

- Review complexity: +25%
- More illustrations: +25%

Adjusted estimate:

$$80 \text{ hours} \times (1 + 0.25 + 0.25) \\ = 80 \times 1.5 = 120 \text{ hours}$$

RESULT: 120 hours (illustrative)



INTERPRETATION:

A comparable project gives a useful starting point, adjusted for known differences.

5 PITFALLS & LIMITS



NOT TRULY COMPARABLE:

Projects may look similar but differ in important ways. Check and justify the similarity.



IGNORING CHANGED CONDITIONS:

Simple copying ignores differences in scope, complexity, location, team skills or tools.



FALSE PRECISION:

An exact number hides uncertainty. Use a range and state assumptions.



OUTDATED DATA:

Old or poor-quality records can mislead. Use recent and reliable evidence.



LIMITED APPLICABILITY:

Less useful for unique, first-of-a-kind or highly innovative work with no good comparisons.

6 ACTIONS & OUTPUTS



BUILD THE ESTIMATE:

Apply justified adjustments and record all assumptions, data sources and rationale.



USE A RANGE:

Provide a low-high range to reflect uncertainty, not a single point estimate.



REFINE OVER TIME:

Replace early assumptions with better evidence as planning matures.



INVOLVE EXPERTS:

Review the estimate with people who know the past project and the new requirements.



KEY OUTPUTS:

Estimated effort or cost range, assumptions log and comparison notes for future reference.



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PARAMETRIC ESTIMATING



Estimate work from a defensible relationship between a quantity and a rate.

1 PURPOSE & VALUE

Parametric estimating uses a proven rate to predict effort, duration or cost from the size of the work, when similar past work exists.



QUICK AND OBJECTIVE:

Provides a consistent and repeatable estimate.



BASED ON REAL DATA:

Uses actual performance from comparable work.



GOOD FOR EARLY PLANS:

Useful when detailed information is limited.



SCALES EASILY:

Estimate grows or shrinks with the quantity.



APPLY SAME UNITS:

Multiply like units (e.g. hours per item, cost per user).

2 HOW TO APPLY

Use a simple formula with a validated unit rate and adjust for non-linear work.

$$\text{Estimate} = \text{Quantity} \times \text{Unit Rate} + \text{Separate Setup / Special Work}$$

1



Select a validated unit rate from similar past work.

2



Check that the rate applies to your scope and is within its range.

3



Multiply the quantity by the unit rate using like units.

4



Add any non-linear setup or special work separately (e.g. environment setup).



CONTROL:

Only use a rate that matches the work content and conditions.

3 INPUTS & EVIDENCE

Use reliable evidence and the right owners to support the unit rate and quantity.



HISTORICAL DATA:

Actual effort, duration or cost from completed, similar work.



UNIT RATE SOURCE:

Agreed rate with description of what it includes and excludes.



QUANTITY INPUT:

Number of items, size measure or other count of the work.



KEY OWNERS:

Project manager, subject matter expert and finance or estimating support to validate the data.



EVIDENCE QUALITY:

Confirm data is recent, relevant and from comparable conditions.

4 PRACTICAL EXAMPLE

Illustrative estimate for testing effort:

Observed rate: 2 hours per test case

Comparable cases: 60 test cases

Setup work: estimated separately

$$\text{Estimate} = \text{Quantity} \times \text{Unit Rate} + \text{Separate Setup}$$

$$\begin{aligned} \text{Estimate} &= 60 \times 2 \text{ hours} + \text{Setup} \\ &= 120 \text{ hours} + \text{Setup} \end{aligned}$$



INTERPRETATION:

Sixty comparable test cases suggest 120 hours of testing, plus any separately estimated environment setup or other non-linear work.

5 PITFALLS & LIMITS



WRONG COMPARISON:

The model fails if new work is more complex than the historical examples used for the rate.



DIFFERENT SCOPE:

The rate may include different activities or assumptions.



OUTSIDE VALID RANGE:

Do not use a rate beyond the conditions, size or complexity for which it was validated.



MISSING SPECIAL WORK:

Setup, migration or one-off tasks are not linear and must be estimated separately.



DATA QUALITY:

Inaccurate, outdated or weak evidence can lead to misleading estimates.

6 ACTIONS & OUTPUTS



CHECK SAMPLE QUALITY:

Review how the unit rate was derived, data recency, sample size and similarity to your work.



CONFIRM APPLICABILITY:

Ensure the rate, units and assumptions match your scope and are within the validated range.



CLARIFY EXCLUSIONS:

Agree what the rate does not include and estimate excluded work separately.



OUTPUTS:

Documented estimate with unit rate, quantity, assumptions, exclusions and any setup work.



USE IN PLANNING:

Feed the estimate into the schedule and cost plan and review as better information becomes available.



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30 Project Planning Techniques





ROLLING WAVE PLANNING



Plan near-term work in detail while keeping distant work at a coarser level.

1 PURPOSE & VALUE

Rolling wave planning develops near-term work in detail while keeping distant work at a higher level, elaborating it as more information becomes available.



FOCUSED PLANNING:

Detailed plans for the next wave; later work held as planning packages.



IMPROVED ACCURACY:

Uses latest information as uncertainty reduces.



FLEXIBILITY:

Allows change without constant re-planning.



PRESERVED CONTROL:

Maintains overall scope, baseline and governance throughout the project.

2 HOW TO APPLY

1



Set the initial planning horizon for detailed work and the frequency of reviews.

2



Create planning packages for future work at a coarser level.

3



Elaborate the next wave in more detail as information improves.

4



Update estimates, risks and dependencies at each review point.

5



Repeat the cycle throughout the project.



CONTROL:

Preserve scope and baseline controls when elaborating each wave.

3 INPUTS & EVIDENCE



SCOPE INFORMATION:

Agreed scope, product description and high-level requirements.



REQUIREMENTS SOURCES:

Stakeholder input, workshops, research and discovery results.



OWNERS & ROLES:

Project manager leads; delivery team provides detail; product owner confirms priorities.



EVIDENCE NEEDED:

Latest validated information, unresolved requirements and assumptions.



REVIEW INPUTS:

Updated risks, dependencies, constraints and decision logs.

4 PRACTICAL EXAMPLE

Illustrative project to develop a new system:



The team details the next four weeks of work with tasks, resources and estimates.



Later releases are kept as planning packages at a higher level until discovery resolves their requirements.



At each review point, the next wave is elaborated and re-estimated using the latest information.



This focuses effort on near-term delivery while keeping a clear view of future work.

5 PITFALLS & LIMITS



NOT A FREE PASS:

Rolling wave planning is not permission to improvise without objectives or governance.



HIDDEN WORK:

Do not use it to avoid planning future work or to keep scope unclear.



LOSS OF CONTROL:

Poor review discipline can lead to outdated plans and unmanaged dependencies.



OVER-OPTIMISM:

Future work still has uncertainty; treat estimates as progressive, not fixed.



