WORLD'S #1 QUICK REFERENCE GUIDE

QuickStudy PMBOK® GUIDE Quick Reference

The *PMBOK® Guide* identifies principles and performance domains for project professionals and others engaged with projects.

7th Edition

WHAT'S NEW?

- *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*—7th Edition, published by the Project Management Institute (PMI) in 2021, includes *The Standard for Project Management*
  - First principles-based standard for project management
- Moves away from the more prescriptive process-based approach of past standards
  - Focus is no longer on deliverables and outputs
  - Projects drive outcomes that deliver value to the performing organization as well as other stakeholders
- This edition includes both principles to guide behavior as well as project performance domains to demonstrate the behavior and create value

PMI CODE OF ETHICS & PROFESSIONAL CONDUCT

- Defines expectations for individuals in the global project management community
- Includes both aspirational ideas as well as mandatory behaviors

1. **Responsibility** is our duty to take ownership for the decisions we make or fail to make, the actions we take or fail to take, and the consequences that result
2. **Respect** is our duty to show a high regard for ourselves, others, and the resources entrusted to us. Resources entrusted to us may include people, money, reputation, the safety of others, and natural or environmental resources. An environment of respect engenders trust, confidence, and performance excellence by fostering cooperation—an environment where diverse perspectives and views are encouraged and valued
3. **Fairness** is our duty to make decisions and act impartially and objectively. Our conduct must be free from competing self-interest, prejudice, and favoritism
4. **Honesty** is our duty to understand the truth and act in a truthful manner both in our communications and in our conduct

KEY TERMS

- **Creating value:** organizations exist to create value for stakeholders
  - Organizational strategy drives creation of value through a system of portfolios, programs, projects, and/or operations
  - Value is the ultimate measure of project success
- **Customer:** requester and/or funder of the project
- **End user:** user of the product, service, or result of the project
- **PMI:** global nonprofit professional organization that offers certifications, educational programs, networking opportunities, and other resources for project managers
  - Provides a set of industry-standard guidelines and best practices for project management, including the *PMBOK® Guide*—7th Edition
- **Project:** temporary endeavor undertaken to create a unique product, service, or result
- **Project environment:** where the project exists

Internal Environment	External Environment
Assets: process, data, and knowledge	Marketplace conditions
Employee capability	Regulatory environment
Organizational culture, structure, and governance	Social and cultural influences and issues
Resource availability	–

- **Project management:** application of knowledge, skills, tools, and techniques to project activities to meet requirements
- **Project manager:** person assigned by performing organization to lead project team responsible for achieving project objectives

PROJECT MANAGEMENT PRINCIPLES

Stewardship

- Be a diligent, respectful, and caring steward
- Responsibly manage project resources, including financial, human, and physical assets, to ensure project:
  - Goals and objectives are met within budget and schedule constraints
  - Risks are effectively identified and managed
- Make ethical and sustainable decisions
- Effectively communicate with and engage stakeholders throughout project's life cycle

Team

- Create a collaborative project team environment
- Include the individuals responsible to complete the work of the project
- Involve people with diverse backgrounds and skill sets who collaborate to meet project objectives
- Use agreements to define guidelines to enable members to work together successfully

Stakeholders

- Effectively engage with **stakeholders** (individuals or groups that have an interest or concern in the project and its outcome). Can include customers, end users, management, project team, sponsors, and any other individuals or organizations affected by the project or able to influence its outcome
- Stakeholders can affect the project both positively and negatively
- Engaging stakeholders supports value delivery

Value

- Focus on value, the ultimate measure of project success
- May be something different for each stakeholder
  - For the performing organization, value may be financial gain
  - For others, it may be social good or benefit to customer
- A business case should include the business drivers, allowing the team to find opportunities to increase potential project value

Systems Thinking

- Recognize, evaluate, and respond to system interactions
- Holistic approach that looks at how items in a system:
  - Work together
  - Work over time
  - Interact with other systems
- The project team and their ways of working are part of the project system

Leadership

- Demonstrate leadership behaviors, which include the ability to influence others and thus influence project results
- Multiple project stakeholders, including the project manager and individual team members, should demonstrate leadership behaviors throughout the project
- Leadership, along with personal character, can lead to project success and a positive work environment

