



PMI® - PMBoK

Project Management Body of Knowledge

An International Standard

Course Content

- **PrimaFrance**
- **General Information about the PMI®**
- **Understanding the PMBoK Framework**
 - Definition of major elements
 - Overview of Project Management key concepts
 - PMI® Code of Ethics
- **Understanding the Project Management Knowledge Areas**

Expertise

- Approche Stratégique/Consulting
 - Développer une approche par projet en entreprise
 - Mettre en place les équipes et méthodes
 - Aligner l'organisation avec les objectifs stratégiques
-
- Gestion de Portefeuille de Projets (PPM)
 - Faciliter la prise de décision
 - Assurer la compatibilité des projets avec la stratégie de l'entreprise
-
- Formation
 - Programmes de formation Management de projet
 - Outils Primavera® / MSP®
 - Certifications PMI™ (CAPM, PMP, SPM, RPM, PgMP)
-
- Intégration de Systèmes
 - Système d'information projet
 - Développement d'interfaces avec ERP



Quelques Références...



What is PMI?

- **Global Not-for-Profit Professional Association**

- Founded by working project managers
- Members in 185 countries

- **Global Standards**

- 11 standards provide a common framework and language for projects across industries and regions

- **Credentials**

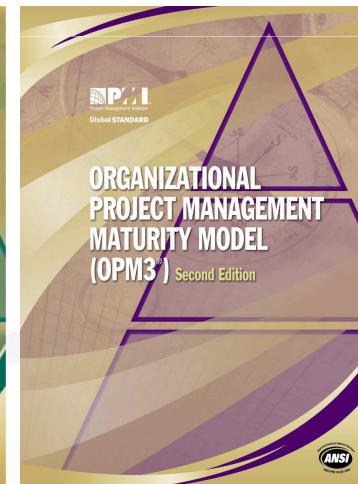
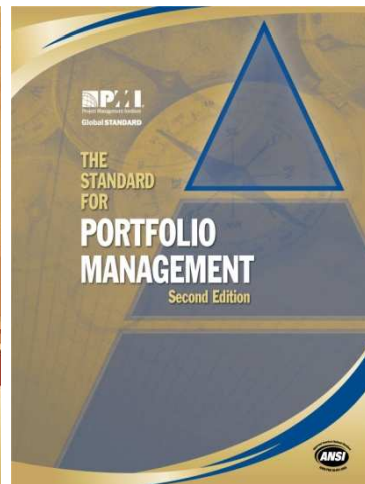
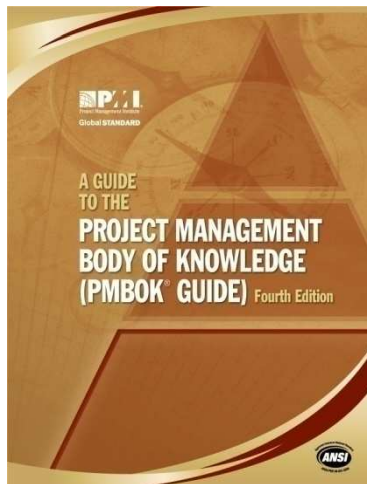
- 5 widely recognized credentials
- Based on both knowledge and work experience

- **Educational Activities**

- Continuing education for credential maintenance
- Accreditation of academic PM programs
- Registered Education Providers (REPs)

PMI® Overview

- **Foundational Standards**

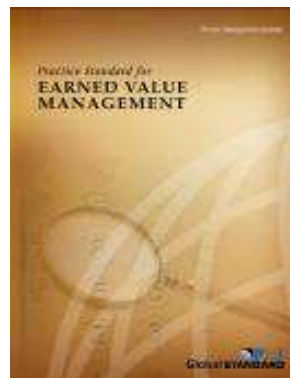


PMI® Overview

■ 11 Standards



PMBOK® Guide-4e



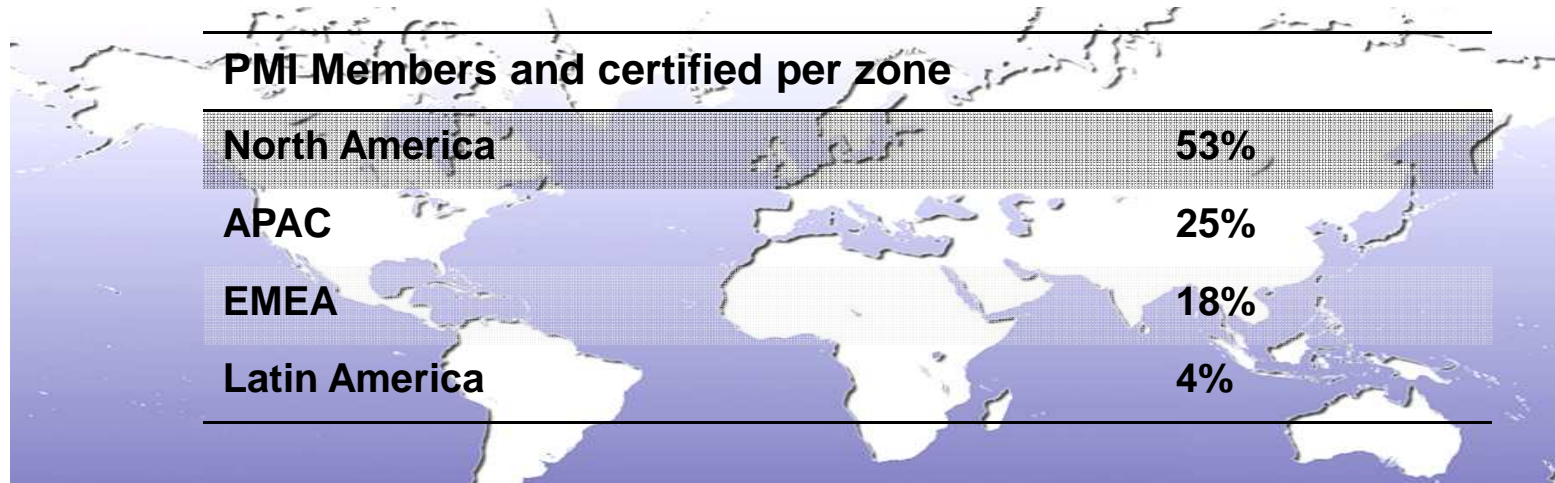
Some PMI® Figures

- 366 542 PMI members worldwide (31/08/2011)
- 250 PMI chapters across 170 countries

	Certified individuals
Certified Associate in Project Management (CAPM ®) – est. 2006	15.423
Project Management Professional (PMP®) – est.1994	466.163
Scheduling Project Management (PMI-SP®) – est. 2008	502
Risk Project Management (PMI-RMP SM) – est. 2008	983
Program Management Professional (PgMP®) – est. 2007	606



Companies –PMI members



Europe

ABB France, Accenture, ADP, Alcatel/Lucent, Areva, BP, Cap Gemini/Ernest Young, Computer Associates, Dell, Deloitte UK, EDS, GE, IBM France, KPMG, Microsoft, Motorola, Nokia, Oracle, Sanofi-Synthelabo, SAP, Siemens Business Services, Sogeti, Sun Microsystems, THALES, Total, etc.

International

ABB, ATT, Bank of America, Bell Canada, CGI, Cisco System, Computer Sciences Corp., Deloitte&Touche, EDS, Ericsson, Fedex, Fujitsu, General Electrics, Glaxo Smith Kline, Hitachi, HP, IBM, Intel, Johnson & Johnson, JP Morgan Chase, Lockheed Martin, NEC, NCR, Nortel, Oracle Corp, Pfizer, PriceWaterhouseCoopers, Samsung, Saudi Aramco, Shell, Siemens, Sprint, The Boeing Co, US Armed Forces, Unisys, etc.

PMP® Examination Specification

■ Role Delineation Study 2010 (updated every 4 years)

- Blueprint for PMP exam
- Each domain contains
 - ➔ Tasks,
 - ➔ Knowledge,
 - ➔ Skills.
- Cross-cutting skills :
 - ➔ Professional & Social responsibility is integrated within each domain.
 - ➔ *The cross-cutting skills are listed in «the Project Management Framework» and «Communications Management» modules*

Domain	% of items on test
Initiating the project	13%
Planning the project	24%
Executing the project	30%
Monitoring & Controlling	25%
Closing the project	8%
Total	100%

PMP® Certification

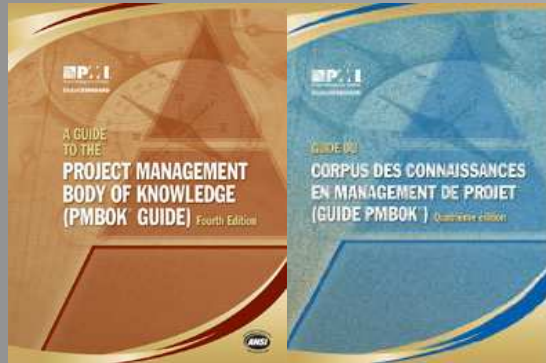
Examination

- **35 hours** of PM training
- **4,500** or 7,500 hours of experience
- Code of Ethics
- Exam
 - 200 questions
 - 4 hours

Certification

- Renewal every **3 years**
- No examination
- **60 PDU** (professional units) awarded for
 - ✓ Attending courses,
 - ✓ Giving lectures,
 - ✓ Working on projects,
 - ✓ Chapter meetings, ...

The Project Management Framework



- **Definitions**
- **Project Life Cycle**
- **Project Process**
- **Processes Groups**
- **Knowledge Areas**
- **Project Environment**
- **Project Stakeholders**
- **Organizational Structure**
- **Project manager's role**
- **Code of Ethics**

Definitions

- **Project**

- Temporary (start-end)
- progressively elaborated,
- delivering a unique product or service

- **Operation**

- Operation is ongoing and repetitive work

- **Project vs Strategy**

- Project is a means for achieving organization's strategic plan

Definitions

- **Program**

- Group of related projects

- **Project Management Office (PMO)**

- Organizational unit to centralize and coordinate the management of projects
- Can exist in any organizational structure

- **Portfolio**

- Collection of projects or programs to facilitate effective management of the work and meet strategic business objectives

Project – Program – Portfolio

- **Project**
 - Project life cycle
 - Customer satisfaction
- **Program**
 - Larger scope
- **Portfolio**
 - Business scope
 - monitoring

