The PM Knowledge Areas

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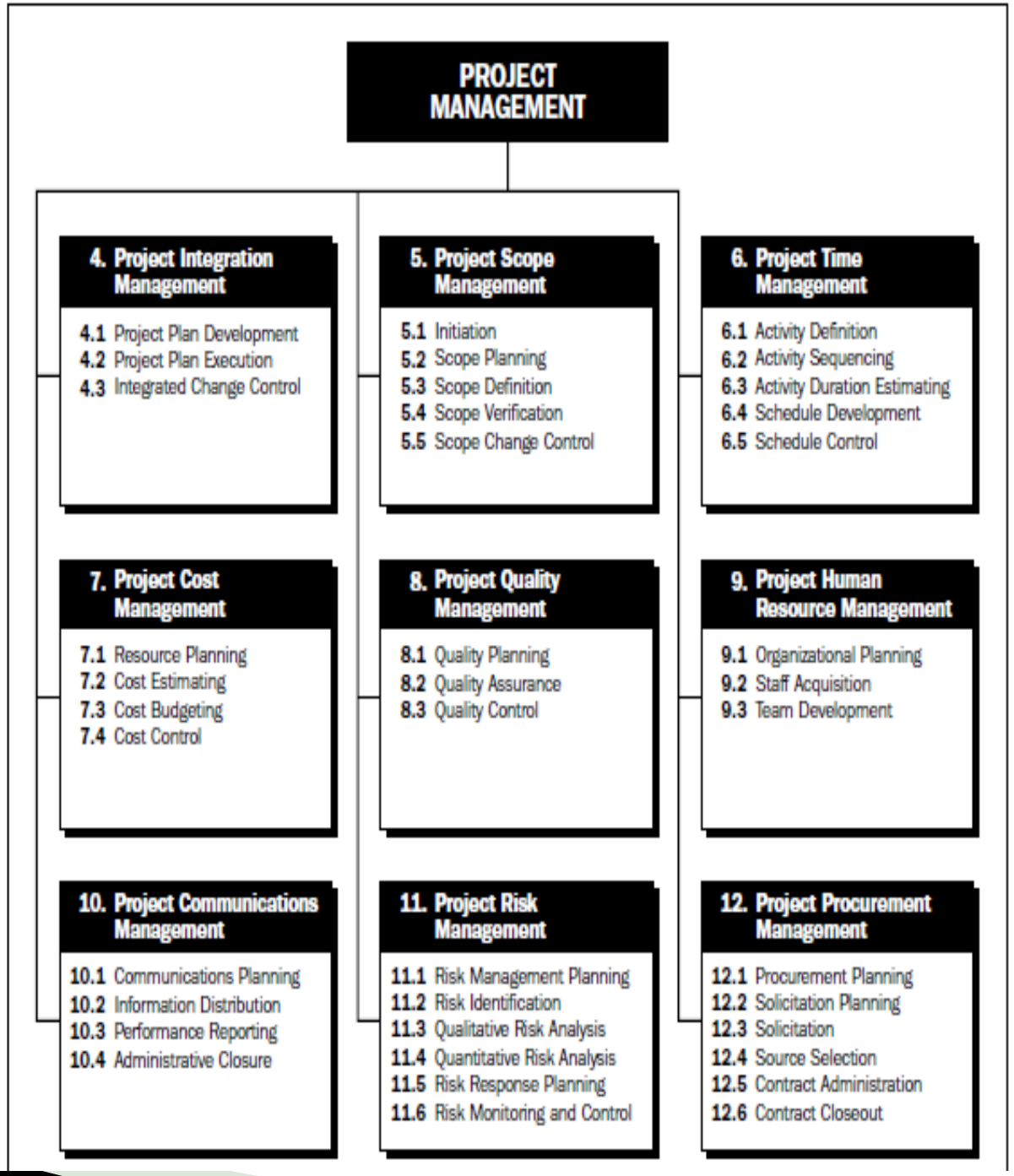
Watch this video clip from Lord of the Rings and pay attention on the illustration of Project Management concepts

https://www.youtube.com/watch?v=UIVWaUgqEAc

Areas


PROJECT MANAGEMENT
4. Project Integration Management
4.1 Project Plan Development
4.2 Project Plan Execution
4.3 Integrated Change Control
5. Project Scope Management
5.1 Initiation
5.2 Scope Planning
5.3 Scope Definition
5.4 Scope Verification
5.5 Scope Change Control
6. Project Time Management
6.1 Activity Definition
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7. Project Cost Management
7.1 Resource Planning
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8. Project Quality Management
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9.1 Organizational Planning
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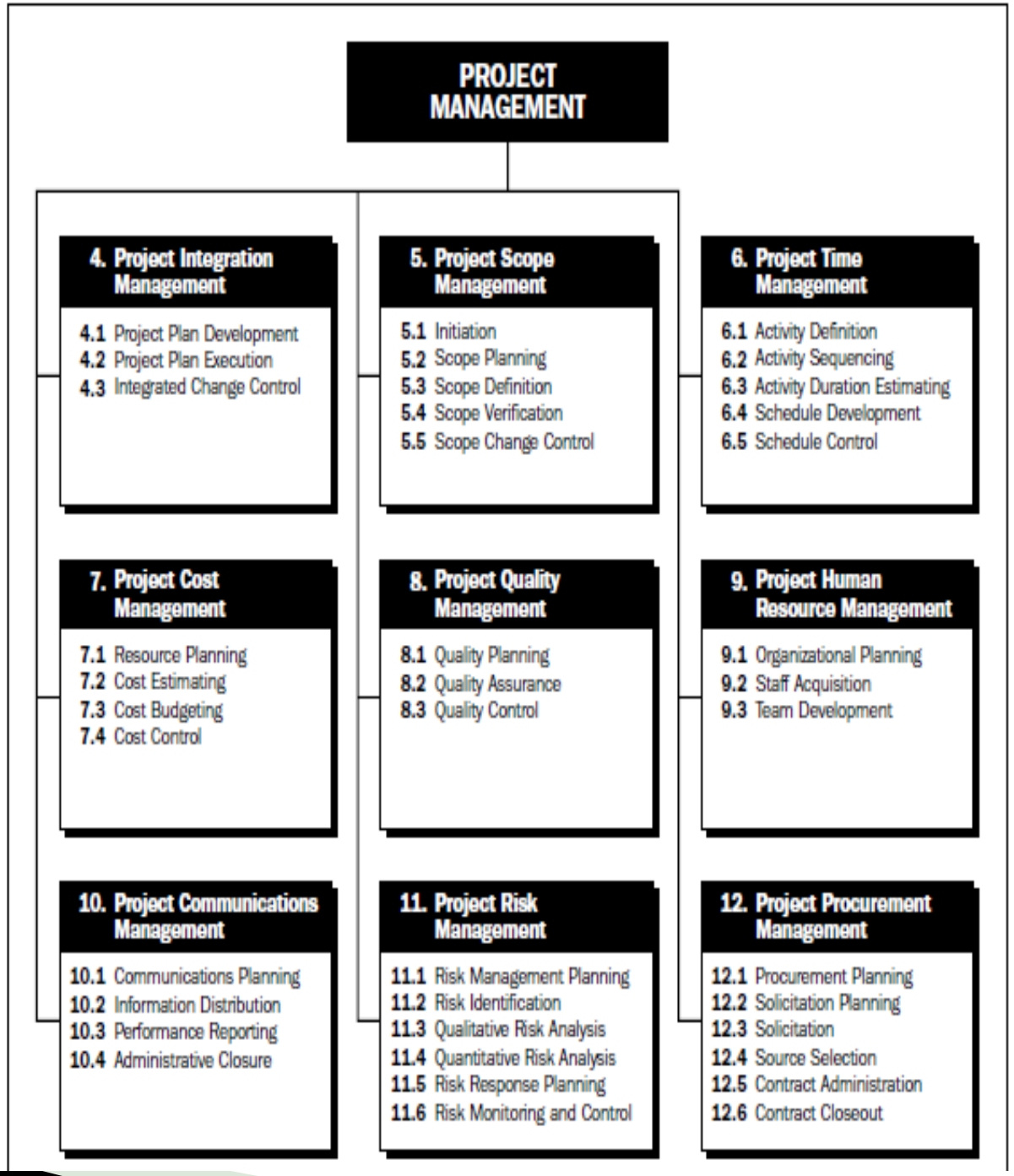
11. Project Risk Management
11.1 Risk Management Planning
11.2 Risk Identification
11.3 Qualitative Risk Analysis
11.4 Quantitative Risk Analysis
11.5 Risk Response Planning
11.6 Risk Monitoring and Control
12. Project Procurement Management
12.1 Procurement Planning
12.2 Solicitation Planning
12.3 Solicitation
12.4 Source Selection
12.5 Contract Administration
12.6 Contract Closeout