CONTEXT DEPENDENT:

Horizon length and detail level depend on project size, complexity and risk.

6 ACTIONS & OUTPUTS



DEFINE HORIZONS:

Agree the near-term planning horizon and timing of review points.



RECORD ASSUMPTIONS:

Document key assumptions for each planning package.



SET ELABORATION DATES:

Agree and record the date when each planning package will be elaborated in detail.



ENGAGE STAKEHOLDERS:

Confirm priorities and obtain updated information at each review.



OUTPUTS:

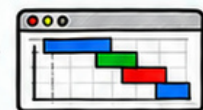
Detailed near-term plan, list of planning packages, assumptions log and scheduled review dates.



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30 Project Planning Techniques



RESOURCE CAPACITY PLANNING



Compare time-phased demand with realistic availability and required skills.

1 PURPOSE & VALUE

Resource capacity planning checks that people with the right skills are available when work is scheduled, using realistic time.



BALANCES DEMAND:

Compares planned work with available capacity.



CONFIRMS SKILLS:

Ensures the needed skills are available at the right time.



PREVENTS OVERLOAD:

Highlights resource conflicts early so dates can be adjusted.



SUPPORTS COMMITMENTS:

Builds a realistic schedule before confirming delivery dates.

2 HOW TO APPLY

- 1 List project roles, required skills and planned work by period.
- 2 Determine realistic availability for each person.
 - account for leave
 - include support duties
 - factor part-time allocation
- 3 Compare time-phased demand with availability and skills.
- 4 Identify overloads or skill gaps.
- 5 Resolve issues by reprioritizing, reassigning, moving work or adding skills before committing dates.



CONTROL:

Do not commit dates while unresolved overloads or skill gaps exist.

3 INPUTS & EVIDENCE



PROJECT SCHEDULE:

Time-phased activities, milestones and dependencies.



RESOURCE INFORMATION:

Team members, roles, required skills and reporting lines.



AVAILABILITY RECORDS:

Working hours, holidays, planned leave and part-time arrangements.



OTHER COMMITMENTS:

Business-as-usual work, support duties and non-project allocations.



OWNERS & SOURCES:

Project manager (overall), resource manager (availability), team leads (skills), HR (leave data) and functional managers (other commitments).

4 PRACTICAL EXAMPLE

Illustrative example for one analyst in the current week:

Available capacity: 24 hours
Assigned project work: 34 hours

Capacity gap = 34 hours - 24 hours

RESULT: 10-hour gap

The analyst is allocated 10 hours more work than available this week.



INTERPRETATION:

Work must be reprioritized, reassigned, moved to a later period or additional support provided before committing dates.

5 PITFALLS & LIMITS



HEADCOUNT IS NOT CAPACITY:

The number of people does not show when they are available or what they are working on.



IGNORING NON-PROJECT WORK:

Do not assume every hour is productive project time. Allow for leave and support duties.



SKILL MISALIGNMENT:

A person may be available but not have the required skills.



OVERLY OPTIMISTIC PLANS:

Assuming 100% availability or ignoring part-time working can create unrealistic dates.



LIMIT:

Resource capacity planning reduces risk but cannot remove all uncertainty, such as sudden illness or urgent business priorities.

6 ACTIONS & OUTPUTS



REPRIORITIZE WORK:

Adjust scope or sequence to fit available capacity and key dates.



REASSIGN OR MOVE WORK:

Allocate to other people with the required skills or move to a later period.



ADJUST ALLOCATION:

Interpret part-time capacity and reduce unrealistic assignments.



CONFIRM SCHEDULE IMPACT:

Update the schedule and dependencies after changes and check for new risks.



OUTPUTS:

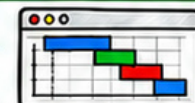
Revised resource-loaded schedule, list of resolved overloads and any remaining gaps, and agreed actions with owners and target dates.



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30 Project Planning Techniques





RESPONSIBILITY MAPPING



Clarify who performs, owns, advises on and receives information about each deliverable.

1 PURPOSE & VALUE

Responsibility mapping shows who performs the work, who is accountable, who is consulted and who is informed for each deliverable.



CLARITY:

Reduces confusion and duplicate work.



ALIGNMENT:

Sets clear decision ownership and handoffs.



BETTER COLLABORATION:

Involves the right people at the right time.



FEWER DELAYS:

Prevents bottlenecks and unrealistic expectations.



WIDER BENEFITS:

Supports communication, risk management and smooth delivery.

2 HOW TO APPLY

Use a RACI matrix to define roles for each deliverable or activity.

R = Responsible

A = Accountable

C = Consulted

I = Informed



1 List deliverables or key activities.



2 Assign R, A, C and I for each role.



3 Agree decision ownership and handoffs.



4 Review with stakeholders and resolve conflicts.



5 Keep the matrix updated as the project evolves.

3 INPUTS & EVIDENCE



PROJECT DOCUMENTS:

Scope, work breakdown structure, deliverables and milestones.



STAKEHOLDER LIST:

Team members, subject matter experts and key external parties.



ORGANISATION ROLES:

Functions, reporting lines and decision authorities.



RELEVANT EVIDENCE:

RACI matrix, responsibility descriptions and approved communication plan.



OWNERS:

Project manager prepares the matrix with input from functional managers and the accountable sponsor.

4 PRACTICAL EXAMPLE

Illustrative example for test approval of a software release:

Role	RACI
Test Lead	R
Product Owner	A
Security	C
Operations	I



Test Lead: prepares test evidence and recommends approval.



Product Owner: approves the release for production.



Security: consulted on security readiness and risks.



Operations: informed of the decision and timing for deployment.

5 PITFALLS & LIMITS



NOT A SUBSTITUTE:

A RACI matrix is a conversation aid, not a substitute for capacity or competence.



UNCLEAR ACCOUNTABILITY:

Avoid multiple accountables for the same deliverable.



MISSING ROLES:

Blank responsibilities create gaps and delays.



CONFLICTING APPROVALS:

Conflicting accountabilities can lead to escalation and rework.



STATIC DOCUMENT:

An outdated matrix loses value. Review it when scope or team changes.

6 ACTIONS & OUTPUTS



AGREE AND COMPLETE:

Resolve any blank responsibilities and conflicting approvals before execution.



CONFIRM HANDOFFS:

Define when work is complete and how it transfers to the next role.



OUTPUT:

A clear, agreed RACI matrix showing responsibilities for each deliverable or activity.



COMMUNICATE:

Share the matrix with all relevant parties and incorporate it into the project plan.



MAINTAIN:

Update the matrix as the project evolves and when roles or scope change.



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30 Project Planning Techniques





ASSUMPTION MAPPING



Expose uncertain beliefs that the plan relies on.

1 PURPOSE & VALUE

Assumption mapping makes the uncertain beliefs behind the plan visible and testable, so the team can take informed action.



UNCERTAIN BELIEF:

A condition we expect to be true, but is not yet confirmed.



