

# Summary of Project Management Knowledge Areas

## 1. 项目整体管理

### Project Integration Management

Project Integration Management includes the processes and activities needed to identify, define, combine, unify and coordinate the various processes and project management activities within the Project Management Process Groups. In the project management context, integration includes characteristics of unification, consolidation, articulation and integrative actions that are crucial to project completion, successfully meeting customer and stakeholder requirements and managing expectations. The Project Integration Management processes include:

- Develop Project Charter – developing the project charter that formally authorizes a project
- Develop Preliminary Project Scope Statement – developing the preliminary project scope statement that provides a high-level scope narrative
- Develop Project Management Plan – documenting the actions necessary to define, prepare, integrate, and coordinate all subsidiary plans into a project management plan
- Direct and Manage Project Execution – executing the work defined in the project management plan to achieve the project's requirements defined in the project scope statement
- Monitor and Control Project Work – monitoring and controlling the processes required to initiate, plan, execute, and close a project to meet the performance objectives defined in the project management plan
- Integrated Change Control – reviewing all change requests, approving changes, and controlling changes to the deliverables and organizational process assets
- Close Project – finalizing all activities across all of the Project Process Groups to formally close the project.

## 2. 项目范围管

### Project Scope Management

Project Scope Management includes the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully. Project Scope Management is primarily concerned with defining and controlling what is and is not included in the project. The Project Scope Management processes include:

- Scope Planning - creating a project scope management plan that documents how the project scope will be defined, verified, and controlled, and how the work breakdown structure (WBS) will be created and defined
- Scope Definition - developing a detailed project scope statement as the basis for future project decisions
- Create WBS - subdividing the major project deliverables and project work into smaller, more manageable components
- Scope Verification - formalizing acceptance of the completed project deliverables
- Scope Control - controlling changes to the project scope.

## 3. 项目时间管理

### Project Time Management

Project Time Management includes the processes required to accomplish timely completion of the project. The Project Time Management processes include:

- Activity Definition - identifying the specific schedule activities that need to be performed to produce the various project deliverables
- Activity Sequencing - identifying and documenting dependencies among schedule activities
- Activity Resource Estimating - estimating the type and quantities of resources required to perform each schedule activity
- Activity Duration Estimating - estimating the number of work periods that will be needed to complete individual schedule activities
- Schedule Development - analyzing activity sequences, durations, resource requirements, and schedule constraints to create the project schedule
- Schedule Control - controlling changes to the project schedule.

## 2. 项目成本管理

### **Project Cost Management**

Project Cost Management includes the processes involved in planning, estimating, budgeting, and controlling costs so that the project can be completed within the approved budget. The Project Cost Management processes include:

- Cost Estimating - developing an approximation of the costs of the resources needed to complete project activities
- Cost Budgeting - aggregating the estimated costs of individual activities or work packages to establish a cost baseline
- Cost Control - influencing the factors that create cost variances and controlling changes to the project budget.

## 3. 项目质量管理

### **Project Quality Management**

Project Quality Management includes the processes and activities of the performing organization that determine quality policies, objectives, and responsibilities so that the project will satisfy the needs for which it was undertaken. It implements the quality management system through policy and procedures, with continuous process improvement activities conducted throughout, as appropriate. The Project Quality Management processes include:

- Quality Planning - identifying which quality standards are relevant to the project and determining how to satisfy them
- Perform Quality Assurance - applying the planned, systematic quality activities to ensure that the project employs all processes needed to meet requirements
- Perform Quality Control - monitoring specific project results to determine whether they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.

#### 4. 项目人力资源管理

##### **Project Human Resource Management**

Project Human Resource Management includes the processes that organize and manage the project team. The project team is comprised of the people who have assigned roles and responsibilities for completing the project. While it is common to speak of roles and responsibilities being assigned, team members should be involved in much of the project's planning and decision-making. Early involvement of team members adds expertise during the planning process and strengthens commitment to the project. The type and number of project team members can often change as the project progresses. Project team members can be referred to as the project's staff. Project Human Resource Management processes include:

- Human Resource Planning - Identifying and documenting project roles, responsibilities, and reporting relationships, as well as creating the staffing management plan
- Acquire Project Team - Obtaining the human resources needed to complete the project
- Develop Project Team - Improving the competencies and interaction of team members to enhance project performance
- Manage Project Team - Tracking team member performance, providing feedback, resolving issues, and coordinating changes to enhance project performance.

#### 5. 项目沟通管理

##### **Project Communications Management**

Project Communications Management includes the processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, and ultimate disposition of project information. The Project Communications Management processes provide the critical links among people and information that are necessary for successful communications. Project managers can spend an inordinate amount of time communicating with the project team, stakeholders, customer, and sponsor. Everyone involved in the project should understand how communications affect the project as a whole. Project Communications Management processes include:

- Communications Planning - determining the information and communications needs of the project stakeholders
- Information Distribution - making needed information available to project stakeholders in a timely manner
- Performance Reporting - collecting and distributing performance information, including status reporting, progress measurement, and forecasting
- Manage Stakeholders - managing communications to satisfy the requirements of, and resolve issues with, project stakeholders.