The PM Knowledge Areas

- Project Integration Management
- Project Scope Management
- Project Time Management
- Project Cost Management
- Project Quality Management
- Project HR Management
- Project Communications Management
- Project Risk Management
- Project Procurement Management



Project Integration Management

PIM includes the process required to ensure that the various elements of the project are properly coordinated.

4.1 Project Plan Development

- **.1 Inputs**
  - .1 Other planning outputs
  - .2 Historical information
  - .3 Organizational policies
  - .4 Constraints
  - .5 Assumptions
- **.2 Tools and Techniques**
  - .1 Project planning methodology
  - .2 Stakeholder skills and knowledge
  - .3 Project management information system (PMIS)
  - .4 Earned value management (EVM)
- **.3 Outputs**
  - .1 Project plan
  - .2 Supporting detail

4.2 Project Plan Execution

- **.1 Inputs**
  - .1 Project plan
  - .2 Supporting detail
  - .3 Organizational policies
  - .4 Preventive action
  - .5 Corrective action
- **.2 Tools and Techniques**
  - .1 General management skills
  - .2 Product skills and knowledge
  - .3 Work authorization system
  - .4 Status review meetings
  - .5 Project management information system
  - .6 Organizational procedures
- **.3 Outputs**
  - .1 Work results
  - .2 Change requests

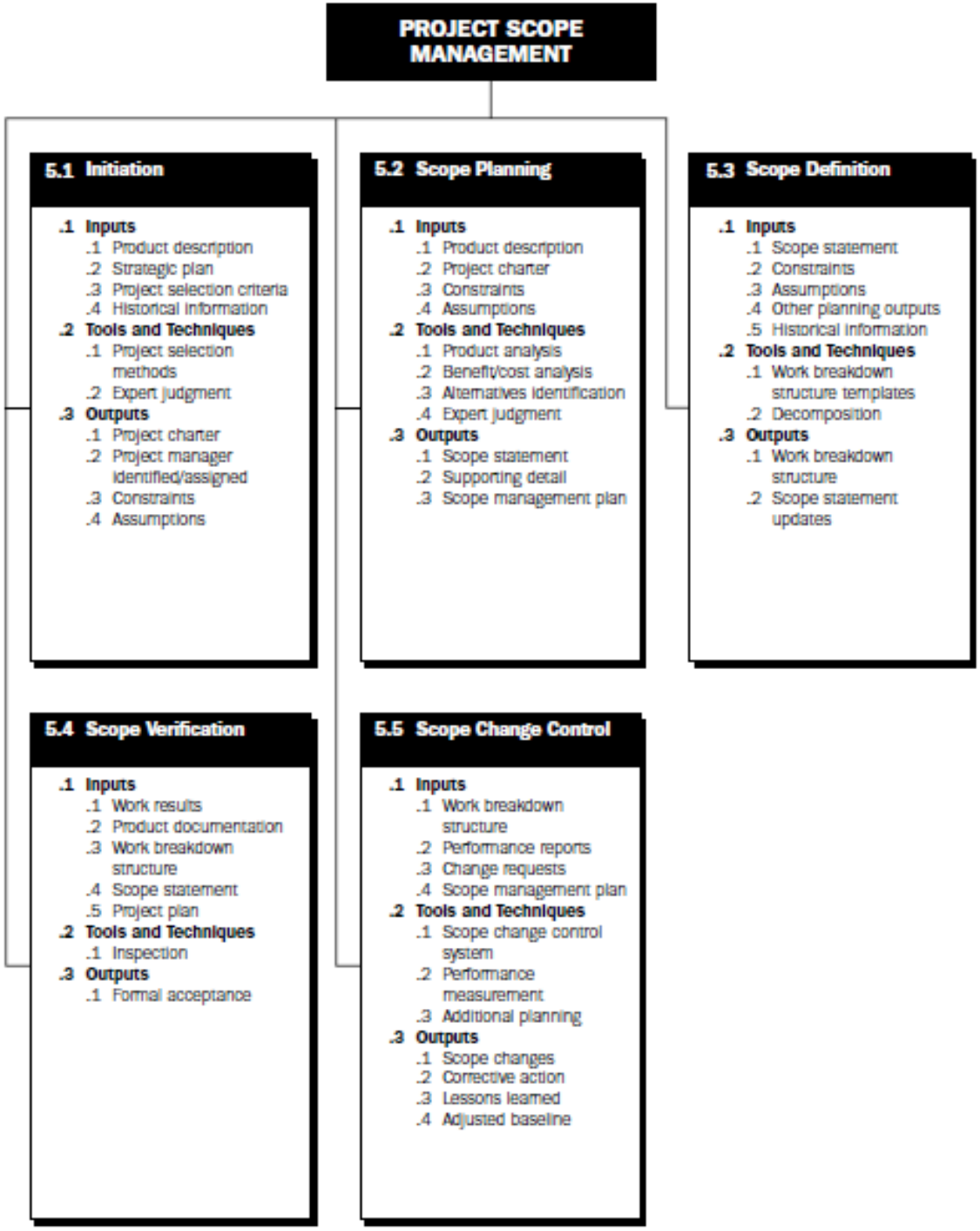
4.3 Integrated Change Control

- **.1 Inputs**
  - .1 Project plan
  - .2 Performance reports
  - .3 Change requests
- **.2 Tools and Techniques**
  - .1 Change control system
  - .2 Configuration management
  - .3 Performance measurement
  - .4 Additional planning
  - .5 Project management information system
- **.3 Outputs**
  - .1 Project plan updates
  - .2 Corrective action
  - .3 Lessons learned