PURPOSE:

Expose and challenge assumptions before they affect cost, schedule or scope.



VALUE:

Reduces surprises, strengthens decisions and highlights what needs validation.



WHEN TO USE:

Early planning, during detailed planning and whenever conditions change.

2 HOW TO APPLY

Record each assumption with key details:



1 STATE THE ASSUMPTION

Write a clear, specific statement.



2 ADD EVIDENCE

Note the current evidence supporting it.



3 ASSIGN AN OWNER

Name who will validate or monitor it.



4 DEFINE IMPACT IF FALSE

Explain how it affects scope, schedule or cost.



5 SET VALIDATION ACTION

Specify the check or test needed.



6 ADD REVIEW DATE

Agree a date to confirm or update the status.

3 INPUTS & EVIDENCE



PLAN CONTEXT:

Approved scope, schedule, budget and stakeholder requirements.



EVIDENCE SOURCES:

Contracts, technical studies, regulatory guidance and expert judgement.



DEPENDENCIES:

External suppliers, approvals and resources that the plan relies on.



OWNERS:

A named person responsible for validating each assumption.



CONSTRAINTS:

Legal, regulatory, environmental or organizational limits.



REVIEW INFORMATION:

Latest status reports, correspondence and change requests.

4 PRACTICAL EXAMPLE

Illustrative project assumption:

Assumption: Vendor access will be granted by 10 May.

Evidence: Contract signed and security approvals in progress.

Owner: Procurement Manager.

Impact if false: Dependent setup activities will be delayed.

Validation action: Confirm contract and security approvals are complete before setup begins.

Review date: 10 May.



RESULT:

If approvals are not confirmed by 10 May, raise an issue and update the schedule for the dependent activities.

5 PITFALLS & LIMITS



NOT A FACT:

An assumption is not a confirmed fact. It is an uncertain belief that needs validation.



HIDDEN DEPENDENCIES:

Do not bury a major assumption or dependency in narrative text. Make it explicit.



TOO VAGUE:

Avoid unclear statements that cannot be tested or assigned to an owner.



NO REVIEW:

Do not set and forget. Assumptions can change and must be reviewed regularly.



COVERAGE LIMIT:

This card does not remove uncertainty. It helps manage it. Some assumptions may remain until later in the project.

6 ACTIONS & OUTPUTS



CONVERT INVALID ITEMS:

If an assumption is proven false, convert it into an action, issue or risk, with an owner and due date.



UPDATE FORECASTS:

Adjust affected schedules, cost estimates and resource plans.



MAINTAIN A LOG:

Keep an assumption log with status (open, valid, invalid), owner and next review date.



TRACK CHANGES:

Update assumptions when new evidence is available or conditions change.



OUTPUTS:

An assumption log, validation actions, updated risks or issues, and revised forecasts. Share with the project team and stakeholders.





CONSTRAINT ANALYSIS



Identify fixed or limited conditions that shape feasible choices.

1 PURPOSE & VALUE

Constraint analysis identifies fixed or limited conditions that shape what is feasible and helps focus planning on realistic options.



CONSTRAINT:

Mandatory condition that must be met (legal, contractual, technical or resource).



PREFERENCE:

Desired option with flexibility to adjust.



VALUE:

Clarifies the true limits, avoids unrealistic plans and highlights trade-offs between time, cost, scope and resources.



USE WHEN:

Planning a project, updating a schedule, or evaluating changes that affect feasibility.

2 HOW TO APPLY

1



List all potential constraints and preferences.

2



Check each item with the owner and record the source.

3



Classify as mandatory constraint or negotiable preference.

4



Assess trade-offs between time, cost, scope and resources.

5



Update the plan to respect the constraints and explore alternative options.



CONTROL:

Only treat conditions as mandatory when verified by the owner. Record the source and rationale.

3 INPUTS & EVIDENCE



CONSTRAINT SOURCES:

Laws and regulations, contracts, permits, organizational policies and technical requirements.



KEY OWNERS:

Project sponsor, client, regulator, functional managers and resource owners (e.g. specialist or equipment).



EVIDENCE NEEDED:

Written requirements, approved documents, calendars, availability records and existing commitments.



CONFIRMATION:

Agree which items are mandatory and which are preferences, and record the decision.



MAINTAIN RECORDS:

Keep a constraint log with source, owner, type (mandatory or preference) and any expiry date.

4 PRACTICAL EXAMPLE

Illustrative project with two constraints:



A regulator sets a filing date that must be met.



A shared specialist is available only two days per week.

The plan schedules work around the specialist's limited availability and completes all activities in time to meet the filing date. Activities are sequenced so tasks needing the specialist are done on the available days, while other work proceeds in parallel.



RESULT (ILLUSTRATIVE):

A feasible schedule meets both the regulatory filing date and the specialist's availability by adjusting task order and overlaps.

5 PITFALLS & LIMITS



TREATING ALL DATES AS MANDATORY:

Assuming every requested date is fixed hides negotiable options and schedule logic.



UNCLEAR SOURCES:

Not verifying the owner leads to incorrect classifications.



IGNORING TRADE-OFFS:

Focusing on one constraint (e.g. time) can create problems in cost, scope or resources.



OUTDATED INFORMATION:

Using old calendars or policies can result in infeasible plans.



LIMITATION:

Constraint analysis cannot remove real mandatory limits. It identifies options, not new resources or authority.

6 ACTIONS & OUTPUTS



ESCALATE ISSUES:

If constraints make the plan infeasible, escalate with specific alternatives and consequences for time, cost and scope.



DECISION SUPPORT:

Provide options such as change the date, add resources, reduce scope or modify the approach, clearly stating the impact of each.



KEY OUTPUTS:

Constraint log, agreed assumptions, updated project plan and recommended decisions.



COMMUNICATE:

Share constraints and their impacts with all affected stakeholders and keep records of decisions.



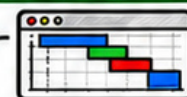
USE THE OUTPUTS:

Incorporate approved constraints into the schedule, budget and risk plan, and review them regularly for changes.

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30 Project Planning Techniques





RISK-INFORMED PLANNING



Integrate uncertainty and response work into scope, dates, resources and budgets.

1 PURPOSE & VALUE

Risk-informed planning considers uncertainty and response work while developing scope, schedule, resource and cost plans.



INTEGRATED PLANNING:

Includes opportunities and threats in the plan.



BETTER DECISIONS:

Reveals likely impacts on dates, resources and budgets.



PROACTIVE MANAGEMENT:

Plans responses instead of reacting to problems.



CLEAR ACCOUNTABILITY:

Assigns owners and timescales for each response.



MORE REALISTIC PLAN:

Includes response work and related reserves, reducing the likelihood of disruption.

2 HOW TO APPLY

1



Identify risks

Capture cause-event-effect scenarios for threats and opportunities.

2



Assess and prioritise

Evaluate likelihood and impact, then rank for action.