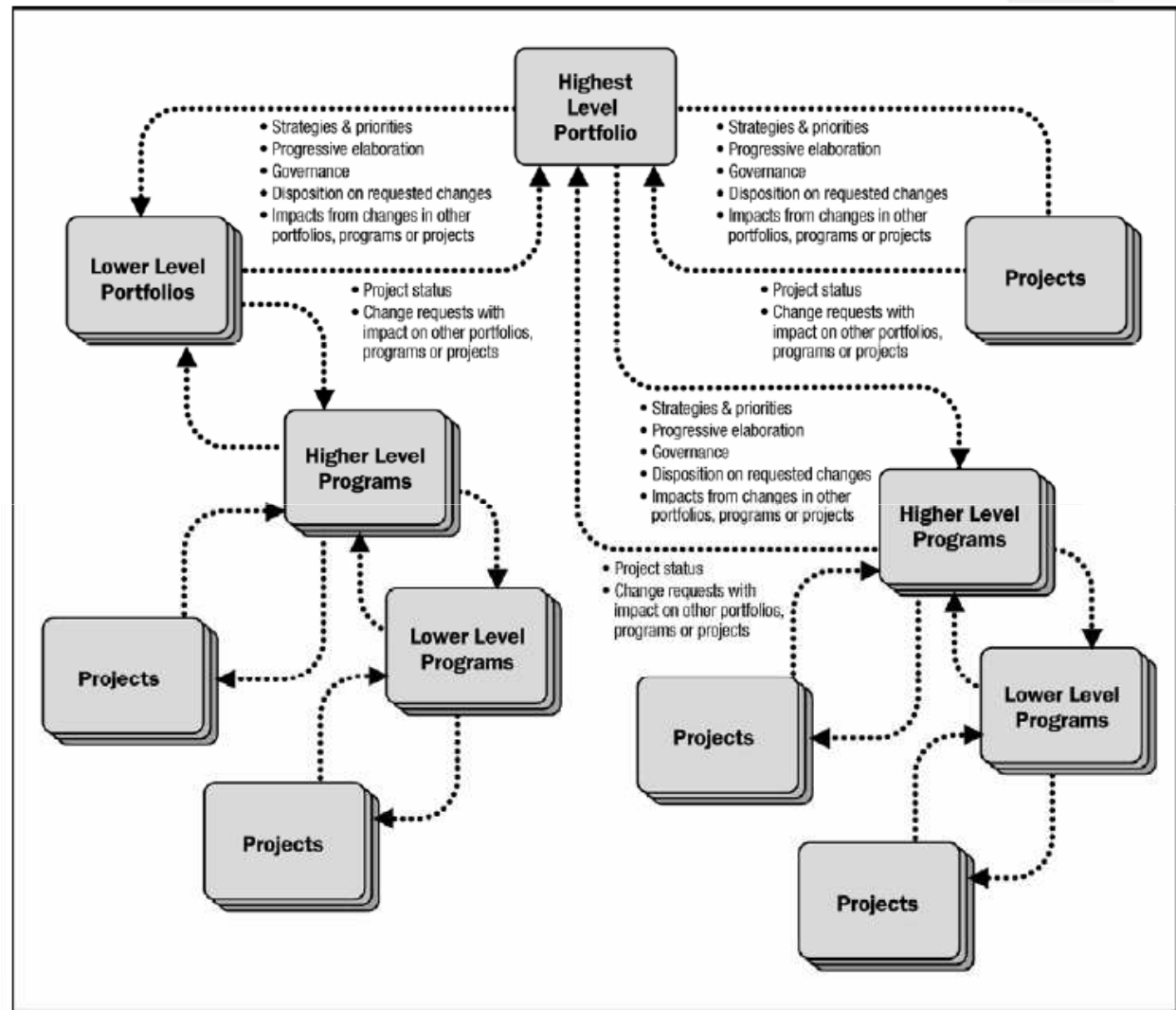
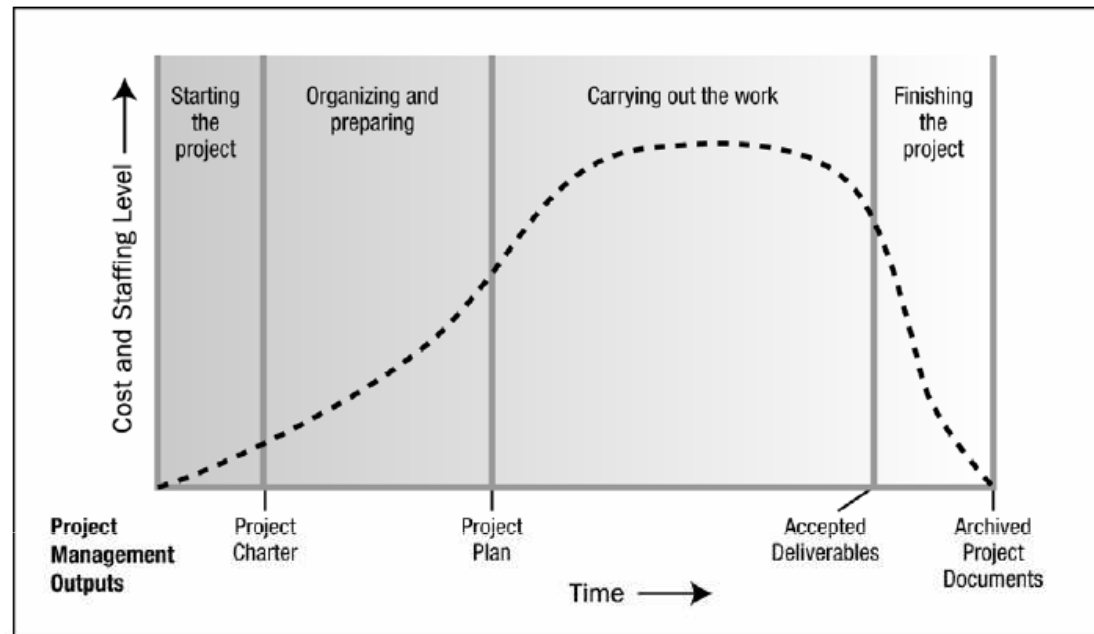


Figure 1-1. Portfolio, Program, and Project Management Interactions

Project Life Cycle



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■ Phase

- Completion and approval of deliverables
- Deliverable
 - ➡ Measurable, verifiable work product

■ Phase end reviews

- Also called exits, gates, kill points

Project Process

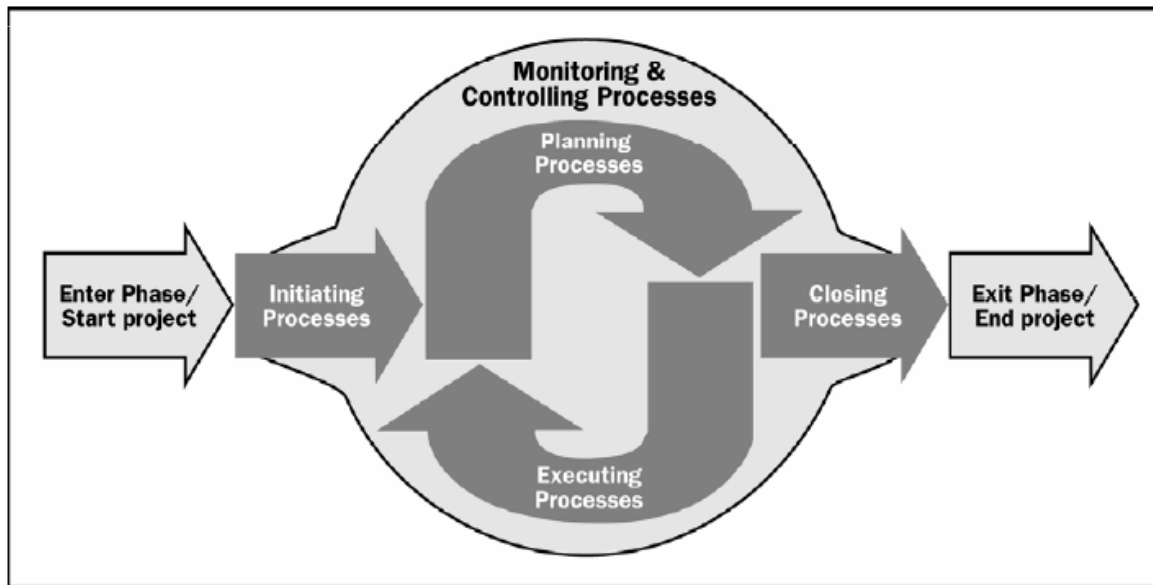
- **Set of interrelated actions or activities performed to deliver a result**
 - Performed by project team



Project Process Groups

■ 5 process groups

- **Initiating:** authorize project or phase
- **Planning:** plan activities to performed
- **Executing:** carry out the project
- **Monitoring & Controlling:** measure & monitor progress
- **Closing:** formalize acceptance of product



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Figure 3-1. Project Management Process Groups

Project Knowledge Areas



Project Integration Management



Project Scope Management



Project Time Management



Project Cost Management



Project Quality Management



Project Human Resource Management



Project Communications Management



Project Risk Management



Project Procurement Management

Project Environment

■ Enterprise Environmental Factors

- Organizational structure and culture
- Business infrastructure system
- Government and industrial standards
- Personnel policies
- Company work authorization systems
- Business market
- Stakeholder tolerance for risk
- Project management information systems



■ Organizational Process Assets

- Processes and procedures
 - ➔ Use of templates and guidelines
- Corporate Knowledge base
 - ➔ Historical information and lessons learned

PMBOK® Guide terms for recurring inputs/outputs

■ **Project Documents**

- Used to assist the project manager in managing the project
- Working documents regularly updated during the project life cycle
- Not part of the project management plan
- Includes
 - ➔ Estimates, metrics, calendars, risk register, work performance information, procurement documents, forecasts, milestone list, etc.

■ **Change requests**

- Corrective action
- Preventive action
- Defect repair

PMBOK® Guide terms for recurring inputs/outputs

■ **Constraints**

- Limit teams' options
- Example
 - ➔ Predefined budget
 - ➔ Imposed dates
 - ➔ Schedule milestone issued by the customer
 - ➔ Contractual provisions...

■ **Assumptions**

- Factors that, for planning purposes, are considered to be true, real or certain without proof or demonstration
- Are analyzed during risk management

Stakeholders

■ Definition

- Persons or organizations actively involved in the project or whose interests may be positively or negatively affected by the performance or completion of the project

- ➔ Customers/users
- ➔ Sponsor
- ➔ Portfolio managers
- ➔ Portfolio review board
- ➔ Program managers
- ➔ Project management office
- ➔ Project managers
- ➔ Project team
- ➔ Functional managers
- ➔ Operations management
- ➔ Sellers/business partners

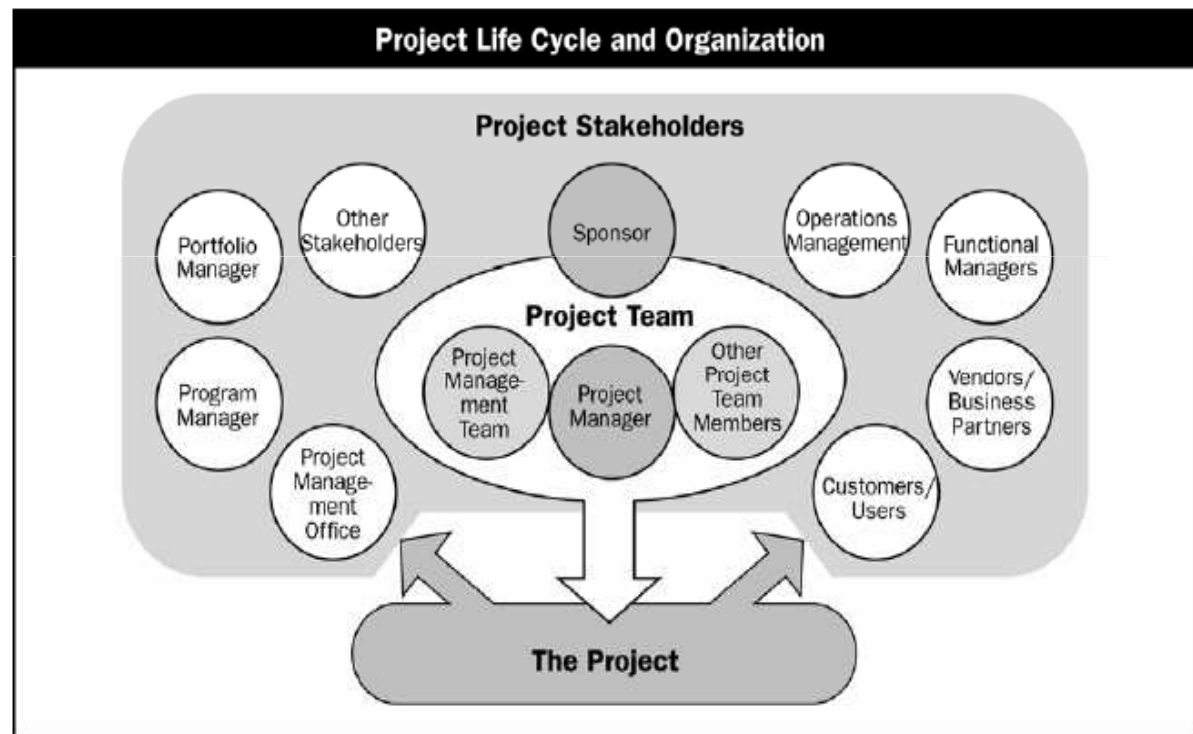


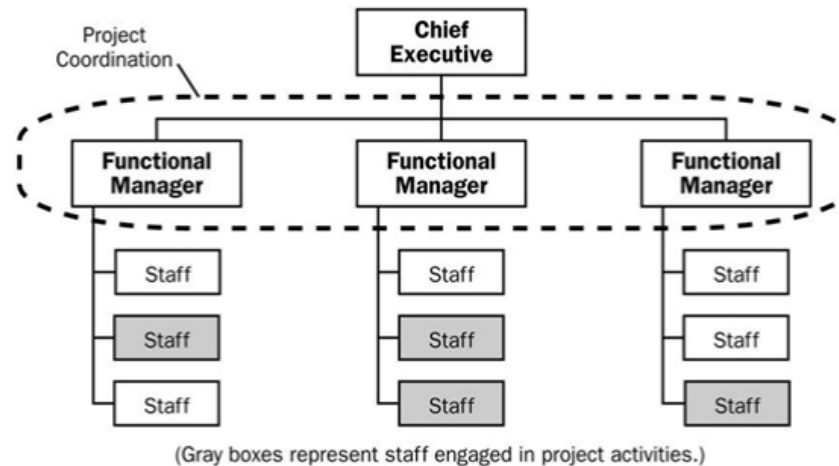
Figure 2-6. The Relationship Between Stakeholders and the Project