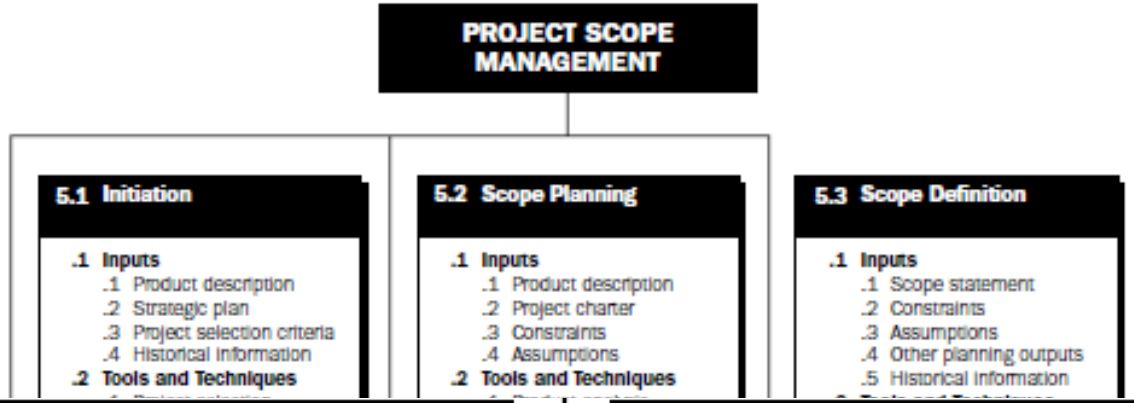
Project Scope Management

PSM includes the processes required to ensure that the project includes all the word required, and only the work required, to complete the project successfully.

It is primarily concerned with defining and controlling what is or is not included in the project.



Project Scope Management



5.1 Initiation

- **.1 Inputs**
  - .1 Product description
  - .2 Strategic plan
  - .3 Project selection criteria
  - .4 Historical information
- **.2 Tools and Techniques**
  - .1 Project selection methods
  - .2 Expert judgment
- **.3 Outputs**
  - .1 Project charter
  - .2 Project manager identified/assigned
  - .3 Constraints
  - .4 Assumptions

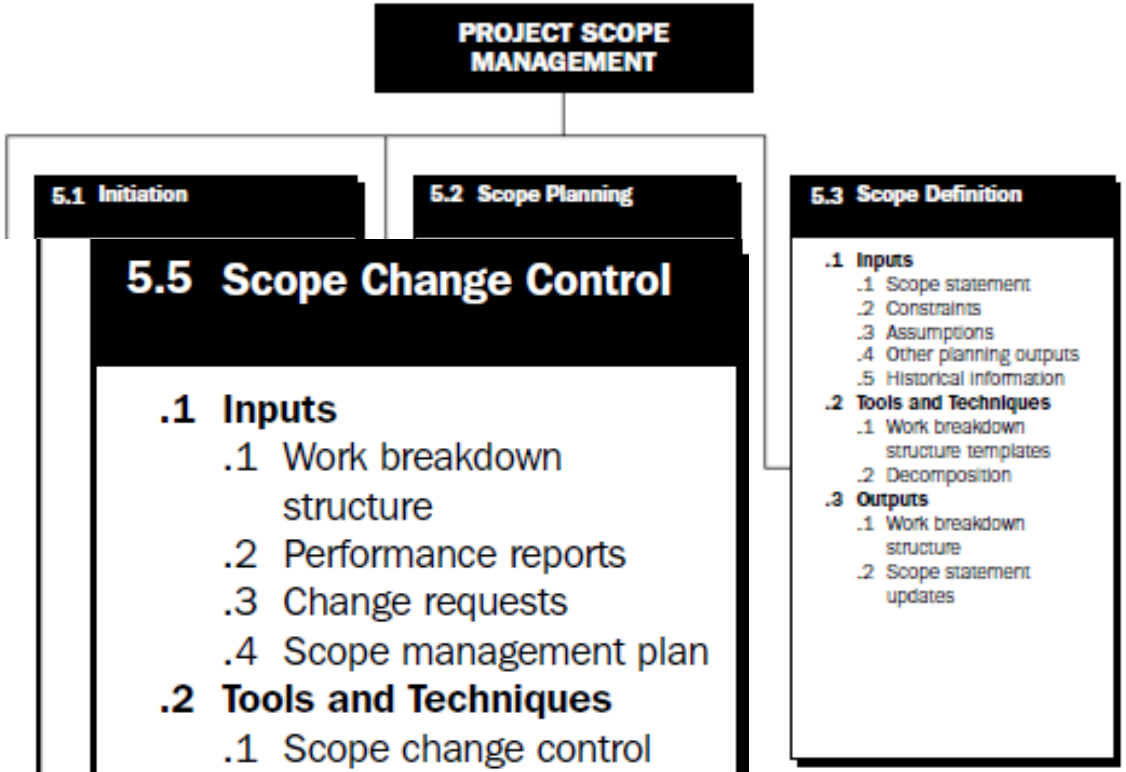
5.2 Scope Planning

- **.1 Inputs**
  - .1 Product description
  - .2 Project charter
  - .3 Constraints
  - .4 Assumptions
- **.2 Tools and Techniques**
  - .1 Product analysis
  - .2 Benefit/cost analysis
  - .3 Alternatives identification
  - .4 Expert judgment
- **.3 Outputs**
  - .1 Scope statement
  - .2 Supporting detail
  - .3 Scope management plan

5.3 Scope Definition

- **.1 Inputs**
  - .1 Scope statement
  - .2 Constraints
  - .3 Assumptions
  - .4 Other planning outputs
  - .5 Historical information
- **.2 Tools and Techniques**
  - .1 Work breakdown structure templates
  - .2 Decomposition
- **.3 Outputs**
  - .1 Work breakdown structure
  - .2 Scope statement updates