3



Assign owners

Nominate a responsible owner for each risk and response.

4



Plan and schedule responses

Define actions, add to the schedule and allocate resources.

5



Link reserves to exposure

Estimate response costs and add appropriate contingency or management reserve.



CONTROL:

Keep risks, responses, schedule, resources and reserves linked and up to date.

3 INPUTS & EVIDENCE



RISK INFORMATION:

Risk register with cause, event, effect, likelihood, impact and current response status.



PROJECT DOCUMENTS:

Scope, schedule, resource plan, cost estimates and assumptions.



EVIDENCE SOURCES:

Lessons learned, technical studies, market and supplier information, regulatory changes and expert input.



OWNERS AND STAKEHOLDERS:

Risk owners, project team, subject matter experts and key suppliers.



BASELINE FOR COMPARISON:

Current approved plan to assess the impact of risks and the effect of proposed responses.



CONSTRAINTS AND DEPENDENCIES:

External requirements, contract terms and interrelated project work.

4 PRACTICAL EXAMPLE

Illustrative project: installing new equipment, with a risk of supplier delay.



RISK (CAUSE-EVENT-EFFECT):

Supplier production delay may prevent delivery, which could block installation and delay the project.



PLANNED RESPONSES:

Obtain early design approval and qualify a fallback supplier. Add response work to the schedule and allocate required resources.



LINK TO PLAN:

Schedule design approval now, start fallback supplier evaluation, and include related costs in the budget with appropriate reserve for residual risk.

5 PITFALLS & LIMITS



ISOLATED REGISTER:

A risk register not linked to the schedule, resources and budget does not reduce exposure.



DOUBLE COUNTING:

Do not include the same contingency in multiple places (such as in estimates and again in reserves).



UNREALISTIC RESPONSES:

Vague actions, no owner or unrealistic timescales are ineffective on paper only.



IGNORING CHANGE:

Risks and responses must be reviewed regularly as the project context and evidence change.



LIMITATION:

Cannot remove all uncertainty. Residual risk always remains.

6 ACTIONS & OUTPUTS



UPDATE THE PLAN:

Incorporate agreed responses, resource needs and related reserves into scope, schedule and budget.



ASSIGN AND TRACK:

Confirm owners, set milestones for each response and monitor progress.



REVIEW RESIDUAL RISK:

Reassess likelihood and impact after responses and update the risk register.



REPORT AND COMMUNICATE:

Highlight significant risks, response status and any impact on dates, resources and costs.



USEFUL OUTPUTS:

Updated risk register, revised schedule and budget, response action log and variance explanation based on current evidence.





CONTINGENCY PLANNING



Prepare conditional actions for a defined trigger and uncertain event.

① PURPOSE & VALUE

Contingency planning prepares a predefined response if an uncertain event occurs and a trigger is reached.



REDUCES IMPACT:

Limits disruption to scope, time, cost and quality.



SPEEDS UP RESPONSE:

Pre-agreed actions avoid delays under pressure.



CLARIFIES ROLES:

Defines who decides and who does what.



BUILDS RESILIENCE:

Keeps critical objectives on track despite uncertainty.

② HOW TO APPLY

Define a clear plan for each key uncertain event using these steps.



Describe the event and its trigger in specific and observable terms.



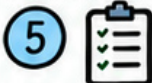
Assign a decision owner with authority and an agreed decision window.



Set the response sequence of actions, including fallback options.



Identify required resources (people, budget, tools, contracts).



Plan a testing approach to confirm the plan works and is up to date.



CONTROL:

A contingency plan must be in place before the trigger is reached.

③ INPUTS & EVIDENCE



RISK REGISTER:

Identified uncertain events, sources and potential impacts.



TRIGGERS & INDICATORS:

Early warning signs and the defined trigger for each event.



OWNERS & APPROVALS:

Named decision owner and required approvals or authority levels.



AVAILABLE RESOURCES:

People, budget, tools, contracts and supplier options (e.g., alternative venue).



RELEVANT EVIDENCE:

Past issues, supplier reliability, external forecasts and lessons learned from similar projects.

④ PRACTICAL EXAMPLE

Illustrative example of a workshop venue cancellation:



EVENT:

Primary venue cancels the booking.



TRIGGER:

Written cancellation received before the workshop date.



DECISION OWNER:

Workshop coordinator.



RESPONSE:

Activate a prequalified online option and notify participants.



RESOURCES:

Online platform license, tech support and communication templates.



TESTING:

Run a short test session with key presenters in advance.

⑤ PITFALLS & LIMITS



MISSING ELEMENTS:

Plans fail if licenses, people or authority are not available when the trigger occurs.



UNREALISTIC ASSUMPTIONS:

Alternative options may also be unavailable or have their own constraints.



OUTDATED PLANS:

Plans not reviewed or tested may not work in current conditions.



UNCLEAR OWNERSHIP:

Delays occur if decision rights are not agreed in advance.



LIMIT:

A fallback cannot remove all risks or guarantee that project objectives will be fully met.

⑥ ACTIONS & OUTPUTS



DEVELOP PLANS:

Create and document contingency plans for key uncertain events, including triggers and actions.



EXERCISE KEY PLANS:

Test important contingencies (e.g., tabletop or short simulation) to confirm they work.



CONFIRM RESERVES:

Check that budget, resources and contracts can support the response.



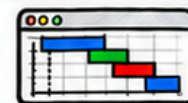
COMMUNICATE & TRAIN:

Make relevant team members aware of their roles and actions.



OUTPUTS:

Documented contingency plans, testing results, updated risk register and communications ready for use when needed.





SCENARIO PLANNING

Compare plausible futures before selecting a robust plan.



1 PURPOSE & VALUE

Scenario planning compares plausible futures by exploring how key uncertainties could affect project objectives, so you can choose a more robust plan.



EXPLORE UNCERTAINTY:

Consider different, but plausible, future conditions.



TEST RESILIENCE:

Check how options perform across scenarios.



REVEAL TRADE-OFFS:

Understand benefits, costs and risks under different conditions.



IMPROVE READINESS:

Identify early warning signs and triggers for action.

2 HOW TO APPLY



CHOOSE KEY UNCERTAINTIES:

Select a small number of consequential uncertainties that could materially affect outcomes.



DEVELOP SCENARIOS:

Create a small set of coherent, plausible scenarios that reflect different combinations of uncertainties.



TEST OPTIONS:

Assess the impact on scope, schedule, cost, quality and benefits. Compare trade-offs.



IDENTIFY TRIGGERS:

Define signs that indicate which scenario is emerging and when to switch actions.



CONTROL:

Use a small, credible set of distinct and coherent scenarios.

3 INPUTS & EVIDENCE



BASELINE PLAN:

Current scope, schedule, budget, assumptions and dependencies.



KEY UNCERTAINTIES:

Market conditions, supplier reliability, regulatory changes, resource availability, technology maturity or weather.