Tailoring

- Tailor on the basis of context
- Every project is unique
- Tailor project elements to provide just enough structure to deliver value
- Examples of **areas to tailor** include:
  - Artifacts
  - Development approach
  - Governance
  - Methods
  - Processes
- Team members should participate in tailoring decisions so they feel ownership of project results
- Reducing waste in processes, resources, and artifacts is critical to tailoring

Quality

- Build quality into processes and products (deliverables)
- Includes the work to minimize waste
- Product delivered should:
  - Meet acceptance criteria
  - Demonstrate **fitness for use** (meeting or exceeding customer expectations)
- Processes used should ensure product is delivered in the quickest, most cost-effective way possible

Complexity

- Navigate complexity
- Complexity on projects has multiple sources, including:
  - **Human behavior:** differences in experience and attitudes
  - **System behavior:** dynamic interdependencies
  - Technical innovations
  - Uncertainty and ambiguity
- To navigate complexity, the project team must continually evaluate individual project elements and the changing interaction between them

Risk

- Optimize risk responses
- A risk is an uncertain event that may affect the project objectives. May be:
  - **Positive:** opportunities
  - **Negative:** threats
- Focus not only on **individual risks**, but also on **overall project risk** (effect of uncertainty on project as a whole)
- Stakeholders' different risk appetites and thresholds must be considered
- Project team should:
  - Increase probability and impact of opportunities
  - Decrease probability and impact of threats

Adaptability & Resiliency

- Embrace adaptability and resiliency
- Projects never proceed exactly on plan
- Events outside the control of the project manager and organization impact the project
- Project and project team need to be able to:
  - **Adapt:** respond to changing conditions
  - **Be resilient:** absorb impacts and recover quickly

Change

- Enable change to achieve the envisioned future state
- Change takes individuals and organizations from current state to a desired future state
- Stakeholders may have different appetites for change
  - Resistance may occur
- Change initiatives work better when stakeholders are fully engaged and motivated to deliver on the change

- **Correlation versus causation:** when individuals or teams mistake a correlation between two variables as causation
  - They assume because two variables are correlated, one causes the other, when in fact, this may not be the case
- **Troubleshooting** is required when measurements fall outside **thresholds** (acceptable ranges)
- **Exception plans** should be developed proactively

Uncertainty

- Lack of knowledge or information about future events or outcomes. To respond to uncertainty in general, the team may:
  - **Gather information:** through experts, research, and market analysis
  - **Prepare for multiple outcomes:** have both primary and backup solutions
  - **Use set-based design:** investigate multiple designs early in project
  - **Build in resilience:** ability for team and processes to adapt and respond to unexpected changes

Questions to ask

1. Does team have an awareness of project environment to include technical, social, political, market, and economic elements?
2. Is team exploring and responding to uncertainty appropriately on the basis of project constraints?
3. Is there a risk management system in place to both address threats and leverage opportunities?
4. Is project performing on plan with little impact from unforeseen events and conditions?

Ambiguity

- Occurs when there is more than one interpretation of a situation
- **Conceptual ambiguity:** lack of clarity in the definition or understanding of project-related concepts, terms, or ideas
- **Situational ambiguity:** lack of clarity or certainty in project environment or circumstances
- To explore ambiguity, the team may:
  - **Utilize progressive elaboration:** adding more detail as it becomes available
  - **Experiment:** to understand cause and effect
  - **Develop prototypes:** to help distinguish relationships between variables

Complexity

- Degree to which a project is characterized by a high number of interdependent parts, or a high degree of interconnectivity between these parts
- Complex projects are hard to plan and manage because of the difficulty of predicting what might occur
- To address complexity, the team may:
  - **Iterate:** use both iterative and incremental approaches that allow the team to deliver one iteration at a time, learn, and improve
  - **Engage:** work with stakeholders throughout project to engage them in decision-making and lower opportunities for miscommunication

Volatility

- Degree to which a project is subject to change or uncertainty
- Volatility may be addressed through:
  - **Alternative analysis:** identify different scenarios that could impact the project and develop alternative approaches to address those scenarios
  - Use of both cost and schedule reserves

Risk

- An aspect of uncertainty; an uncertain event or condition that may affect the project
- Threats are negative risks
- Opportunities are positive risks
- **Risk thresholds:** predetermined levels of acceptable risk exposure established to guide decision-making during the project