Project Scope Management



5.4 Scope Verification

.1 Inputs
- .1 Work results
- .2 Product documentation
- .3 Work breakdown structure
- .4 Scope statement
- .5 Project plan

.2 Tools and Techniques
- .1 Inspection

.3 Outputs
- .1 Formal acceptance

5.5 Scope Change Control

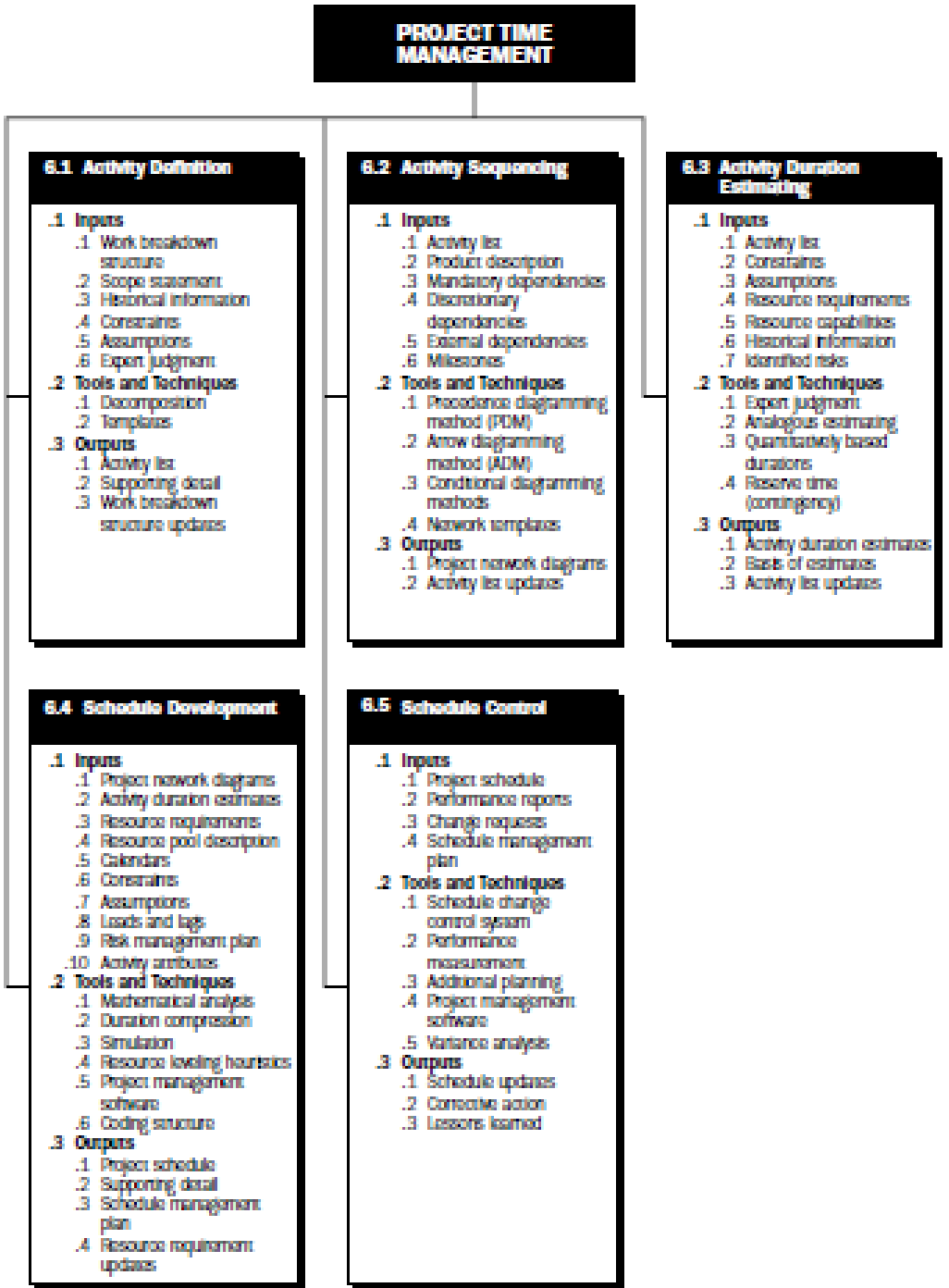
.1 Inputs
- .1 Work breakdown structure
- .2 Performance reports
- .3 Change requests
- .4 Scope management plan

.2 Tools and Techniques
- .1 Scope change control system
- .2 Performance measurement
- .3 Additional planning

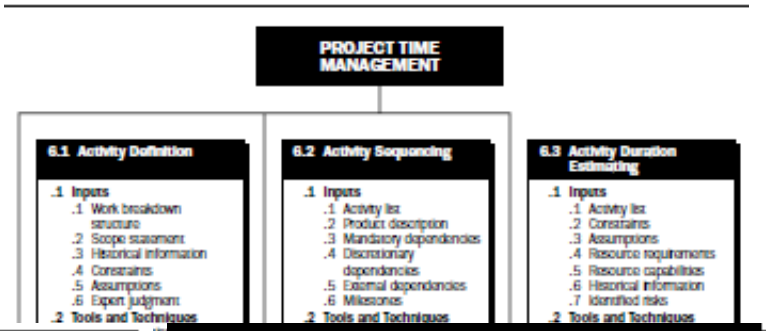
.3 Outputs
- .1 Scope changes
- .2 Corrective action
- .3 Lessons learned
- .4 Adjusted baseline

Project Time Management

PTM includes the process required to ensure timely completion of the project



Project Time Management



6.1 Activity Definition

.1 Inputs
- .1 Work breakdown structure
- .2 Scope statement
- .3 Historical information
- .4 Constraints
- .5 Assumptions
- .6 Expert judgment

.2 Tools and Techniques
- .1 Decomposition
- .2 Templates

.3 Outputs
- .1 Activity list
- .2 Supporting detail
- .3 Work breakdown structure updates

6.2 Activity Sequencing

.1 Inputs
- .1 Activity list
- .2 Product description
- .3 Mandatory dependencies
- .4 Discretionary dependencies
- .5 External dependencies
- .6 Milestones

.2 Tools and Techniques
- .1 Precedence diagramming method (PDM)
- .2 Arrow diagramming method (ADM)
- .3 Conditional diagramming methods
- .4 Network templates

.3 Outputs
- .1 Project network diagrams
- .2 Activity list updates

6.3 Activity Duration Estimating

.1 Inputs
- .1 Activity list
- .2 Constraints
- .3 Assumptions
- .4 Resource requirements
- .5 Resource capabilities
- .6 Historical information
- .7 Identified risks

.2 Tools and Techniques
- .1 Expert judgment
- .2 Analogous estimating
- .3 Quantitatively based durations
- .4 Reserve time (contingency)

.3 Outputs
- .1 Activity duration estimates
- .2 Basis of estimates
- .3 Activity list updates