EVIDENCE SOURCES:

Historical data, expert judgment, market trends, supplier information and external reports.



OWNERS & STAKEHOLDERS:

Project manager, subject matter experts, finance, procurement, operations and key sponsors.



TOOLS & SUPPORT:

Facilitation workshop, modeling, spreadsheets or scenario planning software (as appropriate).

4 PRACTICAL EXAMPLE

Illustrative project with a critical supplier:

Scenario A: On-time delivery

Scenario B: Two-week-late delivery

Scenario C: Six-week-late delivery



A. ON-TIME:

Follow the original plan. Launch as scheduled.



B. TWO-WEEK-LATE:

Resequence non-critical work and use existing stock to keep critical path on track.



C. SIX-WEEK-LATE:

Activate alternate sourcing, expedite manufacturing of key items and adjust launch date.



EVALUATE IMPACTS:

Compare schedule, cost, scope and customer launch impacts across the scenarios.

5 PITFALLS & LIMITS



NOT PREDICTIONS:

Scenarios are exploratory assumptions, not probabilities, unless probabilities are supported by separate analysis.



TOO MANY SCENARIOS:

Using too many scenarios can dilute focus and make decisions difficult.



INCONSISTENT SCENARIOS:

Scenarios must be internally consistent and based on plausible assumptions.



IGNORE DEPENDENCIES:

Overlooking interactions between uncertainties can lead to unrealistic outcomes.



FALSE CERTAINTY:

Do not treat scenario results as guarantees. Use them to inform, not replace, judgment.

6 ACTIONS & OUTPUTS



SELECT ROBUST ACTIONS:

Choose actions that work across multiple scenarios and protect key objectives.



DEFINE TRIGGERS:

Set clear monitoring signs that indicate which scenario is becoming more likely.



MONITOR INDICATORS:

Track agreed indicators (e.g. supplier updates, market signals, regulatory news) throughout the project.



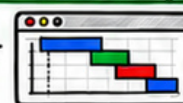
PREPARE CONTINGENCIES:

Plan and approve additional actions for less favorable scenarios (e.g. alternate sourcing, scope adjustment).



OUTPUTS:

Documented scenarios, tested options, trade-off comparison, triggers and an agreed action plan with monitoring approach.





PHASE-GATE PLANNING



Set structured decision points for authorizing the next stage.

1 PURPOSE & VALUE

Phase-gate planning sets formal decision points between project stages. Each gate checks whether the project is ready to continue, be revised or be stopped.



STRUCTURED DECISIONS:

Ensures consistent, objective review using agreed criteria.



EARLY RISK DETECTION:

Identifies issues before more resources are committed.



BETTER RESOURCE USE:

Focuses investment on the most promising options.



CLEAR ACCOUNTABILITY:

Defines who decides and who provides evidence.



MORE TRANSPARENCY:

Creates a clear record of progress and decisions.

2 HOW TO APPLY

Define the gate structure before execution. For each gate, agree the required evidence, decision criteria, reviewers and possible outcomes.

1



Define stages and gates for your project.

2



Set the evidence required at each gate.

3



Agree clear decision criteria.

4



Assign reviewers and decision authority.

5



Define outcomes: approve, conditional approve, revise or stop.



CONTROL:

Complete and agree the gate plan early. Apply the same process consistently.

3 INPUTS & EVIDENCE

Gather the evidence needed for each gate. The exact items depend on the project type, but commonly include:



PERFORMANCE EVIDENCE:

Test results, quality data, defect trends and achievements against plan. **Owner:** Project team.



USER FEEDBACK:

Customer or user trial results, feedback and adoption indicators. **Owner:** Product / Customer lead.



OPERATIONAL READINESS:

Support, training, process and infrastructure readiness. **Owner:** Operations lead.



UPDATED ECONOMICS:

Revised cost estimates, benefits, funding position and affordability. **Owner:** Finance lead.



COMPLIANCE & RISK:

Legal, regulatory, safety and major risks with mitigation status. **Owner:** Risk / Compliance lead.

4 PRACTICAL EXAMPLE

Illustrative pilot gate for a new product:



DEFECT EVIDENCE:

Test and field trial results show defect levels are acceptable.



USER FEEDBACK:

Pilot users report positive feedback and no critical issues.



SUPPORT READINESS:

Helpdesk, training and spare parts are in place.



UPDATED ECONOMICS:

Revised cost estimate and benefit case remain viable.

RESULT: APPROVE ROLLOUT

The gate reviewers confirm the evidence meets the agreed criteria, so the project can move to full rollout. (Illustrative only)

5 PITFALLS & LIMITS



NOT A GUARANTEE:

Passing a gate does not guarantee future success. New risks can still arise.



CEREMONIAL MEETING:

A gate is not a box-ticking event. It must review real evidence and make a decision.



WEAK EVIDENCE:

Decisions based on incomplete or biased evidence can lead to poor outcomes.



UNCLEAR CRITERIA:

Vague criteria or undefined reviewers create inconsistent decisions.



OVERLY RIGID PROCESS:

Too many gates or excessive detail can slow progress and reduce value.

6 ACTIONS & OUTPUTS



RECORD DECISION:

Log approval, conditional approval, request for revision or stop, with date and rationale.



ASSIGN OWNERS:

Name the person or team responsible for each follow-up action and any conditions.



SET CONDITIONS:

If conditionally approved, define specific actions, deadlines and required evidence.



TRACK PROGRESS:

Monitor completion of conditions before the next stage release.



KEY OUTPUTS:

Gate decision record, action log, updated risk list and approval to move to the next stage.





PROCUREMENT PLANNING



Decide what to obtain externally and how it will be specified, selected and controlled.

1 PURPOSE & VALUE

Decide what to obtain externally and how it will be specified, selected and controlled to support project delivery.



FOCUS:

Identify goods, services or expertise needed that are not more effective to deliver in-house.



VALUE:

Access specialist capability, increase capacity and share risk while maintaining quality and control.



SUPPORTS:

Achieves project objectives by securing the right resources at the right time and cost.



SCOPE:

Covers the full procurement lifecycle from need assessment to contract close.

2 HOW TO APPLY

1



Assess make-or-buy options for each need (in-house or external).

2



Define clear requirements and a statement of work (scope, quality and deliverables).

3



Identify procurement lead times and align with the project schedule.

4



Set evaluation criteria (e.g., quality, cost, delivery, experience, risk).

5



Select the supplier and agree contract type, terms and interfaces with the project.

6



Establish acceptance criteria, monitor performance and manage changes.



CONTROL:

Procurement must follow applicable procurement rules and organizational policies.

3 INPUTS & EVIDENCE



BUSINESS CASE:

Confirms the need, available budget and high-level approach (e.g., make or buy).



REQUIREMENTS:

Detailed technical and quality requirements and statement of work.



SCHEDULE INFORMATION:

Required delivery dates and dependencies with project tasks.



MARKET INFORMATION:

Potential suppliers, market capability and procurement rules.