Risk Responses

For Threats	For Opportunities
Avoid: ensure threat won't occur and/or won't affect project	**Exploit:** ensure opportunity will occur and will affect project
Escalate: move ownership to someone with more authority than project manager	**Escalate:** move ownership to someone with more authority than project manager
Transfer: move ownership to a third party (e.g., insurance)	**Share:** move ownership (or partial ownership) to a third party
Mitigate: decrease impact and/or probability of occurrence	**Enhance:** increase impact and/or probability of occurrence
Accept: do nothing proactive (passive acceptance). Set up a contingency plan (active acceptance)	**Accept:** do nothing proactive (passive acceptance)

- **Residual risks:** remain after response has been taken and must be managed
- **Secondary risks:** develop because of risk response
- **Risk reserves** (cost and schedule) may be set up to address risks
  - **Contingency reserves** are for known risks
  - **Management reserves** are for unknown events that would lead to in-scope work
- Risks may be identified and/or addressed at multiple meetings, including daily standups, product demos, retrospectives, and status meetings

TAILORING

- Deliberately adapting aspects of the project on the basis of project management guiding principles and organizational values and culture
- Tailoring may lead to more efficient use of resources, more customer-oriented focus, and more commitment from team members who designed the approach
- Many aspects of a project may be tailored, including:
  - Life cycle & development approach selection • Processes • Engagement • Tools • Methods and artifacts

Tailoring Steps

1. Select initial development approach:
   - Predictive • Hybrid • Adaptive
2. Tailor for the organization:
   - Project size • Criticality
   - Organizational maturity
3. Tailor for the project:
   A. **Product/deliverables:** type, industry market, technology
   B. **Project team:** size, geography, experience
   C. **Culture:** buy-in to delivery approach, trust, empowerment, organizational culture
4. Implement ongoing improvement
   A. Engaging the team throughout the project with tailoring shows the organization values innovation and trusts team member input

MODEL, METHOD & ARTIFACT

Model

- A simplified representation of a project, system, or process used to better understand, analyze, and predict its behavior

Categories

Situational leadership models

- Describe how leaders can adjust their leadership style on the basis of readiness or development level of their followers

Communication models

- Describe process of communication between sender and receiver
  - Provide a structured way of understanding how communication occurs, including:
    - Factors that influence the process
    - Elements necessary for effective communication

Motivation models

- Describe factors that influence human motivation: the needs, desires, and drives that underlie human behavior
- Seek to explain why people do what they do and how managers can use this knowledge to increase employee motivation and engagement

Change models

- Describe stages of the change process
- Provide a structured approach to managing change
- Seek to explain how individuals and organizations respond to change and provide guidance on how to successfully navigate the change process

Complexity models

- Seek to explain behavior of complex systems, characterized by large numbers of interacting components, nonlinear relationships, and emergent properties
- Aim to provide a deeper understanding of how these systems work and to identify patterns and regularities that can help predict and manage their behavior
- Provide a more nuanced understanding of the behavior of projects as complex systems
- Identify patterns and regularities that can help inform decision-making

Team development models

- Explain how teams form, develop, and mature over time
- Can be used to understand the dynamics of teams and identify strategies for improving team performance

Method

- The means (tool, technique, or best practice) used to obtain a desired outcome, output, result, or deliverable

Categories

Data gathering & analysis

- Collect, analyze, and interpret data related to a project to make informed decisions that support project success

Estimating

- Estimate time, cost, and resources required for a project

Meetings & events

- Engage and communicate with project stakeholders

Artifact

- A template, document, output, or project deliverable

Categories

Strategy

- Created before the project begins and often doesn't change
- Ensures project is aligned with organization's overall business strategy
- Provides a framework for decision-making throughout project's life cycle

Logs & registers

- Ensure key project information is captured, tracked, and documented in a consistent and organized manner
- Helps ensure project team is informed and organized and information is accessible when needed

Plans

- Document means of accomplishing some aspect of project
- Individual plans may be combined into an **integrated** project management plan

Hierarchy charts

- Visualize information with less detail at the top and more on lower levels
- Can be expanded as more information becomes known

Baselines

- Approved versions of a work product or plan
- Actual performance on projects often compared to baselines to visualize variances and aid decision-making
- A project may have multiple baselines, including scope, schedule, and cost

Visual data & information

- Created after data have been collected and organized
- Very visual; can aid decision-making

Reports

- Communicate information to project stakeholders:
  - Status • Progress • Forecasts

Agreements & contracts

- **Agreement:** written or verbal understanding between two or more parties on a project
- **Contract:** legally binding agreement

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