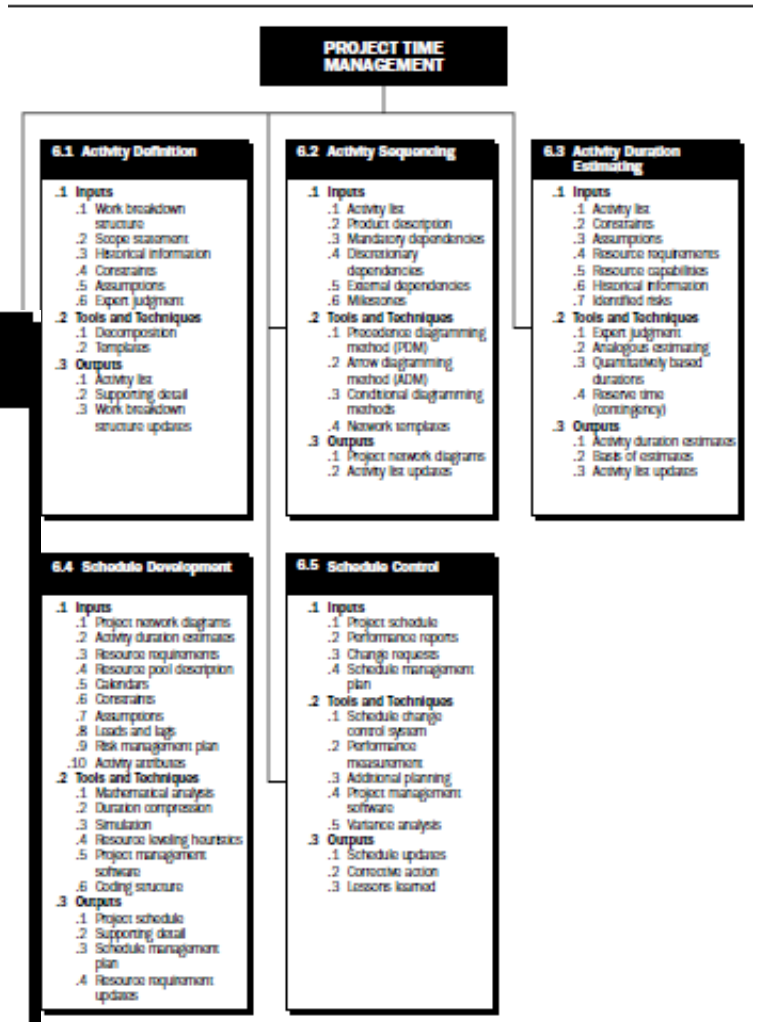
Project Time Management

6.4 Schedule Development

- .1 **Inputs**
  - .1 Project network diagrams
  - .2 Activity duration estimates
  - .3 Resource requirements
  - .4 Resource pool description
  - .5 Calendars
  - .6 Constraints
  - .7 Assumptions
  - .8 Leads and lags
  - .9 Risk management plan
  - .10 Activity attributes
- .2 **Tools and Techniques**
  - .1 Mathematical analysis
  - .2 Duration compression
  - .3 Simulation
  - .4 Resource leveling heuristics
  - .5 Project management software
  - .6 Coding structure
- .3 **Outputs**
  - .1 Project schedule
  - .2 Supporting detail
  - .3 Schedule management plan
  - .4 Resource requirement updates

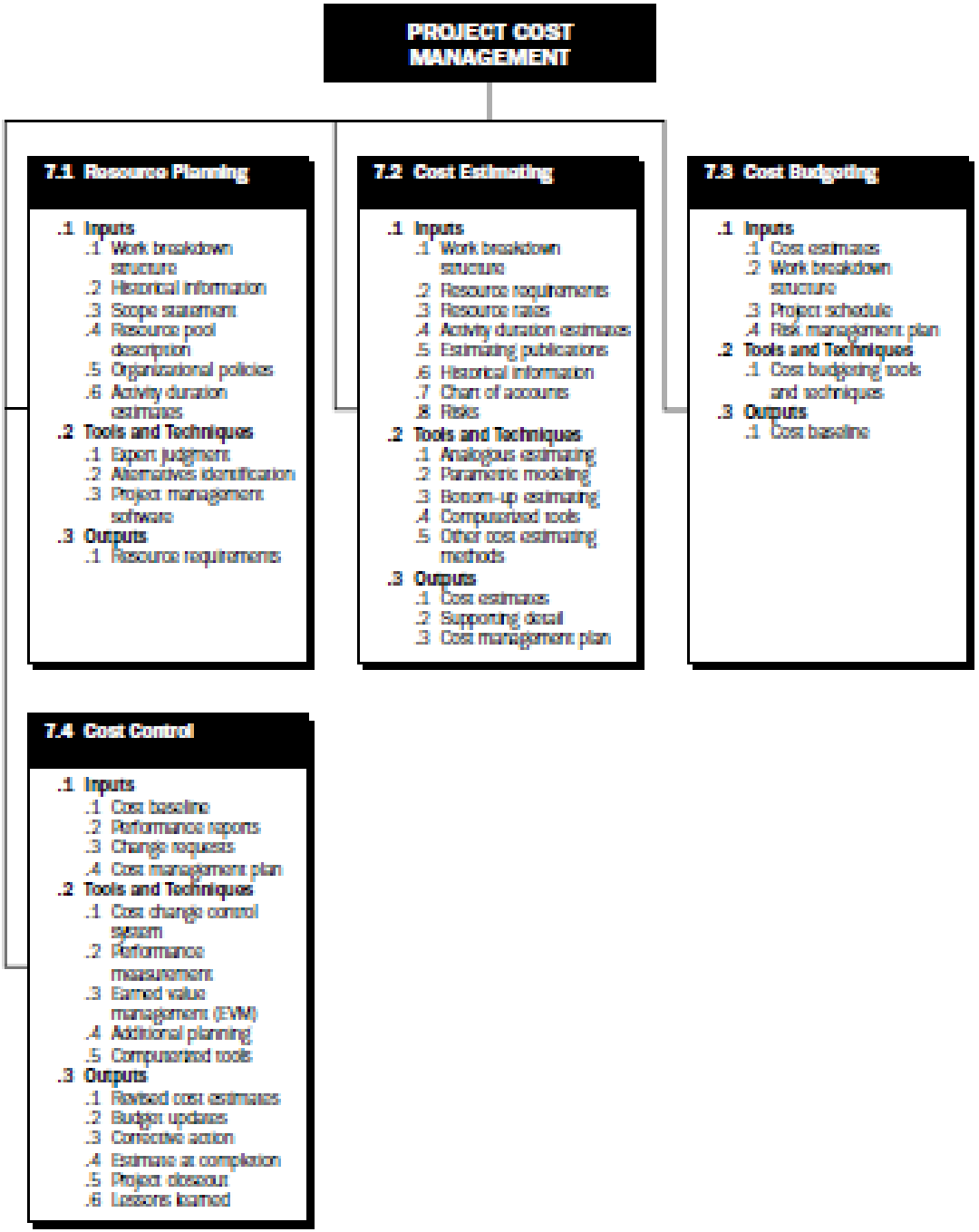
6.5 Schedule Control

- .1 **Inputs**
  - .1 Project schedule
  - .2 Performance reports
  - .3 Change requests
  - .4 Schedule management plan
- .2 **Tools and Techniques**
  - .1 Schedule change control system
  - .2 Performance measurement
  - .3 Additional planning
  - .4 Project management software
  - .5 Variance analysis
- .3 **Outputs**
  - .1 Schedule updates
  - .2 Corrective action
  - .3 Lessons learned



Project Cost Management

PCM includes the processes required to ensure that the project is completed within the approved budget.