EVALUATION EVIDENCE:

Supplier proposals, due diligence findings and scoring records.



KEY OWNERS:

Project manager, procurement team, technical experts, finance and legal.

4 PRACTICAL EXAMPLE

Illustrative example: A project needs a specialist environmental assessment.



REQUIREMENT:

Clear statement of work covering scope, deliverables and standards (e.g., methods and reporting).



LEAD TIME:

Plan procurement lead time for tendering, evaluation and contract award.



ACCEPTANCE:

Evidence-based acceptance, such as a review of the final report against agreed criteria.



RESULT:

The plan secures a qualified supplier in time to meet the project's next milestone.

5 PITFALLS & LIMITS



LOWEST PRICE RISK:

The lowest price may omit lifecycle costs, quality or delivery risk.



UNCLEAR REQUIREMENTS:

Vague or incomplete scope can lead to poor proposals, disputes and rework.



SUPPLIER RISK:

Limited supplier capacity or reliability can cause delays or reduced quality.



RULES & COMPLIANCE:

Must comply with applicable procurement rules, organizational policies and contract procedures.



LIMITATION:

External procurement may take longer than in-house delivery and is subject to market conditions.

6 ACTIONS & OUTPUTS



PROCUREMENT PLAN:

List of items to procure, approach (e.g., tender or direct award), timeline and budget.



SUPPLIER MILESTONES:

Include key dates (e.g., contract award, delivery, review windows) in the project schedule.



CONTRACT INTERFACES:

Define roles, responsibilities and interfaces between the supplier and project team.



PERFORMANCE CONTROL:

Track progress against supplier milestones and review quality, cost and delivery.



OUTPUTS:

Approved procurement plan, awarded contract(s) and a monitoring log with review actions.



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30 Project Planning Techniques





Translate stakeholder needs into quality criteria and planned assurance and control work.



① PURPOSE & VALUE

Define what quality means for the project by translating stakeholder needs into measurable criteria and planned assurance and control work.



MEETS NEEDS:

Converts stakeholder requirements into clear quality criteria.



PREVENTS PROBLEMS:

Plans activities to avoid defects and improves first-time success.



BUILDS CONFIDENCE:

Defines how quality will be assured and controlled throughout the project.



SUPPORTS DELIVERY:

Aligns standards, checks and responsibilities with scope, schedule and budget.

② HOW TO APPLY

Plan the quality approach in these steps:



1 Define quality criteria from stakeholder needs and applicable standards.



2 Specify acceptance evidence for each key deliverable.



3 Assign review and approval responsibilities.



4 Plan verification activities such as reviews, tests and audits.



5 Define defect handling: log, assess, correct and re-verify.



CONTROL:

Quality criteria must be agreed early and changes managed using the project change process.

③ INPUTS & EVIDENCE



STAKEHOLDER REQUIREMENTS:

User needs, business requirements and compliance obligations.



APPLICABLE STANDARDS:

Industry, regulatory or organizational quality standards and relevant policies.



ACCEPTANCE EVIDENCE:

Defined documents, test results, review records or audit reports showing criteria are met.



OWNERS & ROLES:

Quality manager, delivery team, reviewers and approvers with clear responsibilities.



EXISTING INFORMATION:

Lessons learned, checklists, quality templates and previous project quality records.

④ PRACTICAL EXAMPLE

Illustrative data migration plan:



1. MAPPING REVIEW:

Check source-to-target mapping and data transformation rules.



2. TRIAL RECONCILIATION:

Run a sample migration and reconcile key records to verify accuracy.



3. EXCEPTION CORRECTION:

Log and correct data exceptions and re-run the affected records.



4. FINAL ACCEPTANCE EVIDENCE:

Provide complete reconciliation report and stakeholder sign-off that quality criteria are met.

⑤ PITFALLS & LIMITS



TESTING ONLY AT THE END:

Finding defects late can cause expensive rework and delays.



CONFUSING ASSURANCE AND INSPECTION:

Process assurance checks that work is done correctly do not replace inspection of final outputs.



UNCLEAR CRITERIA:

Vague or changing quality criteria lead to disputes and rework.



OVERLY COMPLEX CHECKS:

Excessive checks can slow delivery and add cost without improving quality.

⑥ ACTIONS & OUTPUTS



PLAN AND BUDGET:

Include quality activities in the schedule and budget (e.g., reviews, tests, audits).



QUALITY PLAN:

Document criteria, methods, standards, roles and defect handling process.



EXECUTE AND RECORD:

Carry out planned assurance and control activities and keep evidence.



MANAGE UNRESOLVED DEFECTS:

Define how unresolved or high-severity defects affect acceptance and go-live decisions.



OUTPUTS:

Approved quality plan, review records, test results, defect log and acceptance evidence.



COMMUNICATION PLANNING



Match information needs to audiences, decisions, channels and timing.

1 PURPOSE & VALUE

Plan how project information is shared with the right people, for the right reasons, at the right time and through the right channels.



ALIGNMENT:

Ensures everyone has the information they need.



BETTER DECISIONS:

Provides reliable and timely information.



REDUCED RISK:

Prevents misunderstandings and late surprises.



STRONGER ENGAGEMENT:

Builds trust and shared ownership.



CLEAR EXPECTATIONS:

Sets what will be communicated, how often and by whom.

2 HOW TO APPLY

Define each audience's information needs and plan the communication approach.



1 List all audiences (e.g. sponsor, delivery team, operations, customers).



2 Record what information they need and why (decisions or awareness).



3 Assign who will send it (role or team).



4 Set the cadence (e.g. daily, weekly, monthly, or at key milestones).



5 Choose the channel (e.g. meeting, email, dashboard, collaboration tool).



6 Define confidentiality level and the feedback route (e.g. question, approval, comment).

3 INPUTS & EVIDENCE



STAKEHOLDER REGISTER:

List of audiences, roles, interests and influence.



INFORMATION NEEDS:

What each audience needs, for which decisions or actions.



EXISTING COMMUNICATIONS:

Current reports, meetings and channels to build on.



OWNERS:

Project manager with input from key stakeholders and function leads.



SUPPORTING EVIDENCE:

Governance requirements, contractual obligations and organizational policies.



CONSTRAINTS:

Confidentiality, security rules and available tools or platforms.

4 PRACTICAL EXAMPLE

Illustrative communication plan for three audiences:



SPONSORS:

- Decision-focused updates
- Key risks, progress and options
- Sent monthly via steering meeting



DELIVERY TEAMS:

- Daily dependency information
- Task changes and blockers
- Shared via team channel or daily stand-up



OPERATIONS:

- Readiness and handover detail
- Training, support and timelines
- Sent as milestone briefings and handover documents



NOTE: Example only, Tailor the audiences, content and timing to your specific project context.

5 PITFALLS & LIMITS



ONE SIZE DOES NOT FIT ALL:

A single report rarely serves every audience.