## 6. 项目风险管理

### Project Risk Management

Project Risk Management includes the processes concerned with conducting risk management planning, identification, analysis, responses, and monitoring and control on a project. The objectives of Project Risk Management are to increase the probability and impact of positive events and decrease the probability and impact of events adverse to project objectives. Project Risk Management processes include:

- Risk Management Planning - deciding how to approach, plan, and execute the risk management activities for a project
- Risk Identification - determining which risks might affect the project and documenting their characteristics
- Qualitative Risk Analysis - prioritizing risks for subsequent further analysis or action by assessing and combining their probability of occurrence and impact
- Quantitative Risk Analysis - numerically analyzing the effect on overall project objectives of identified risks
- Risk Response Planning - developing options and actions to enhance opportunities and to reduce threats to project objectives
- Risk Monitoring and Control - tracking identified risks, monitoring residual risks, identifying new risks, executing risk response plans, and evaluating their effectiveness throughout the project life cycle.

## 7. 项目采购管理

### Project Procurement Management

Project Procurement Management includes the processes to purchase or acquire the products, services, or results needed from outside the project team to perform the work. This chapter presents two perspectives of procurement. The organization can be either the buyer or seller of the product, service, or results under a contract.

Project Procurement Management includes the contract management and change control processes required to administer contracts or purchase orders issued by authorized project team members. Project Procurement Management also includes administering any contract issued by an outside organization (the buyer) that is acquiring the project from the performing organization (the seller) and administering contractual obligations placed on the project team by the contract. Project Procurement Management processes include:

- Plan Purchases and Acquisitions - determining what to purchase or acquire, and determining when and how
- Plan Contracting - documenting products, services, and results requirements and identifying potential sellers
- Request Seller Responses - obtaining information, quotations, bids, offers, or proposals, as appropriate
- Select Sellers - reviewing offers, choosing from among potential sellers, and negotiating a written contract with a seller

- Contract Administration - managing the contract and the relationship between the buyer and the seller, reviewing and documenting how a seller is performing or has performed to establish required corrective actions and provide a basis for future relationships with the seller, managing contract related changes and, when appropriate, managing the contractual relationship with the outside buyer of the project
- Contract Closure - completing and settling each contract, including the resolution of any open items, and closing each contract.

## 项目知识领域摘要

### 项目整体管理

项目整体管理包括识别、确定、结合、统一与协调各项目管理过程组内各种各样过程与项目管理活动时需要进行的各种过程和活动。

从项目管理的角度来看，“整体管理”兼有统一、合并、结合的各方面特征，并且包括为了完成项目，满足顾客与其他利害相关者的要求，管理他们的期望而必须采取的贯穿项目整体的至关重要的行动。

项目整体管理各个过程包括：

- 制定项目章程 - 制定正式核准项目的项目章程。
- 制定项目初步范围说明书 - 制定从高层次说明范围的项目初步范围说明书。
- 制定项目管理计划 - 将确定、编写、协调与组合所有部分计划所需要的行动形成文件，使其成为项目管理计划。
- 指导与管理项目执行 - 执行项目管理计划所确定的工作，实现项目范围说明书明确的项目要求。
- 监控项目工作 - 监视和控制启动、规划、执行和结束项目所必需的各个过程，以便满足项目管理计划中确定的实施目标。
- 整体变更控制 - 审查所有的变更请求，批准变更并控制可交付成果和组织过程资产。
- 项目收尾 - 最终完成所有项目过程组的所有活动，正式结束项目或项目阶段。

## 项目范围管理

项目范围管理是确保项目包括成功完成项目所需的全部工作，但又只包括必须完成的工作的各个过程。它主要关心的是确定与控制哪些内容应该或不应该包括在项目之内。项目范围管理各过程包括：

- 范围规划 制定项目范围管理计划，记载如何确定、核实与控制项目范围，以及如何制定与定义工作分解结构（WBS）。
- 范围定义 制定详细的项目范围说明书，作为将来项目决策的根据。
- 制作工作分解结构 将项目大的可交付成果与项目工作划分为较小和更易管理的组成部分。
- 范围核实 正式验收已经完成的项目可交付成果。
- 范围控制 控制项目范围的变更。

## 项目时间管理

项目时间管理包括使项目按时完成必须进行的各项过程。项目时间管理包括的各过程如下：

- 活动定义 - 确定为产生项目各种可交付成果而必须进行的具体计划活动。
- 活动排序 - 确定各计划活动之间的依存关系，并形成文件。
- 活动资源估算 - 估算完成各计划活动所需资源的种类与数量。
- 活动持续时间估算 - 估算完成各计划活动所需工时单位数。
- 制定进度表 - 分析活动顺序、活动持续时间、资源要求，以及进度制约因素，从而制定项目进度表。
- 进度控制 - 控制项目进度表变更。