Project Cost Management

7.1 Resource Planning

.1 Inputs
- .1 Work breakdown structure
- .2 Historical information
- .3 Scope statement
- .4 Resource pool description
- .5 Organizational policies
- .6 Activity duration estimates

.2 Tools and Techniques
- .1 Expert judgment
- .2 Alternatives identification
- .3 Project management software

.3 Outputs
- .1 Resource requirements

7.2 Cost Estimating

.1 Inputs
- .1 Work breakdown structure
- .2 Resource requirements
- .3 Resource rates
- .4 Activity duration estimates
- .5 Estimating publications
- .6 Historical information
- .7 Chart of accounts
- .8 Risks

.2 Tools and Techniques
- .1 Analogous estimating
- .2 Parametric modeling
- .3 Bottom-up estimating
- .4 Computerized tools
- .5 Other cost estimating methods

.3 Outputs
- .1 Cost estimates
- .2 Supporting detail
- .3 Cost management plan

.4 Estimate at completion
.5 Project closeout
.6 Lessons learned

7.3 Cost Budgeting

.1 Inputs
- .1 Cost estimates
- .2 Work breakdown structure
- .3 Project schedule
- .4 Risk management plan

.2 Tools and Techniques
- .1 Cost budgeting tools and techniques

.3 Outputs
- .1 Cost baseline

PQM includes the processes required to ensure that the project will satisfy the needs for which it was undertaken.

PROJECT QUALITY MANAGEMENT

It includes all activities of the overall management function that determine quality policy, objectives, and responsibilities and implements them by means

8.1 Quality Planning

- **.1 Inputs**
  - .1 Quality policy
  - .2 Scope statement
  - .3 Product description
  - .4 Standards and regulations
  - .5 Other process outputs
- **.2 Tools and Techniques**
  - .1 Benefit/cost analysis
  - .2 Benchmarking
  - .3 Flow-charting
  - .4 Design of experiments
  - .5 Cost of quality
- **.3 Outputs**
  - .1 Quality management plan
  - .2 Operational definitions
  - .3 Checklists
  - .4 Inputs to other processes

8.2 Quality Assurance

- **.1 Inputs**
  - .1 Quality management plan
  - .2 Results of quality control measurements
  - .3 Operational definitions
- **.2 Tools and Techniques**
  - .1 Quality planning tools and techniques
  - .2 Quality audits
- **.3 Outputs**
  - .1 Quality improvement

8.3 Quality Control

- **.1 Inputs**
  - .1 Work results
  - .2 Quality management plan
  - .3 Operational definitions
  - .4 Checklists
- **.2 Tools and Techniques**
  - .1 Inspection
  - .2 Control charts
  - .3 Pareto diagrams
  - .4 Statistical sampling
  - .5 Flow-charting
  - .6 Trend analysis
- **.3 Outputs**
  - .1 Quality improvement
  - .2 Acceptance decisions
  - .3 Rework
  - .4 Completed checklists
  - .5 Process adjustments

PHRM includes the processes required to make the most effective use of the people involved with the project

PROJECT HUMAN RESOURCE MANAGEMENT

9.1 Organizational Planning

.1 Inputs
- .1 Project interfaces
- .2 Staffing requirements
- .3 Constraints

.2 Tools and Techniques
- .1 Templates
- .2 Human resource practices
- .3 Organizational theory
- .4 Stakeholder analysis

.3 Outputs
- .1 Role and responsibility assignments
- .2 Staffing management plan
- .3 Organization chart
- .4 Supporting detail

9.2 Staff Acquisition

.1 Inputs
- .1 Staffing management plan
- .2 Staffing pool description
- .3 Recruitment practices

.2 Tools and Techniques
- .1 Negotiations
- .2 Preassignment
- .3 Procurement

.3 Outputs
- .1 Project staff assigned
- .2 Project team directory

9.3 Team Development

.1 Inputs
- .1 Project staff
- .2 Project plan
- .3 Staffing management plan
- .4 Performance reports
- .5 External feedback