PMBOK® Guide 4th Edition, p24

Organizational Structure

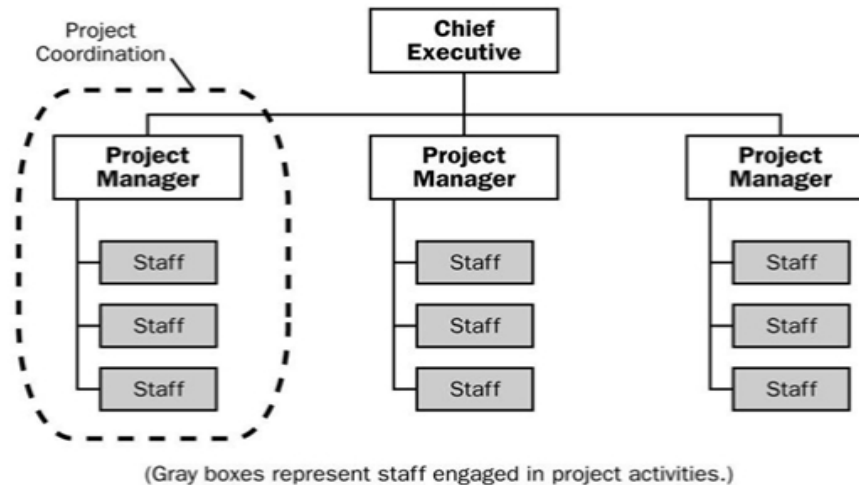
■ Functional Organization

- Silos of specialization
- Project Manager
 - ➔ Has little authority
 - ➔ No control over resources
 - ➔ Part time



■ Projectized Organization

- No silos of specialization
- Project manager
 - ➔ Has full authority
 - ➔ Controls resources
 - ➔ Full-time



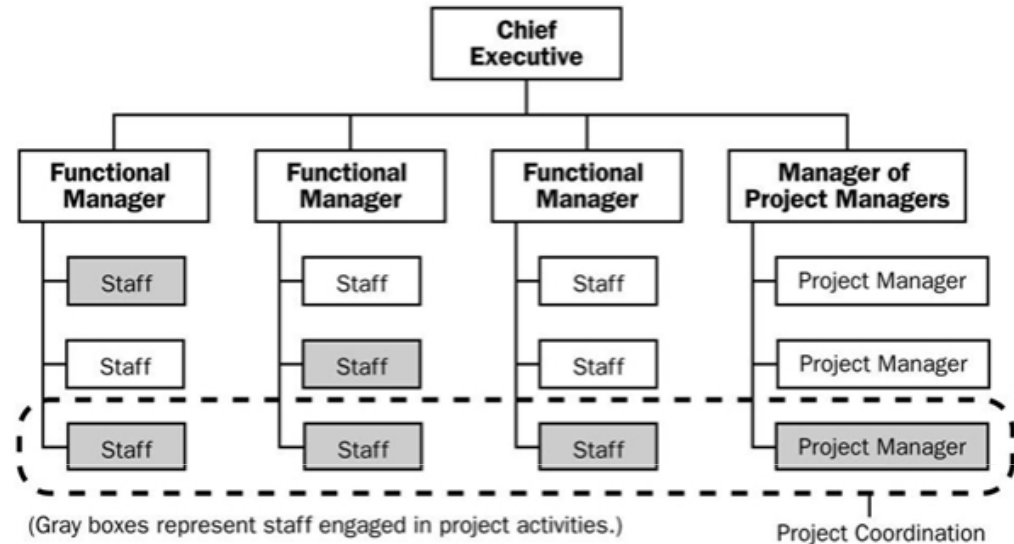
PMBOK® Guide 4th Edition, p29

Organizational Structure

PMBOK® Guide 4th Edition, p30

■ Matrix Organization

- Functional foundation
- Cross-functional teams
- ➔ «Two bosses» syndrome



■ Matrix Types

Weak	Balanced	Strong
<ul style="list-style-type: none"> ❑ Part Time PM ❑ Resources power shifted to Functional Manager 	<ul style="list-style-type: none"> ❑ Full-time PM ❑ Resources power shared 	<ul style="list-style-type: none"> ❑ Full-time PM ❑ Resources power shifted to Project Manager

PM = Project Manager

Project Manager's role

- **Person assigned to achieve the project objectives**

- **Required:**

- Knowledge
- Performance
- Personal / Interpersonal skills
 - ➔ Leadership
 - ➔ Team building
 - ➔ Motivation
 - ➔ Communication
 - ➔ Influencing
 - ➔ Decision making
 - ➔ Political & cultural awareness
 - ➔ Negotiation



PMI® Code of Ethics



Code of Ethics structure

- **The Code of Ethics and Professional Conduct is aligned with the four values that were identified as most important to the project management community.**

**Responsibility
Respect
Fairness
Honesty**

- **Each section includes both aspirational standards (conduct we strive to uphold) and mandatory standards (minimum required).**

Responsibility – Mandatory standards

We inform ourselves and uphold the policies, rules, regulations and laws that govern our work, professional, and volunteer activities.

We report unethical or illegal conduct to appropriate management and, if necessary, to those affected by the conduct.

We bring violations of this Code to the attention of the appropriate body for resolution

We only file ethics complaints when they are substantiated by fact

Key elements :

We do not engage in any illegal behavior, including but not limited to: theft, fraud, corruption, embezzlement, or bribery.

We do not take or abuse the property of others, including intellectual property, nor do we engage in slander or libel.

We cooperate with PMI concerning ethics violations and the collection of related information whether we are a complainant or a respondent.

We also abstain from accusing others of ethical misconduct when we do not have all the facts.

Further, we pursue disciplinary action against individuals who knowingly make false allegations against others

Responsibility – Aspirational standards

We make decisions and take actions based on the best interests of society, public safety, and the environment.

We accept only those assignments that are consistent with our background, experience, skills, and qualifications

We fulfill the commitments that we undertake – we do what we say we will do

When we make errors or omissions, we take ownership and make corrections promptly.

When we discover errors or omissions caused by others, we communicate them to the appropriate body as soon they are discovered.

We accept accountability for any issues resulting from our errors or omissions and any resulting consequences.

We protect proprietary or confidential information that has been entrusted to us

We uphold this Code and hold each other accountable to it

***Comment:** Where stretch assignments are being considered, we ensure that key stakeholders receive timely and complete information regarding the gaps in our qualifications so that they may make informed decisions regarding our suitability for a particular assignment. In the case of a contracting arrangement, we only bid on work that our organization is qualified to perform and we assign only qualified individuals to perform the work*

Respect – Mandatory standards

We negotiate in good faith.

We do not exercise the power of our expertise or position to influence the decisions or actions of others in order to benefit personally at their expense.

We do not act in an abusive manner toward other.

We respect the property rights of others.

We protect proprietary or confidential information that has been entrusted to us

Respect – Aspirational standards

We inform ourselves about the norms and customs of others and avoid engaging in behaviors they might consider disrespectful.

We listen to others' points of view, seeking to understand them.

We approach directly those persons with whom we have a conflict or disagreement.

We conduct ourselves in a professional manner, even when it is not reciprocated.

***Comment:** we avoid engaging in gossip and avoid making negative remarks to undermine another person's reputation.*

We also have a duty under this Code to confront others who engage in these types of behaviors

Fairness – Mandatory standards

We proactively and fully disclose any real or potential conflicts of interest to the appropriate stakeholders.

When we realize that we have a real or potential conflict of interest, we refrain from engaging in the decision-making process or otherwise attempting to influence outcomes, unless or until:

we have made full disclosure to the affected stakeholders; we have an approved mitigation plan; and we have obtained the consent of the stakeholders to proceed

We do not hire or fire, reward or punish, or award or deny contracts based on personal considerations, including but not limited to, favoritism, nepotism, or briber

We do not discriminate against others based on, but not limited to, gender, race, age, religion, disability, nationality, or sexual orientation

We apply the rules of the organization (employer, Project Management Institute, or other group) without favoritism or prejudice.

Fairness – Aspirational standards

We demonstrate transparency in our decision-making process.

We constantly reexamine our impartiality and objectivity, taking corrective action as appropriate.

We provide equal access to information to those who are authorized to have that information.

We make opportunities equally available to qualified candidates.

We protect proprietary or confidential information that has been entrusted to us

Honesty – Mandatory standards

We do not engage in or condone behavior that is designed to deceive others, including but not limited to, making misleading or false statements, stating half-truths, providing information out of context or withholding information that, if known, would render our statements as misleading or incomplete.

We do not engage in dishonest behavior with the intention of personal gain or at the expense of another.

Comment: standards exhort us to be truthful. Half-truths and non-disclosures intended to mislead stakeholders are as unprofessional as affirmatively making misrepresentations. We develop credibility by providing complete and accurate information.

Honesty– Aspirational standards

We earnestly seek to understand the truth.

We are truthful in our communications and in our conduct.

We provide accurate information in a timely manner.

We make commitments and promises, implied or explicit, in good faith.

We strive to create an environment in which others feel safe to tell the truth.

***Comment:** we take appropriate steps to ensure that the information we are basing our decisions upon or providing to others is accurate, reliable, and timely.*

This includes having the courage to share bad news even when it may be poorly received.

Also, when outcomes are negative, we avoid burying information or shifting blame to others.

When outcomes are positive, we avoid taking credit for the achievements of others.