## 项目费用管理

项目费用管理包括为了使项目在批准的预算内完成，而对费用进行规划、估算、预算和控制的各个过程。项目费用管理包括如下各个过程：

- 费用估算 - 估算完成项目各项活动所需资源的费用近似值。
- 费用预算 - 汇总各单个活动或工作细目的估算费用，确定一个费用基准。
- 费用控制 - 对造成费用偏差的因素施加影响，并控制项目预算的变更。

## 项目质量管理

项目质量管理包括实施组织为了满足项目需要而确定质量方针、目标与责任的过程与活动。项目质量管理通过方针与程序，以及自始至终连续不断的过程改进活动来实施质量管理。项目质量管理包括如下各个过程：

- 质量规划 - 明确哪些质量标准适用于本项目，并确定应如何达到这些质量标准。
- 实施质量保证 - 开展经过规划和系统化的质量活动，确保项目使用为满足要求而需要的所有过程。
- 实施质量控制 - 监视具体的项目结果，判断这些结果是否符合有关的质量标准，并识别适当的方式消除造成实施结果不令人满意的原因。

## 项目人力资源管理

项目人力资源管理包括组织与管理项目团队的各个过程。项目团队由分派了完成项目的角色与责任的人组成。虽然平常说是分派了角色与责任，但团队成员应当参与项目规划与决策的大部分工作。团队成员尽早参与规划过程，这样有利于增加经验，加强对项目的责任心与投入。项目团队成员的类型与人数随着项目的绩效经常改变。项目团队成员可以称为项目人员。项目人力资源管理由下面的过程组成：

- 人力资源规划－明确、记载并分派项目的角色、责任和互相通报的关系，并制定人员配备管理计划。
- 项目团队组建－取得完成项目所需要的人力资源。
- 项目团队建设－提高团队成员个人的能力，改善成员之间的合作与配合，以便增强项目的实施效果。
- 项目团队管理－跟踪团队成员的表现，提供反馈，解决问题，并协调各种变动，以便增强项目的实施效果。

## 项目沟通管理

项目沟通管理包括确保项目信息及时、恰当地生成、收集、分发、存储、检索，以及最终处置所必需的各个过程。项目沟通管理各过程成为人员与信息之间必不可少的联系，否则就无法实现成功的沟通。项目经理花在同项目团队、利害相关者、顾客与赞助人沟通上的时间经常难以计算。参与项目的每一个人都应当明白，沟通是如何影响项目整体的。项目沟通管理各过程包括：

- 沟通规划－确定项目利害相关者的信息与沟通需要。
- 信息发布－为项目利害相关者及时地提供他们所需要的信息。
- 绩效报告－收集与分发绩效信息，包括状态报告、绩效测量与预测。
- 利害相关者管理－对沟通进行管理，满足项目利害相关者的要求，解决他们提出的问题。

## 项目风险管理

项目风险管理包括的过程有：风险管理规划、风险识别、风险分析、风险应对与控制。项目风险管理的目标是提高有利于实现项目目标的事件发生概率并增强其后果，降低不利于实现项目目标事件发生的概率并减轻其后果。项目风险管理包括如下过程：

- 风险管理规划－决定如何对待、规划和开展项目的风险管理活动。
- 风险识别－明确有哪些风险会影响到本项目，并记载这些风险的各项特征。
- 定性风险分析－估计风险发生的概率和造成的后果，并将其结合起来，确定风险的重要性大小顺序，以便日后进一步分析或采取行动。
- 定量风险分析－在数值上分析已识别风险对项目总体目标的影响大小。
- 风险应对规划－对于为项目目标带来机会和造成威胁的风险，提出和制定可供选择的方案与行动。
- 风险监控－整个项目生命期自始至终跟踪已识别的风险，监视残余风险，识别新风险，执行风险应对计划并评价其有效性。



## 项目采购管理

项目采购管理包括为了完成项目工作，而从项目团队外部购买或获取所需产品、服务或成果的各个过程。这一章介绍了采购的两个方面。组织既可以是产品、服务或成果买卖合同的买主，也可以是卖主。项目采购管理包括管理合同或由授权的项目团队成员提出的采购订单所需要的合同管理与变更控制过程。项目采购管理还包括管理由从本实施组织（卖主）获取本项目的某外部组织（买主）所发出的任何合同，并管理该合同为项目团队规定的合同义务。项目采购管理各过程包括：

- 采购规划－确定购买或获取何物，以及何时以何种方式购买或获取。
- 发包规划－将产品、服务和成果要求形成文件并识别潜在的卖主。
- 询价－根据情况取得信息、报价、标书、邀约或建议书。
- 卖方选择－审查邀约，挑选潜在的卖主并与卖主就书面合同进行谈判。
- 合同管理－管理合同与买卖双方之间的关系，审查并记载卖主过去和现在如何履行合同，据此确定必要的纠正措施，并为确定将来与卖主的关系奠定基础，管理与合同有关的变更，并在适当的时候管理同项目以外买主的合同关系。
- 合同收尾－完成并解决每一个合同，包括解决所有的未决事项，并结束每一个合同。