The Project Management Knowledge Areas as defined by PMI (PMBOK, 2004)

**Integration Management** – is the processes required to ensure that the various elements of the project are properly coordinated.

**Scope Management** – the processes required to ensure that the project includes all the work required, and only the work required, to complete the project successfully.

**Time Management** – the processes required to ensure the timely completion of the project.

**Cost Management** – the processes required to ensure the project is completed within the approved budget.

**Quality Management** - the processes required to ensure the project will satisfy the needs for which it was undertaken.

**Human Resource Management** - the processes required to make the most effective use of people involved with the project.

**Communications Management** - the processes required to ensure the timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project knowledge.

**Risk Management** - the processes concerned with identifying, analyzing, and responding to project risk.

**Procurement Management** – the processes required to acquire the goods and services from outside the performing organization.
Components of Integration Management

Integration Management

Scope Management

Time Management

Cost Management

Quality Management

Human Resource Management

Communications Management

Risk Management

Procurement Management

Project Plan Development – taking the results of other planning processes and putting them into a consistent and coherent document

Project Plan Execution – carrying out the project plan by performing the project’s activities

Integrated Change Control – coordinating changes across the entire project
Components of Scope Management

- **Integration Management**
- **Scope Management**
- **Time Management**
- **Cost Management**
- **Quality Management**
- **Human Resource Management**
- **Communications Management**
- **Risk Management**
- **Procurement Management**

**Scope Initiation** – authorizing the project or phase is part of project scope management

**Scope Planning** – a written scope statement as the basis for future project decisions.

**Scope Definition** – subdividing the major project deliverables into smaller more manageable components

**Scope Verification** – formalizing acceptance of the project scope

**Scope Change Control** – controlling changes to project scope
Components of Time Management

- **Integration Management**
  - **Activity Definition** – identifying the specific activities that must be performed to produce the project deliverables

- **Scope Management**
  - **Activity Sequencing** – identifying and documenting the projects interactivity relationships

- **Time Management**
  - **Activity Duration Estimating** – estimating the number of work periods needed to complete the projects activities

- **Cost Management**
  - **Schedule Development** – analyzing activity sequences, activity durations, and resource requirements to complete the project schedule

- **Quality Management**
  - **Schedule Control** – controlling changes to the project schedule

- **Human Resource Management**

- **Communications Management**

- **Risk Management**

- **Procurement Management**

Project Management Knowledge Areas
Components of Cost Management

- Integration Management
- Scope Management
- Time Management
- Cost Management
- Quality Management
- Human Resource Management
- Communications Management
- Risk Management
- Procurement Management

**Resource Planning** – determining what resources (people, materials, methods, machines & equipment) are needed and what quantities of each should be used to perform project activities

**Cost Estimating** – developing an approximation of the costs of the resources required to complete the project

**Cost Budgeting** – allocating the overall cost estimate to individual work activities

**Cost Control** – controlling changes to the project budget
Components of Quality Management

- Integration Management
- Scope Management
- Time Management
- Cost Management
- Quality Management
- Human Resource Management
- Communications Management
- Risk Management
- Procurement Management

**Quality Planning** – identifying which quality standards are relevant to the project and determining how to satisfy them.

**Quality Assurance** – evaluating overall project performance on a regular basis to be sure that the project will satisfy the relevant quality standards.

**Quality Control** – monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance.
Components of Staffing or HR Management

Integration Management

Scope Management

Time Management

Cost Management

Quality Management

Human Resource Management

Communications Management

Risk Management

Procurement Management

Organizational Planning – identifying, documenting and assigning project roles, responsibilities, and reporting relationships

Staff Acquisition – getting the human resources needed assigned to and working on the project

Team Development – developing individual and group competencies to enhance project performance
Components of Communications Management

- Integration Management
- Scope Management
- Time Management
- Cost Management
- Quality Management
- Human Resource Management
- Communications Management
- Risk Management
- Procurement Management

Communications Planning – determining the information and communication needs of the stakeholders

Information Distribution – making needed information available to project stakeholders in a timely manner

Performance Reporting – collecting and disseminating performance information

Administrative Closure – generating, gathering, and disseminating information to formalize phase or project completion
Components of Risk Management

- **Integration Management**
- **Scope Management**
- **Time Management**
- **Cost Management**
- **Quality Management**
- **Human Resource Management**
- **Communications Management**
- **Risk Management**
- **Procurement Management**

**Risk Management Planning** – deciding how to approach and plan for the risks in a project

**Risk Identification** – determining which risks might affect the project and documenting their impact on the organization

**Qualitative Risk Analysis** – performing a qualitative analysis of risks and conditions to prioritize their effects on project objectives

**Quantitative Risk Analysis** – measuring the probability and impact of risk and estimating their implications for project objectives

**Risk Response Planning** – developing procedures and techniques to enhance opportunities and to reduce threats to the projects objectives from objectives

**Risk Monitoring and Control** – keeping track of identified risks, monitoring residual risks and identifying new risks, ensuring the execution of risk plans, and evaluating their effectiveness in reducing risk
Components of Procurement Management

Integration Management

Scope Management

Time Management

Cost Management

Quality Management

Human Resource Management

Communications Management

Risk Management

Procurement Management

Procurement Planning – determining what to procure, how much to procure, and when

Solicitation Planning – documenting project requirements and identifying potential sources

Solicitation – obtaining quotations, bid, offers or proposal as appropriate

Source Selection – choosing from among potential sellers

Contract Administration – managing the relationship with the seller

Contract Closeout – completion and settlement of the contract, including resolution of any open items