These provisions reinforce our commitment to be both honest and responsible

Responsibility to the organization

- **Implement new practices**

- Perform research to discover best practices
- Share lessons learned within the organization

- **Enhance individual competence**

- Team members' growth
 - ➔ Understand personal strengths and weaknesses
 - ➔ Plan professional development
- Learning
 - ➔ Continue to learn in project management
 - ➔ Help others by training (on-the-job training)
- Mentoring
 - ➔ Coach or mentor team members or other project managers

Responsibility to customer and the public

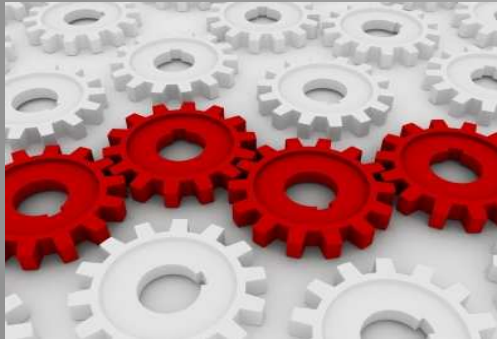
■ **Qualifications, experience**

- Provide accurate and truthful information on estimates concerning costs and expected results
- Maintain and satisfy the scope and objectives of the project
- Maintain and respect confidentiality of sensitive information

■ **Conflict of interest situations**

- Conflict should not compromise interests of the customer
- Refrain from offering or accepting inappropriate payments, gifts or other forms of compensation for personal gain, unless in conformity with applicable laws

Project Management Knowledge Areas



Project Integration Management



Project Scope Management



Project Time Management



Project Cost Management



Project Quality Management



Project Human Resource Management



Project Communications Management



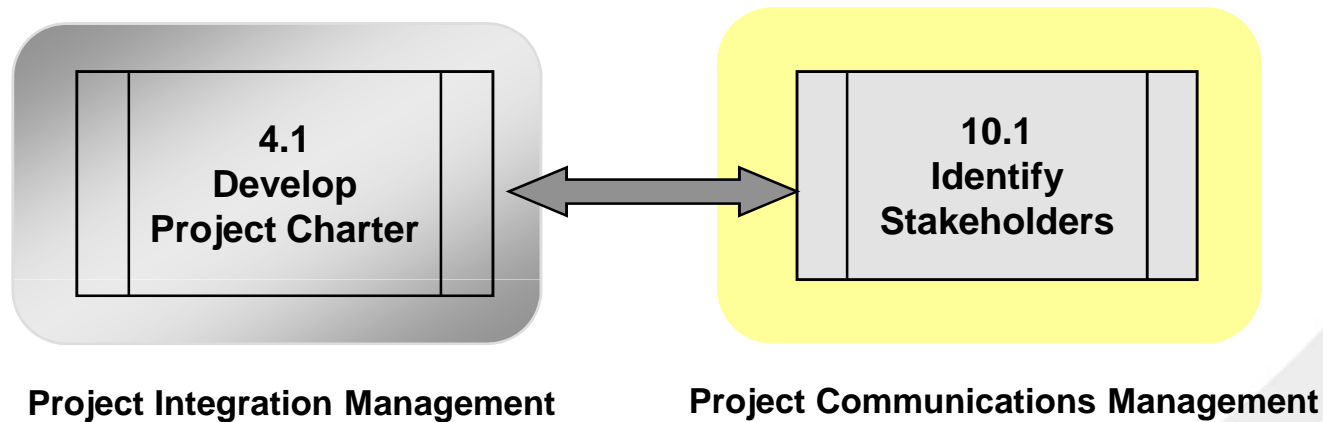
Project Risk Management



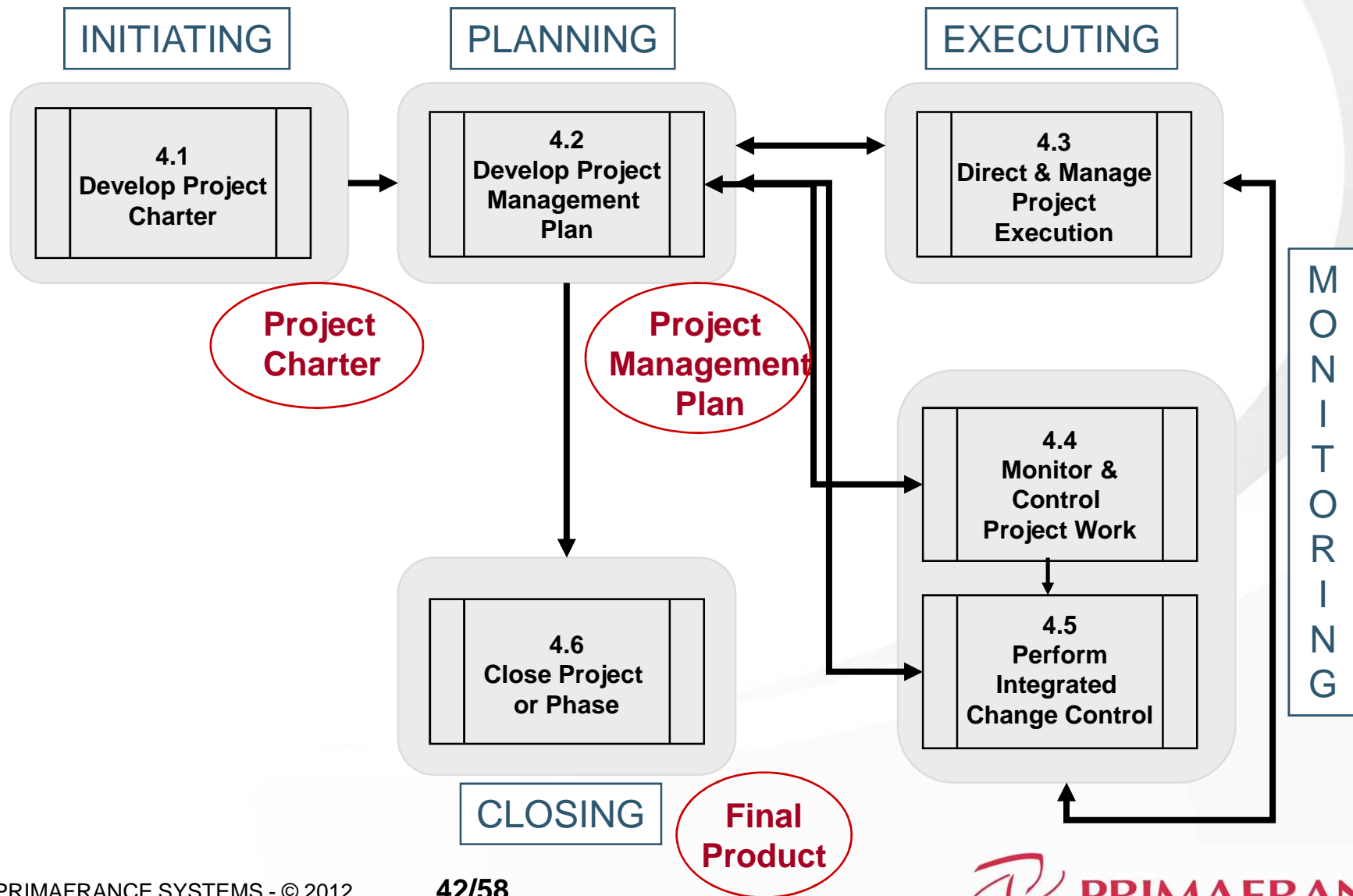
Project Procurement Management

Knowledge Areas	Project Management Process Groups				
	Initiating Process Group	Planning Process Group	Executing Process Group	Monitoring & Controlling Process Group	Closing Process Group
4. Project Integration Management	4.1 Develop Project Charter	4.2 Develop Project Management Plan	4.3 Direct and Manage Project Execution	4.4 Monitor and Control Project Work 4.5 Perform Integrated Change Control	4.6 Close Project or Phase
5. Project Scope Management		5.1 Collect Requirements 5.2 Define Scope 5.3 Create WBS		5.4 Verify Scope 5.5 Control Scope	
6. Project Time Management		6.1 Define Activities 6.2 Sequence Activities 6.3 Estimate Activity Resources 6.4 Estimate Activity Durations 6.5 Develop Schedule		6.6 Control Schedule	
7. Project Cost Management		7.1 Estimate Costs 7.2 Determine Budget		7.3 Control Costs	
8. Project Quality Management		8.1 Plan Quality	8.2 Perform Quality Assurance	8.3 Perform Quality Control	
9. Project Human Resource Management		9.1 Develop Human Resource Plan	9.2 Acquire Project Team 9.3 Develop Project Team 9.4 Manage Project Team		
10. Project Communications Management	10.1 Identify Stakeholders	10.2 Plan Communications	10.3 Distribute Information 10.4 Manage Stakeholder Expectations	10.5 Report Performance	
11. Project Risk Management		11.1 Plan Risk Management 11.2 Identify Risks 11.3 Perform Qualitative Risk Analysis 11.4 Perform Quantitative Risk Analysis 11.5 Plan Risk Responses		11.6 Monitor and Control Risks	
12. Project Procurement Management		12.1 Plan Procurements	12.2 Conduct Procurements	12.3 Administer Procurements	12.4 Close Procurements