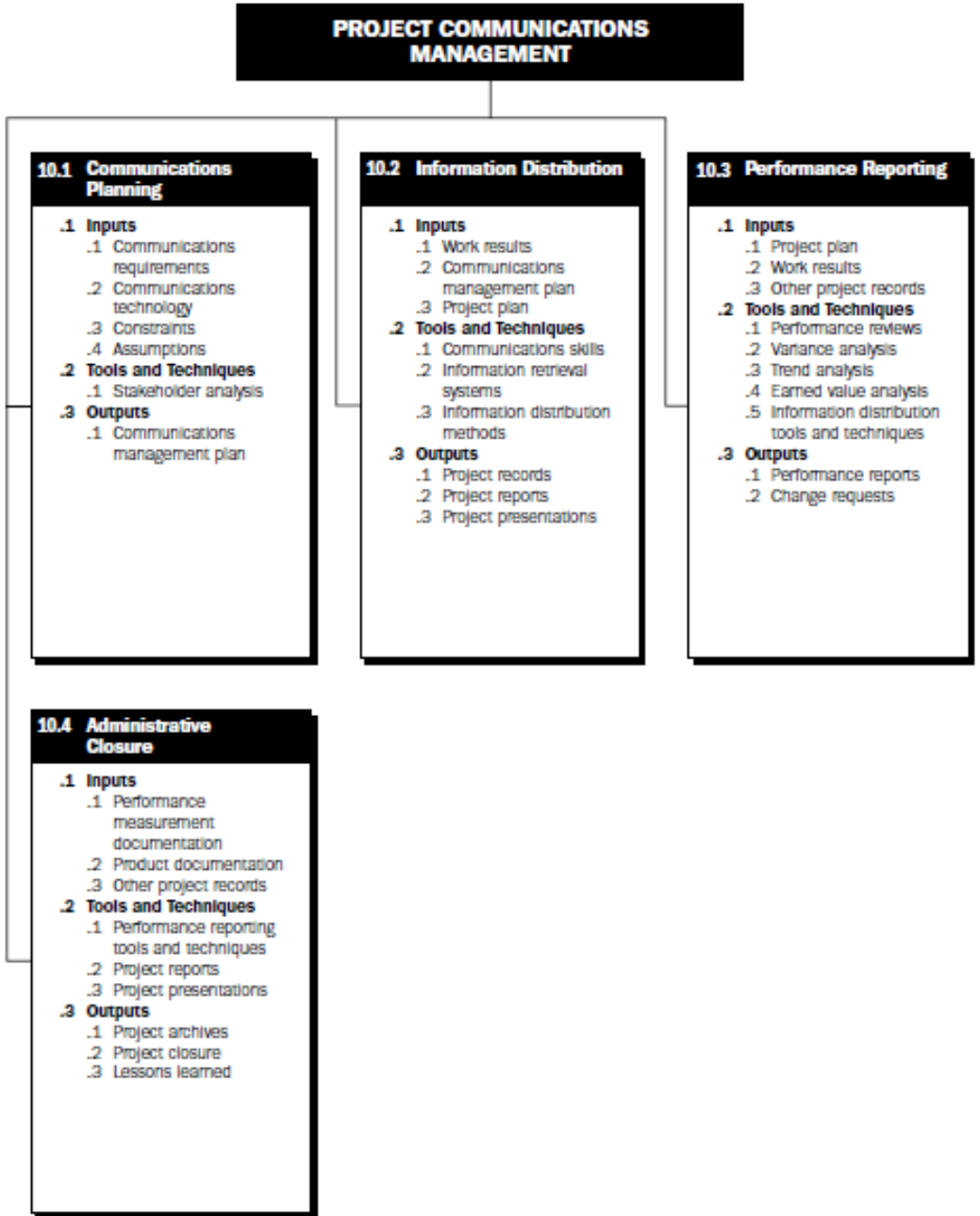
.2 Tools and Techniques
- .1 Team-building activities
- .2 General management skills
- .3 Reward and recognition systems
- .4 Collocation
- .5 Training

.3 Outputs
- .1 Performance improvements
- .2 Input to performance appraisals

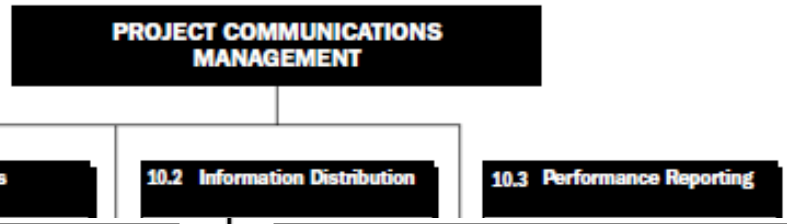
Project Communications Management

PCM includes the processes required to ensure timely and appropriate generation, collection, dissemination, storage, and ultimate disposition of project information.

It provides the critical links among people, ideas, and information that are necessary for success.



Project Communications Management



10.1 Communications Planning

.1 Inputs
- .1 Communications requirements
- .2 Communications technology
- .3 Constraints
- .4 Assumptions

.2 Tools and Techniques
- .1 Stakeholder analysis

.3 Outputs
- .1 Communications management plan

10.2 Information Distribution

.1 Inputs
- .1 Work results
- .2 Communications management plan
- .3 Project plan

.2 Tools and Techniques
- .1 Communications skills
- .2 Information retrieval systems
- .3 Information distribution methods

.3 Outputs
- .1 Project records
- .2 Project reports
- .3 Project presentations

10.3 Performance Reporting

.1 Inputs
- .1 Project plan
- .2 Work results
- .3 Other project records

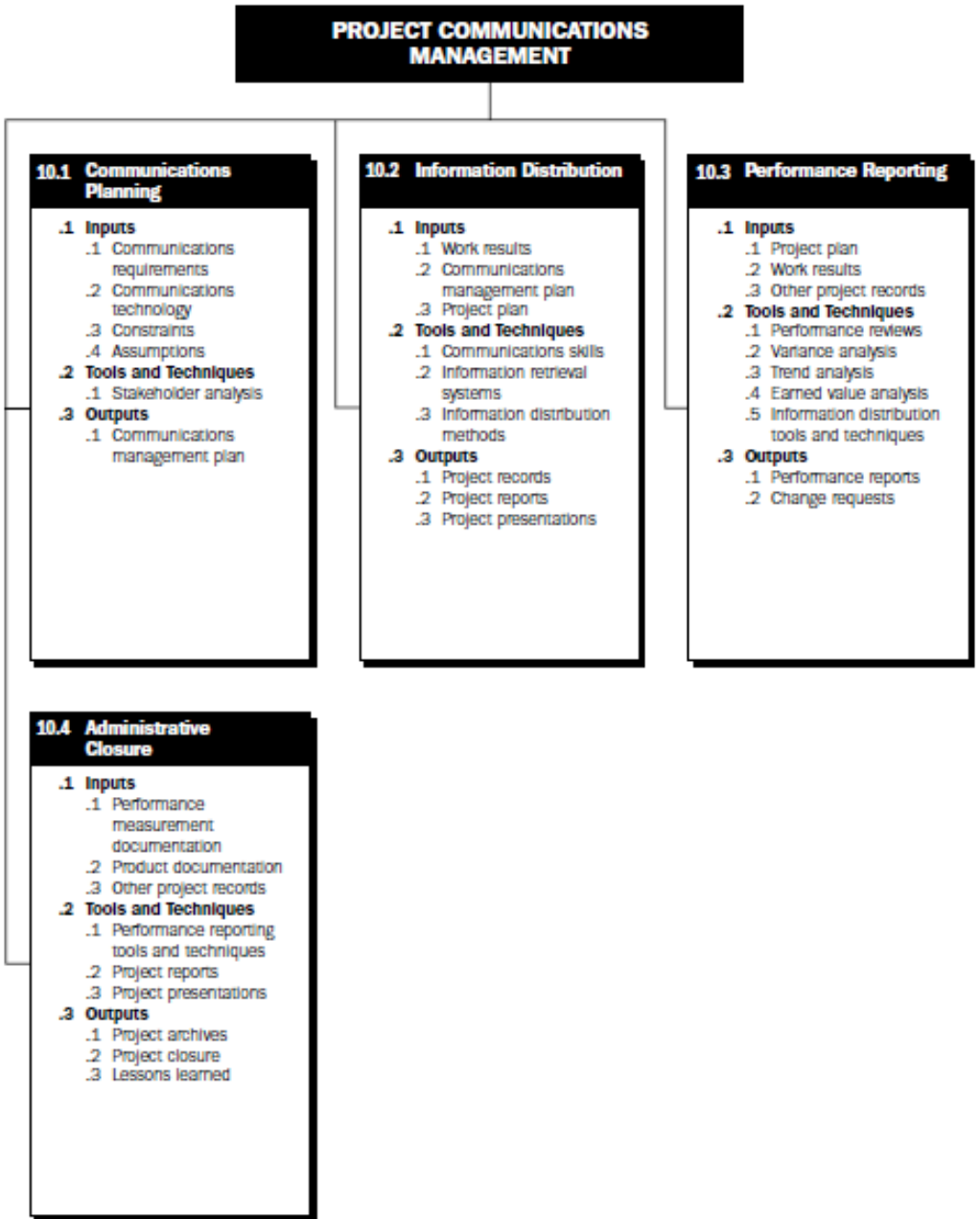
.2 Tools and Techniques
- .1 Performance reviews
- .2 Variance analysis
- .3 Trend analysis
- .4 Earned value analysis
- .5 Information distribution tools and techniques