MORE MESSAGES ≠ UNDERSTANDING:

High volume does not mean the message is clear or acted on.



WRONG AUDIENCE OR CHANNEL:

Information may be ignored or misunderstood.



POOR TIMING:

Late or infrequent updates reduce value and can erode trust.



CONFIDENTIALITY RISKS:

Sharing sensitive information with the wrong audience.



CHANGING NEEDS:

Information needs can change as the project evolves.

6 ACTIONS & OUTPUTS



CREATE THE PLAN:

Document audience, needs, sender, cadence, channel, confidentiality and feedback route.



AGREE AND SHARE:

Review with key stakeholders and confirm responsibilities.



IMPLEMENT:

Send communications as planned and keep records.



CHECK EFFECTIVENESS:

Gather feedback and look for timely decisions or actions.



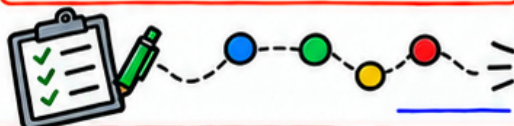
UPDATE:

Adjust the plan when needs, audiences or project conditions change.



OUTPUTS:

Communication plan, audience list, message templates, communication log and feedback summary.



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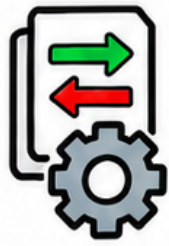
CARD 27 OF 30

30 Project Planning Techniques





CHANGE CONTROL PLANNING



Define how proposed changes are assessed, decided, recorded and incorporated.

1 PURPOSE & VALUE

Change control planning sets a clear process for handling proposed changes so they are assessed, decided, recorded and incorporated in a controlled way.



ENSURES CONTROL:

Keeps changes aligned with project objectives and scope.



SUPPORTS GOOD DECISIONS:

Uses consistent criteria and evidence.



INCREASES TRANSPARENCY:

Everyone knows how changes are handled and who decides.



PROTECTS BASELINE:

Prevents uncontrolled changes that can cause rework, delay or cost increase.

2 HOW TO APPLY

Follow a clear change control process with defined roles, criteria and records.

1



Log the change request with a unique ID and clear description.

2



Analyse the impact on scope, schedule, cost, quality, risk and benefits.

3



Review and decide using the agreed authority levels.

4



Communicate the decision to all stakeholders.

5



If approved, incorporate the change into the plan and update relevant documents.



CONTROL:

No work on a proposed change without an approved decision.

3 INPUTS & EVIDENCE



CHANGE REQUEST:

Description, business reason, expected benefits and urgency.



RELEVANT DOCUMENTS:

Current project plan, scope statement, requirements, risk register and quality criteria.



EVIDENCE & ANALYSIS:

Impact analysis on scope, schedule, cost, quality, risk and benefits, with options.



OWNERS & ROLES:

Change requestor, project manager, change control board or sponsor, and affected experts.



DECISION CRITERIA:

Authority levels, thresholds, alignment with objectives, resource availability and overall value.

4 PRACTICAL EXAMPLE

Illustrative example of a new reporting feature requested by a user:



1. LOG:

Request is recorded with a clear description and business reason.



2. ANALYSE:

Estimate impact on scope, schedule, cost, quality, risk and benefits, and identify options.



3. REVIEW:

Change control board reviews the analysis and decides to approve.



4. INCORPORATE:

The work is added to the approved baseline and relevant plans are updated. The decision is communicated to stakeholders.



RESULT:

The change is delivered in a controlled way with full traceability.

5 PITFALLS & LIMITS



ADMINISTRATIVE URGENCY:

Urgent requests still require traceable assessment and decision. Do not bypass the process.



INCOMPLETE ANALYSIS:

Do not approve changes without considering impacts on scope, schedule, cost, quality, risk and benefits.



SILENT CHANGES:

Do not make changes to the plan without recording the decision. Avoid overwriting history.



UNCLEAR AUTHORITY:

Undefined decision rights cause confusion and rework. Set and communicate authority levels.



TOO MUCH BUREAUCRACY:

Keep the process proportionate to project size and risk.

6 ACTIONS & OUTPUTS



RECORD APPROVALS:

Document the decision, authority used, conditions and any follow-up actions.



UPDATE DOCUMENTS:

Revise the project plan, schedule, cost estimates and other affected documents.



DISTINGUISH BASELINES:

Clearly identify approved baseline revisions separately from current forecasts and future estimates.



COMMUNICATE CHANGES:

Inform all relevant stakeholders and ensure they have access to the updated information.



KEY OUTPUTS:

Change log, decision records, updated project documents, and revised baselines (where approved).



INTEGRATED BASELINE REVIEW



Test whether scope, schedule, budget, resources and risk assumptions form one credible plan.

① PURPOSE & VALUE

Checks that all plan elements work together as one realistic and executable plan, not as separate parts.



INTEGRATED VIEW:

Aligns scope, schedule, budget, resources and risks.



EARLY CONFIDENCE:

Reveals gaps and inconsistencies before execution.



BETTER DECISIONS:

Supports realistic commitments and informed trade-offs.



SHARED UNDERSTANDING:

Ensures all stakeholders work from the same, reconciled plan.

② HOW TO APPLY



Trace each deliverable from scope to activities, resources and budgets.



Challenge dependencies, logic, durations and resource capacity.



Test estimate evidence and assumptions, including risks and contingencies.



Discuss findings with stakeholders and assign corrective actions.



Confirm a reconciled and traceable baseline ready for approval.



CONTROL:

All plan elements must be consistent. Do not approve a partial or unmapped plan.

③ INPUTS & EVIDENCE



SCOPE DOCUMENTS:

WBS, project scope statement, deliverable descriptions and acceptance criteria.



SCHEDULE DATA:

Activity list, logic, durations, milestones and the schedule model.



COST AND RESOURCE DATA:

Activity costs, resource profiles, resource calendars and funding constraints.



RISK INFORMATION:

Risk register, key assumptions and required risk responses.



OWNERS:

Project manager, scope owner, schedule lead, cost controller, resource manager and risk owner provide the data and confirm its accuracy.

④ PRACTICAL EXAMPLE

Illustrative project to install new equipment:



Scope states the equipment will be installed and accepted.



Budget includes installation costs and resources.



Review finds the schedule has installation activities but no training or acceptance work.



Impact: the team adds training and acceptance activities, links them to installation, assigns resources and updates the budget.



Result: a complete, sequenced plan with all work, resources and costs included and traceable to the scope.

⑤ PITFALLS & LIMITS



TOTAL COST FALLACY:

Agreement on a total cost does not prove the plan is executable. Review the underlying work.



MISSING WORK:

Scope elements may be unplanned, such as testing, training or handover.



UNREALISTIC ASSUMPTIONS:

Over-optimistic durations, resource availability or risk allowances create a false plan.



LIMITATION:

The review improves the plan quality but cannot remove all uncertainty. It depends on the accuracy of the provided data.