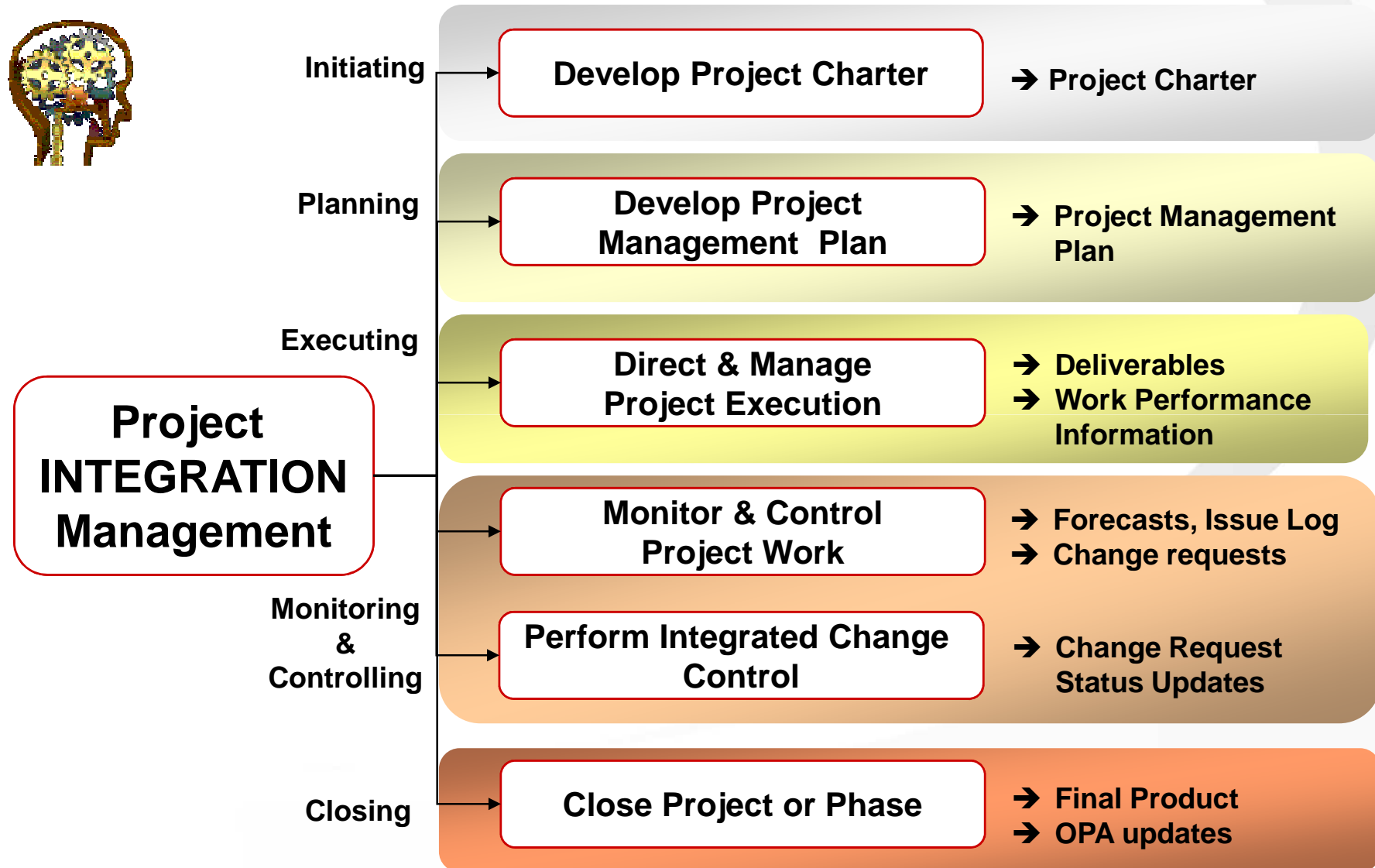
Initiating Processes



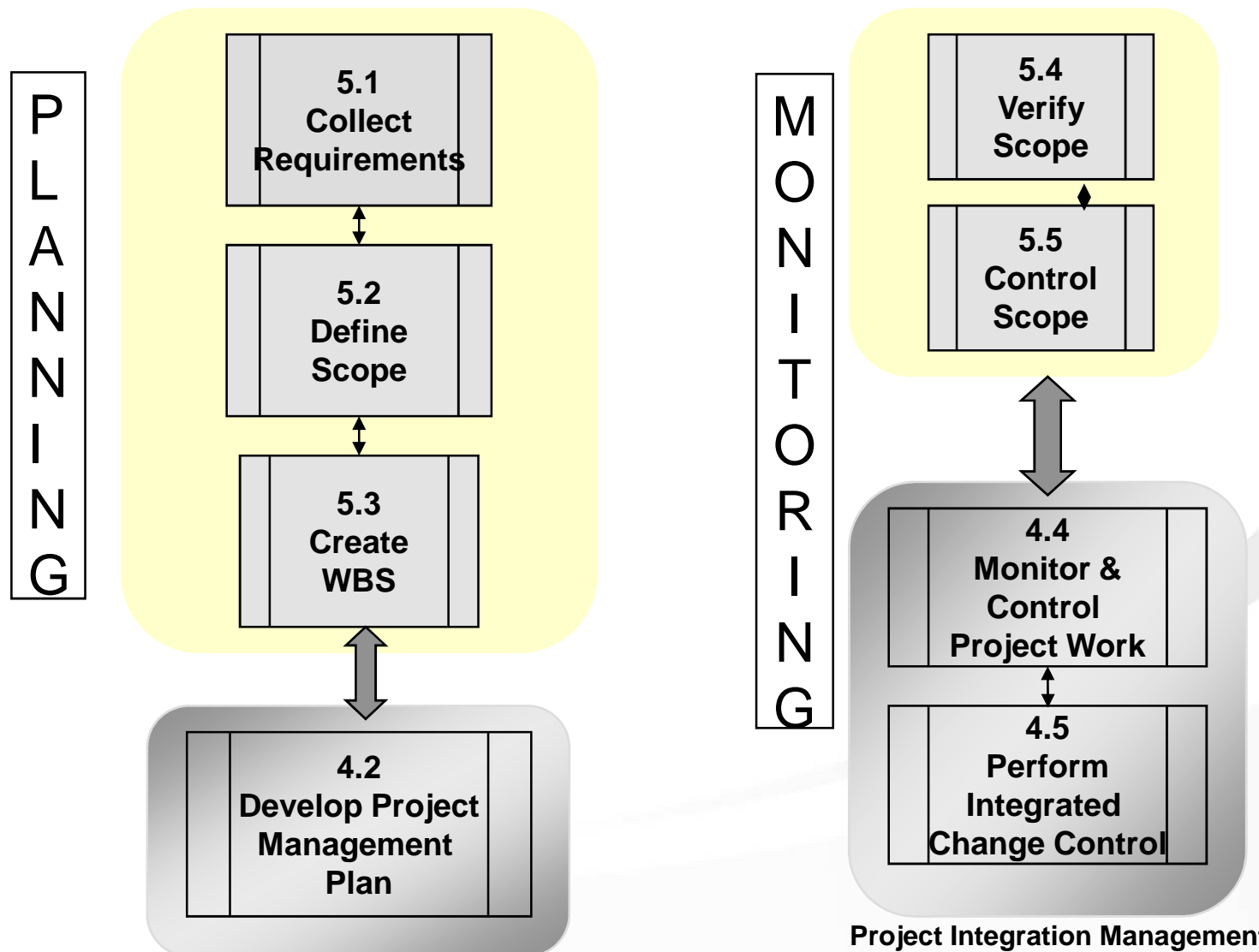
Project Integration Management Processes



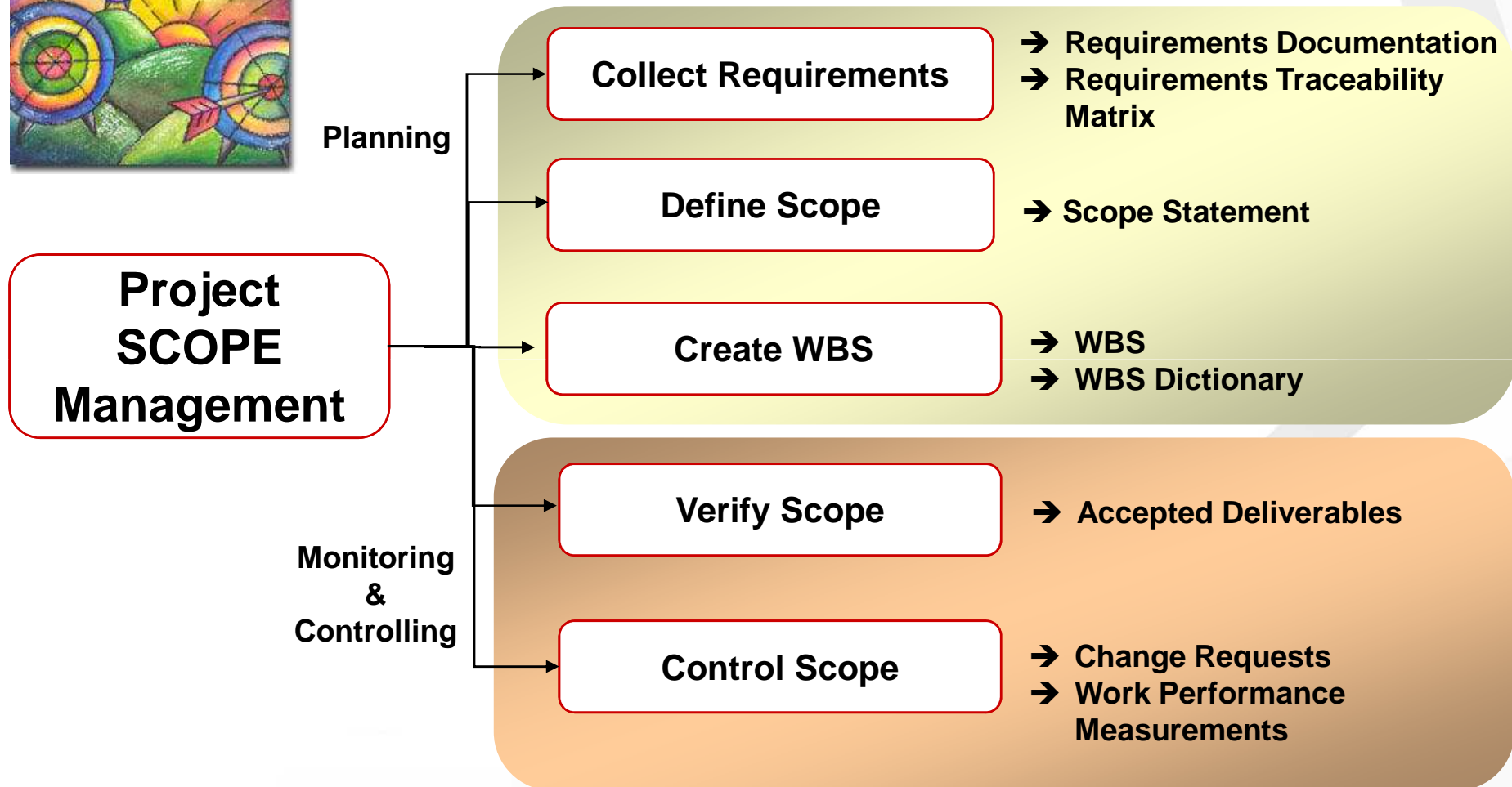
Project Integration Management Processes



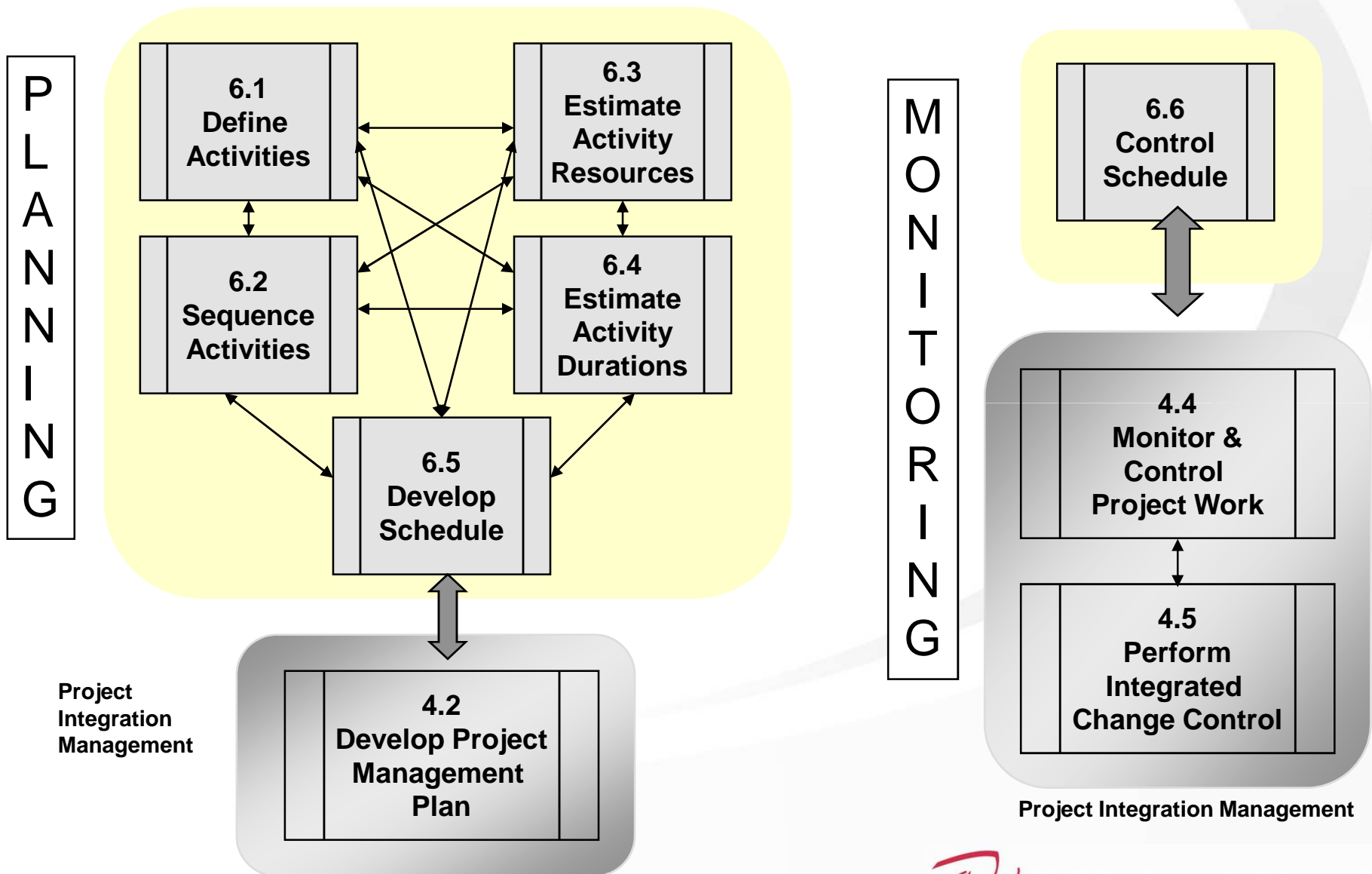
Project Scope Management Processes



Project Scope Management Processes



Project Time Management Processes



Project Time Management Processes



Project TIME Management

Planning

Define Activities

→ Activity list

Sequence Activities

→ Project Network
Diagrams

Estimate Activity Resources

→ Resource Requirements

Estimate Activity Durations

→ Duration Estimates

Develop Schedule

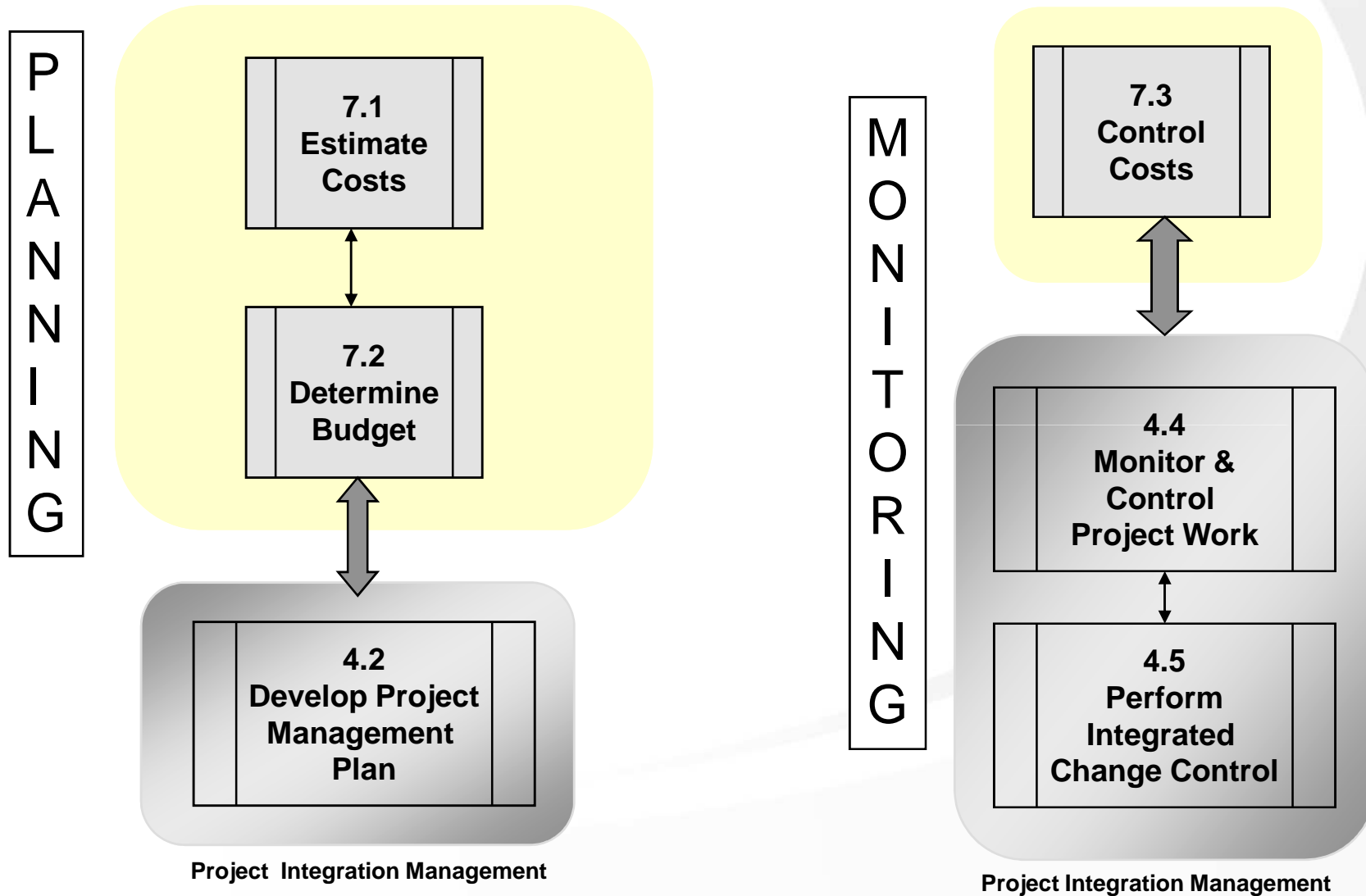
→ Schedule Baseline

Monitoring
&
Controlling

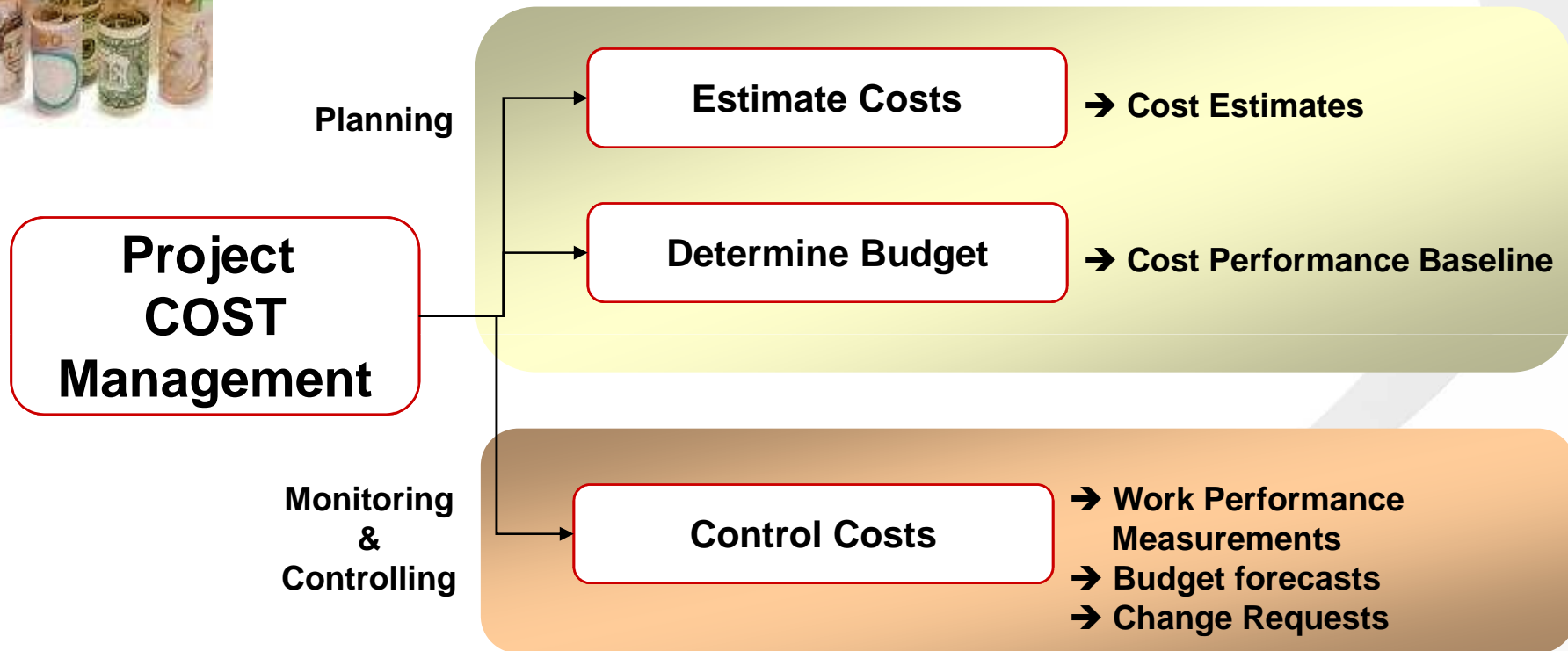
Control Schedule

- Work Performance Measurements
- Change requests

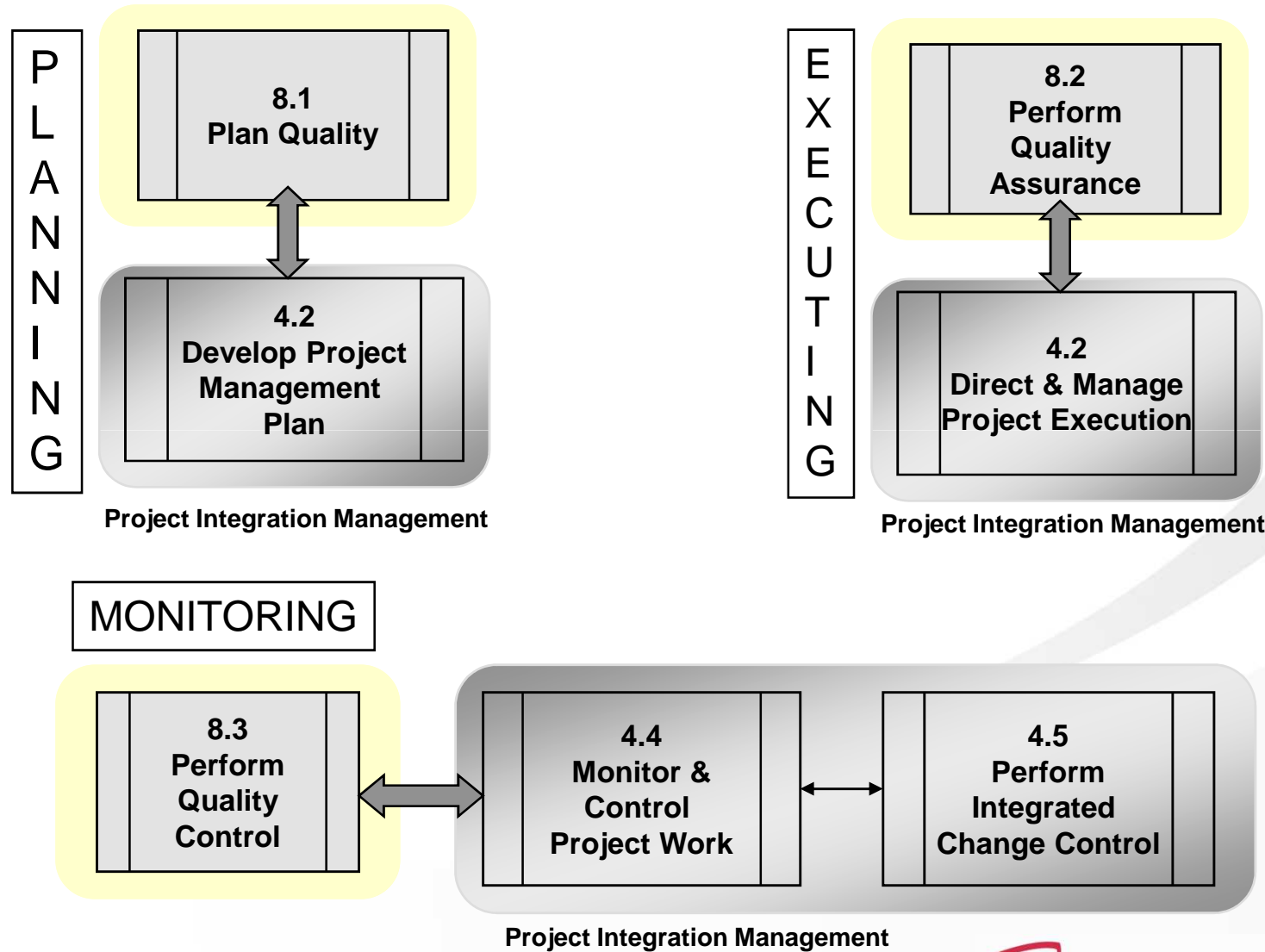
Project Cost Management Processes



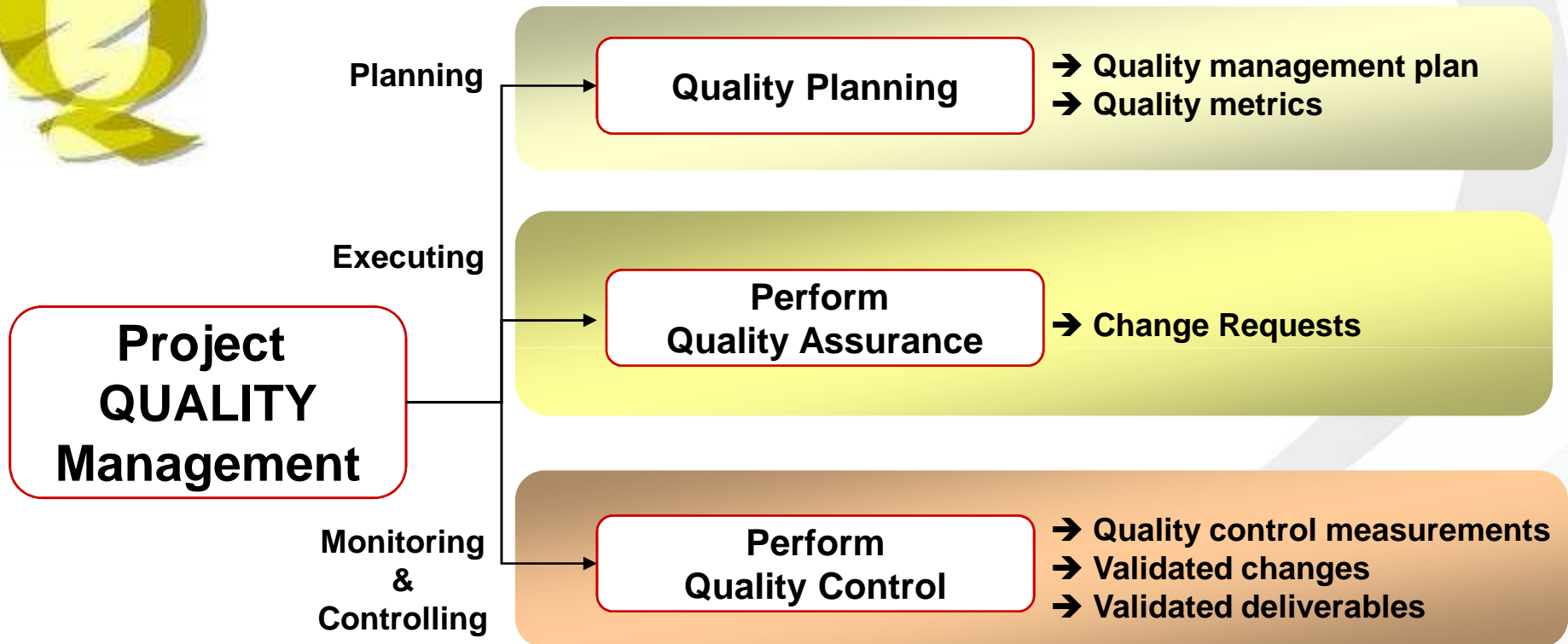