⑥ ACTIONS & OUTPUTS



RECONCILE THE PLAN:

Update scope, schedule, budget, resources and risks so they align and are traceable.



ASSIGN ACTIONS:

Record required changes, owners and target resolution dates.



APPROVE OR REJECT:

Approve only a reconciled and credible baseline, or return it for further work.



PRESERVE OPEN ISSUES:

Maintain a log of unresolved items with owners, due dates and rationale.

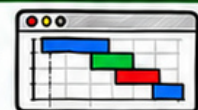


OUTPUTS:

Updated baseline plan, action log, open issue log and review record showing decisions and next steps.



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PLANNING RETROSPECTIVE



Improve the planning approach using evidence from estimates, assumptions and outcomes.

① PURPOSE & VALUE

Use evidence from estimates, assumptions and outcomes to improve the planning approach for future work.



IMPROVE ACCURACY:

Find what worked well and what did not.



STRENGTHEN PLANS:

Refine estimates, assumptions and risk considerations.



SHARE LEARNING:

Capture team knowledge and make it reusable.



BUILD CONTINUOUS IMPROVEMENT:

Turn experience into practical changes for the next cycle.

② HOW TO APPLY

1



Gather the plan and actual data for the completed work or phase.

2



Compare planned vs actual for key activities, durations, costs and assumptions.

3



Discuss the causes of differences without blame. Consider internal and external factors.

4



Select a small set of concrete process changes to apply in the next cycle.

5



Agree owners and track implementation and results.



CONTROL:

Focus on evidence and learning, not on individual performance.

③ INPUTS & EVIDENCE



PLANNED DATA:

Approved plan, estimates, assumptions, baseline schedule and resource plans.



ACTUAL DATA:

Completed work records, actual durations, costs, change logs and milestone dates.



ADDITIONAL EVIDENCE:

Risk and issue logs, decisions, communications and feedback from team and stakeholders.



REQUIRED OWNERS:

Project manager, planning leads, team members and relevant stakeholders who have first-hand knowledge.



DEPENDENCIES:

Access to reliable project records and a safe, open environment for honest discussion.

④ PRACTICAL EXAMPLE

Illustrative example from a completed phase:

Assumed duration for external review: 5 days

Actual duration: 12 days

Difference = 12 days - 5 days
= 7 days longer



LESSON:

The 5-day assumption was too optimistic because reviewers had other priorities and required more information.



ACTION TAKEN:

Update the next planning checklist to include an early review meeting and clearer submission requirements.

⑤ PITFALLS & LIMITS



LISTING LESSONS ONLY:

Recording lessons without changing behavior provides little value.



HINDSIGHT CERTAINTY:

Avoid assuming outcomes were obvious in advance. Consider what was known at the time.



TOO MANY CHANGES:

Trying to fix everything at once can dilute focus. Choose a small set of meaningful changes.



INCOMPLETE EVIDENCE:

Missing or unreliable data can lead to false conclusions.



PROJECT-SPECIFIC:

Findings apply to this project context. Different projects may need different thresholds.

⑥ ACTIONS & OUTPUTS



ASSIGN OWNERS:

Allocate responsibility for each agreed improvement, with a deadline.



APPLY CHANGES:

Update templates, checklists, estimating guidance or planning processes for the next cycle.



VERIFY RESULTS:

Review whether the changes improved planning accuracy and reduced repeat issues.



OUTPUTS:

List of agreed improvements, updated planning assets and action log with owners and target dates.



KEEP LEARNING:

Revisit in future retrospectives to check progress and add new insights.



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CARD 30 OF 30

30 Project Planning Techniques



GUIDE



HOW TO USE THIS GUIDE



Get the most from the 30 Project Planning Techniques cards and find reliable sources.

1 START WITH A NEED



MATCH A REAL DECISION:

Select the card that fits the current project question or challenge.



CONFIRM CONTEXT:

Check the project scope, lifecycle stage, key stakeholders and main constraints.



USE COMMON DEFINITIONS:

Apply the terms and measures consistently across the team.



READ THE EXAMPLE:

Use the worked example as an illustration, not a promise of results.



SELECT EVIDENCE:

Identify and gather the data and documentation needed before acting.

2 APPLY & REVIEW



ASSIGN AN OWNER:

Nominate a person to apply the technique and coordinate the review.



AGREE INPUTS AND OUTPUT:

Confirm the required input data and the expected output or decision.



RECORD ASSUMPTIONS:

Note key assumptions, data sources and any limitations.



APPLY THE CARD:

Follow the steps on the card and produce the result.



REVIEW THE RESULT:

Check whether the output is reasonable and useful. Adapt the review frequency and thresholds to the project.



IMPORTANT NOTES:

If a denominator is zero, use N/A, not zero percent. Protect sensitive information. Maintain a clear version history.

3 ABOUT THIS EDITION



BOOK AND CONTENT:

Book 2 of the WikiFree Project Management Collection. Thirty original practical learning cards.



SCOPE AND APPROACH:

The terminology and techniques are a practical synthesis, not an exhaustive standard or formal certification.



CUSTOM METRICS:

Working metrics, thresholds and tolerances must be defined locally for your project context.



EXAMPLES:

All examples are illustrative to show how a technique can be applied. They are not guarantees or benchmarks.

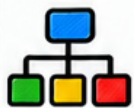


FURTHER READING:

Panels 4-6 cite useful sources for deeper study. These are a foundation for further reading, not an endorsement of this publication.

4 SOURCE 1

PMI - Work Breakdown Structure



WHAT IT COVERS:

Guidance on developing a work breakdown structure (WBS) to organise and define the total scope of work.



WHY IT IS USEFUL:

Provides principles, terms and good practices that support clear scope definition, estimating and planning.



HOW TO USE IT:

Read the relevant sections as a foundation for further study. Apply the ideas that fit your project context.



This is a foundation for further reading, not an endorsement of this publication.

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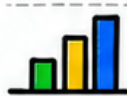
5 SOURCE 2

PMI - Rolling Wave Planning



WHAT IT COVERS:

Guidance on rolling wave planning to progressively develop detailed plans as more information becomes available.



WHY IT IS USEFUL:

Explains how to plan near-term work in detail while keeping later work at a higher level until it can be defined.



HOW TO USE IT:

Read the relevant sections as a foundation for further study. Adapt the guidance to your project's needs.



This is a foundation for further reading, not an endorsement of this publication.

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6 SOURCE 3

GAO - Schedule Assessment Guide



WHAT IT COVERS:

Guidance on assessing project schedules, including best practices, common risks and key characteristics of reliable schedules.



WHY IT IS USEFUL:

Provides practical guidance to evaluate schedule quality and identify strengths, weaknesses and improvement actions.



HOW TO USE IT:

Read the relevant sections as a foundation for further study. Apply the ideas that fit your project context.



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REFERENCE & APPLICATION

30 Project Planning Techniques