Project Cost Management Processes



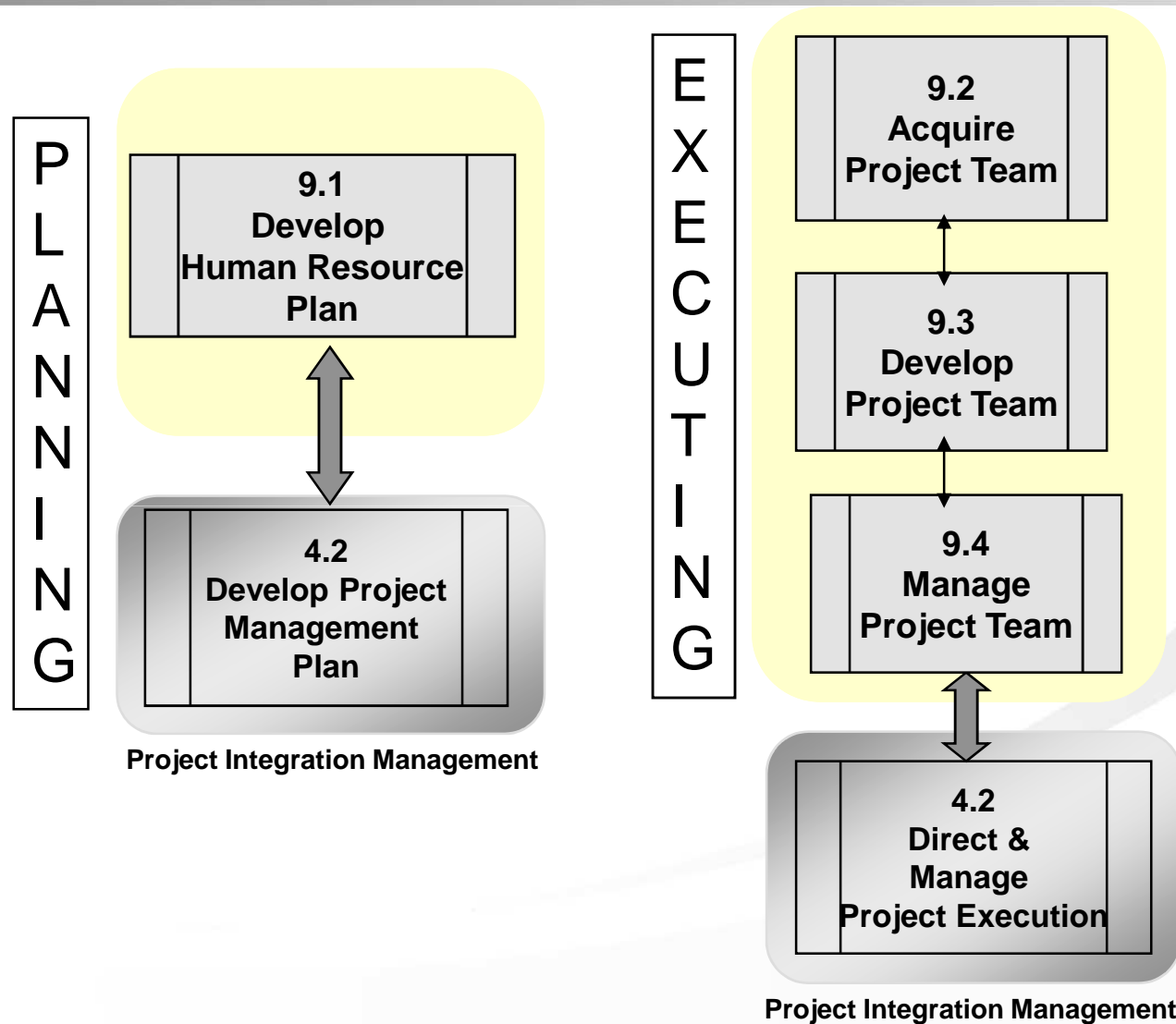
Project Quality Management Processes



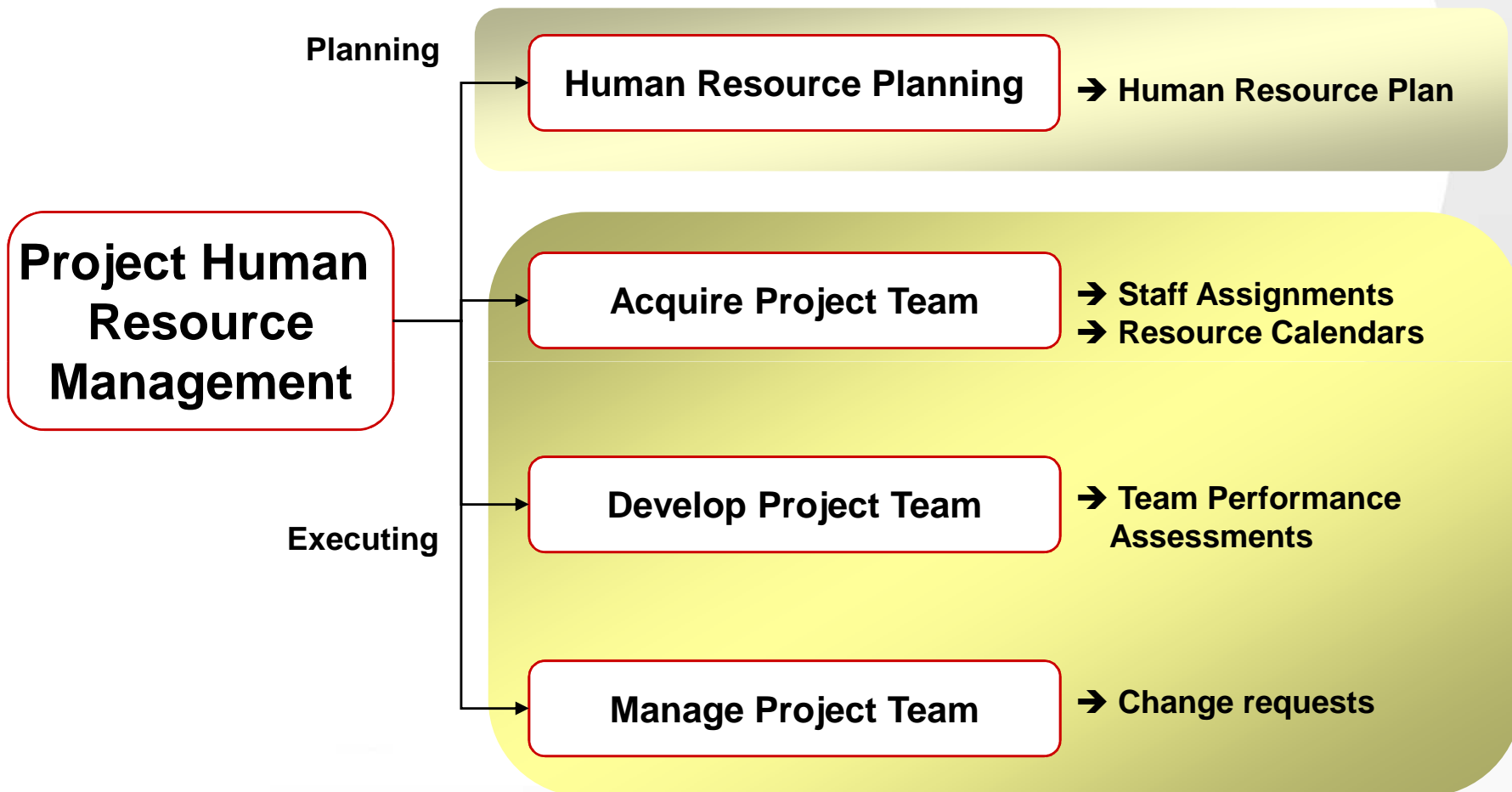
Quality Management Processes



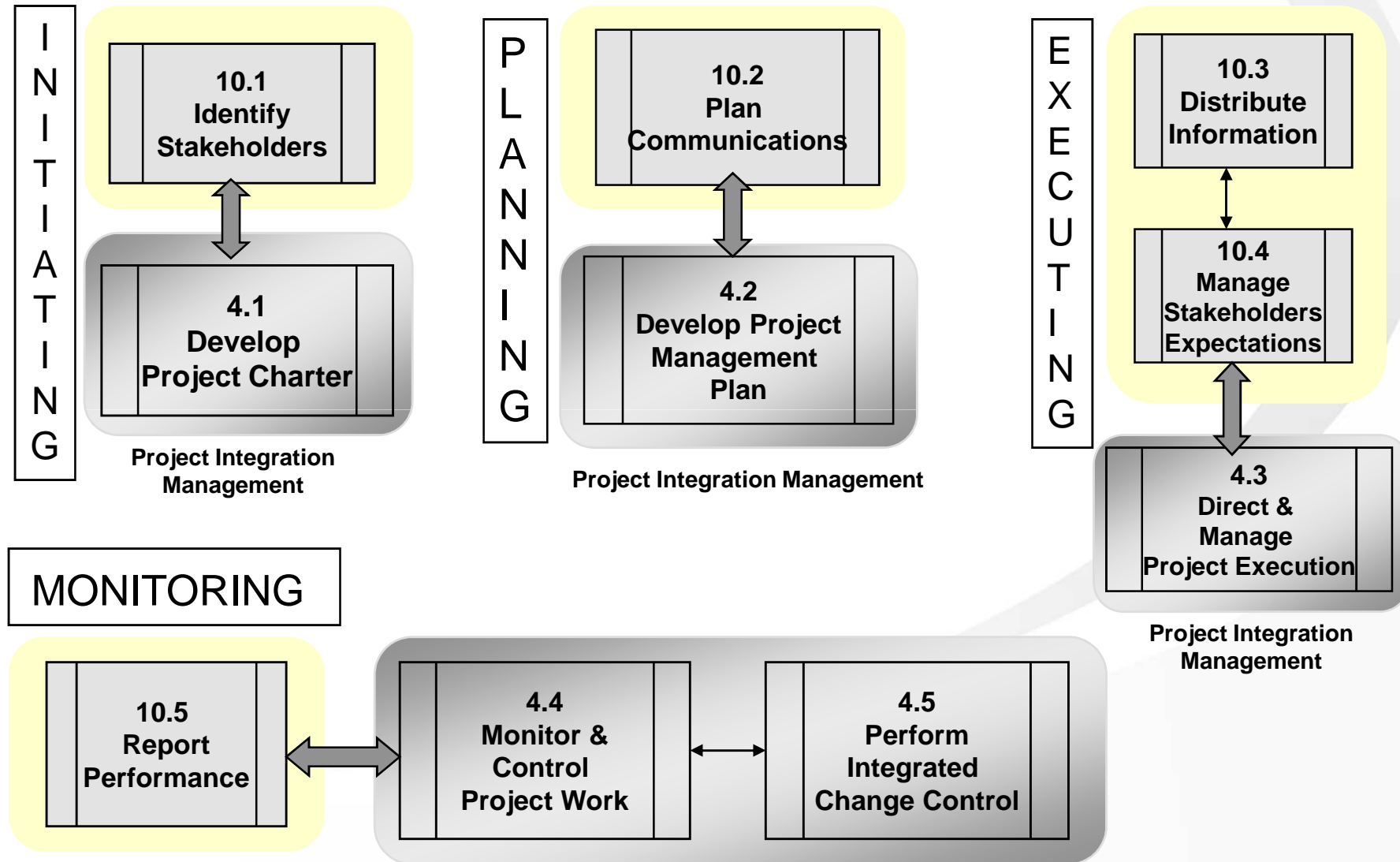
Project Human Resource Management Processes



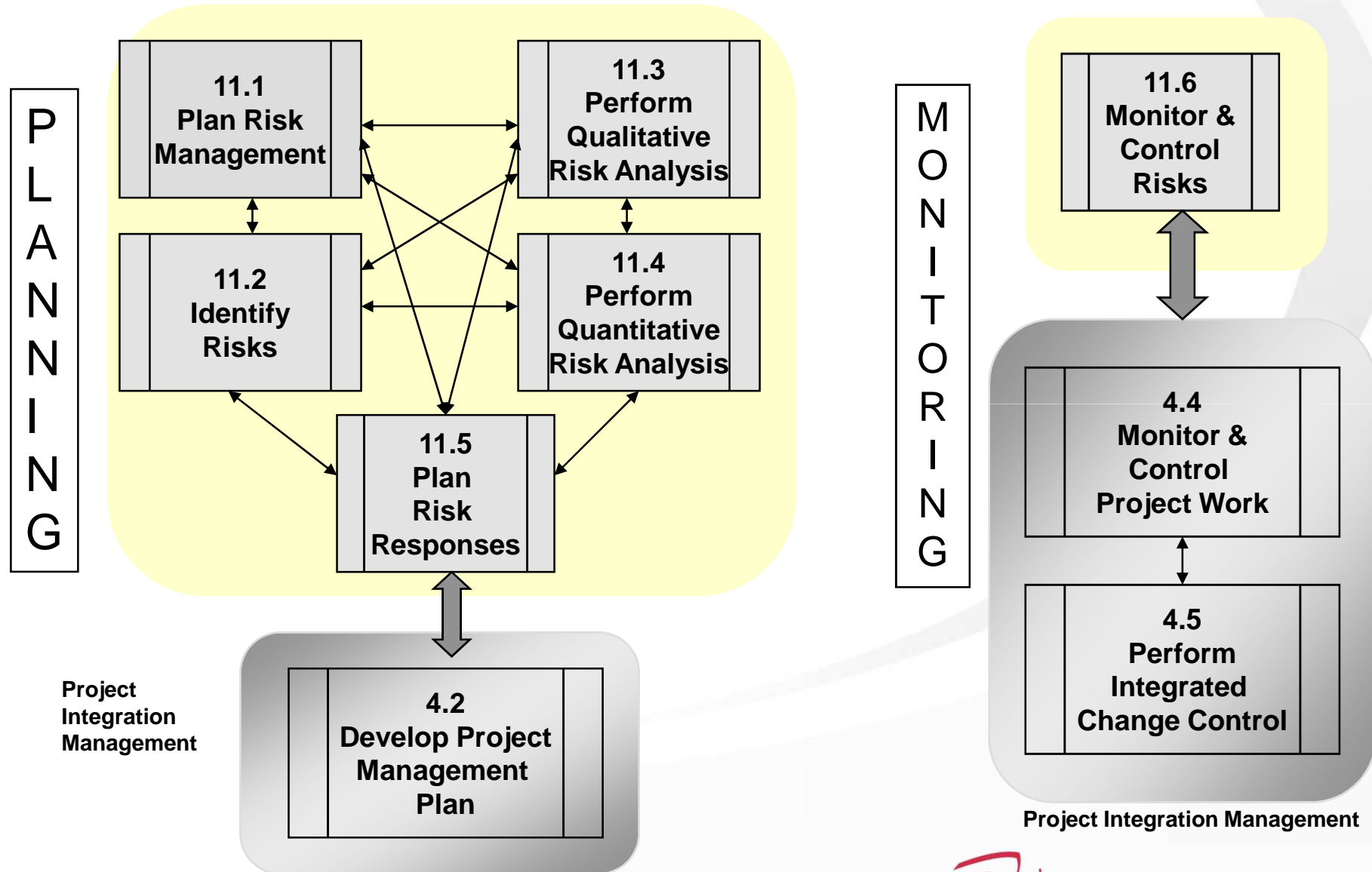
Project Human Resource Management Processes



Project Communications Management Processes



Project Risk Management Processes



Project Risk Management Processes



Project RISK Management

Planning

Plan Risk Management

→ Risk management plan

Identify Risks

→ Risk register
- list of risks

Perform Qualitative Risk Analysis

→ Risk register
- risks grouped by categories

Perform Quantitative Risk Analysis

→ Risk register
- sorted list of risks
- probabilistic analysis

Plan Risk Response

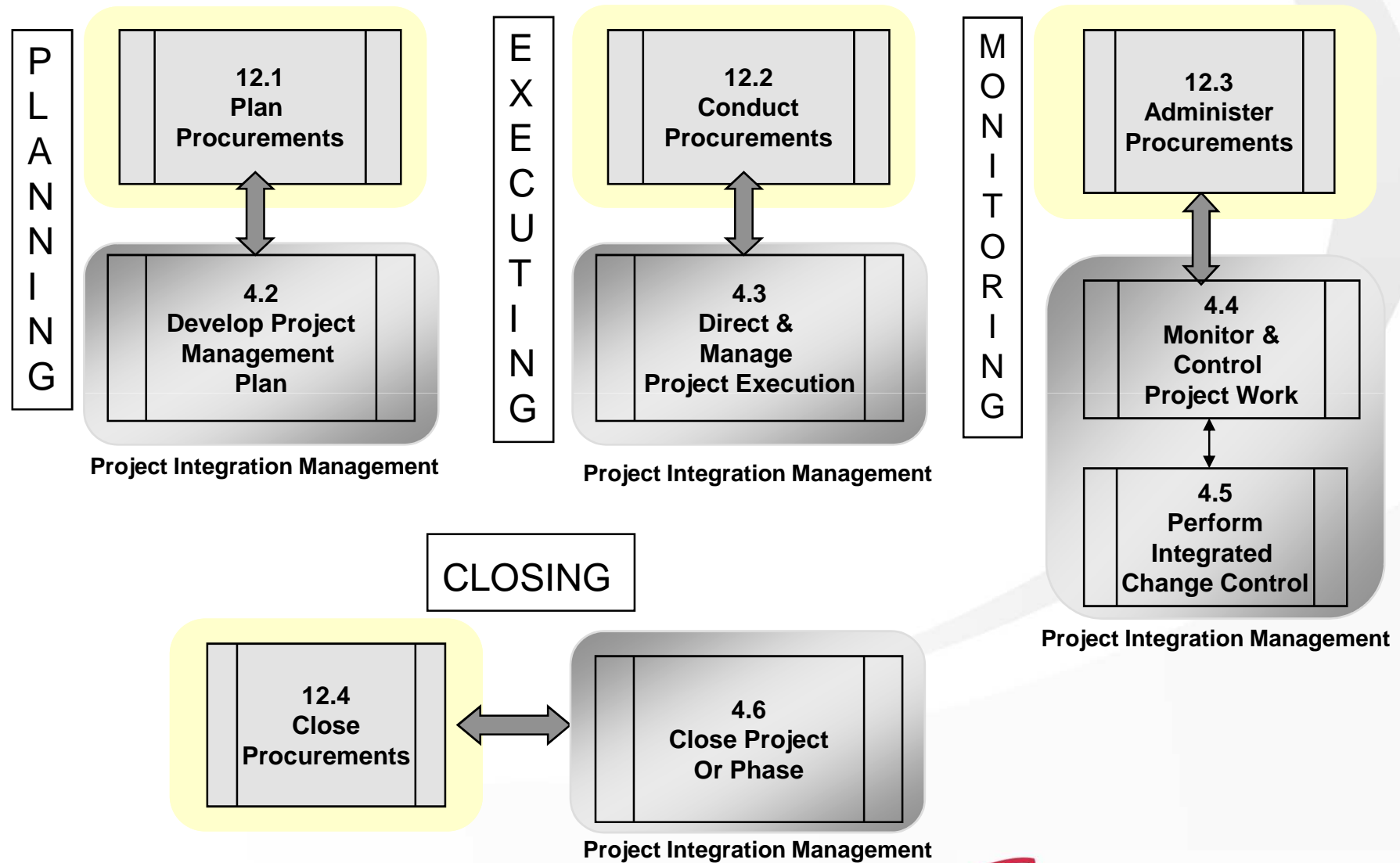
→ Risk register
- response strategies

Monitoring & Controlling

Monitoring & Control Risks

→ Risk register updates
→ Change requests

Project Procurement Management Processes



Project Procurement Management Processes



Project Procurement Management

Planning

Plan Procurements

- Proc. management plan
- Procurement SOW
- Procurement documents
- RFP, RFQ, IFB

Executing

Conduct Procurements

- Selected sellers
- Procurement contract award

Monitoring
&
Controlling

Administer Procurements

- Procurement documentation

Closing

Close Procurements

- Closed procurements