.3 Outputs
- .1 Performance reports
- .2 Change requests

Project Communications Management

10.4 Administrative Closure

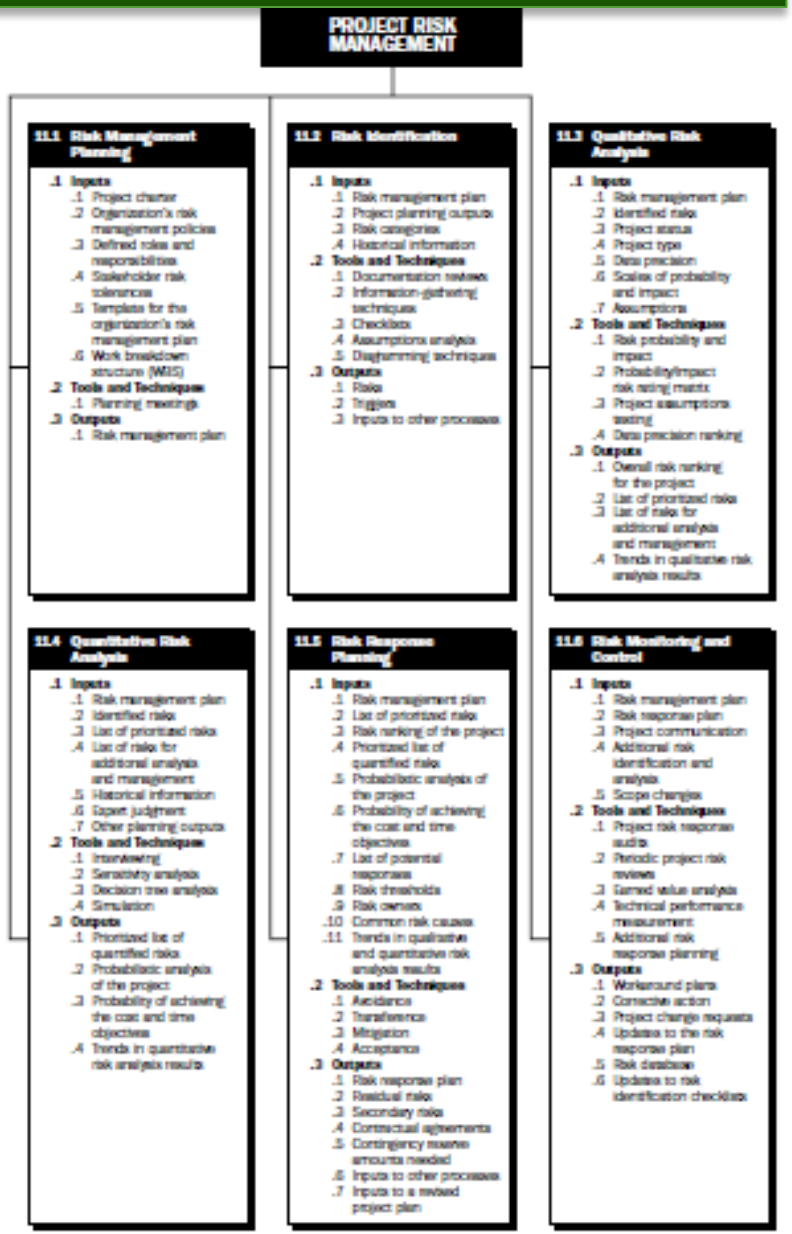
- **.1 Inputs**
  - .1 Performance measurement documentation
  - .2 Product documentation
  - .3 Other project records
- **.2 Tools and Techniques**
  - .1 Performance reporting tools and techniques
  - .2 Project reports
  - .3 Project presentations
- **.3 Outputs**
  - .1 Project archives
  - .2 Project closure
  - .3 Lessons learned



Project Risk Management

PRM is the systematic process of identifying analyzing, and responding to project risk

It includes maximizing the probability and consequences of positive events and minimizing the probability and consequences of adverse events to project objects



Project Risk Management

11.1 Risk Management Planning

.1 Inputs
- .1 Project charter
- .2 Organization's risk management policies
- .3 Defined roles and responsibilities
- .4 Stakeholder risk tolerances
- .5 Template for the organization's risk management plan
- .6 Work breakdown structure (WBS)

.2 Tools and Techniques
- .1 Planning meetings

.3 Outputs
- .1 Risk management plan

11.2 Risk Identification

.1 Inputs
- .1 Risk management plan
- .2 Project planning outputs
- .3 Risk categories
- .4 Historical information

.2 Tools and Techniques
- .1 Documentation reviews
- .2 Information-gathering techniques
- .3 Checklists
- .4 Assumptions analysis
- .5 Diagramming techniques

.3 Outputs
- .1 Risks
- .2 Triggers
- .3 Inputs to other processes

11.3 Qualitative Risk Analysis

.1 Inputs
- .1 Risk management plan
- .2 Identified risks
- .3 Project status
- .4 Project type
- .5 Data precision
- .6 Scales of probability and impact
- .7 Assumptions

.2 Tools and Techniques
- .1 Risk probability and impact
- .2 Probability/impact risk rating matrix
- .3 Project assumptions testing
- .4 Data precision ranking

.3 Outputs
- .1 Overall risk ranking for the project
- .2 List of prioritized risks
- .3 List of risks for additional analysis and management
- .4 Trends in qualitative risk analysis results

Project Risk Management

11.4 Quantitative Risk Analysis

- .1 **Inputs**
  - .1 Risk management plan
  - .2 Identified risks
  - .3 List of prioritized risks
  - .4 List of risks for additional analysis and management
  - .5 Historical information
  - .6 Expert judgment
  - .7 Other planning outputs
- .2 **Tools and Techniques**
  - .1 Interviewing
  - .2 Sensitivity analysis
  - .3 Decision tree analysis
  - .4 Simulation
- .3 **Outputs**
  - .1 Prioritized list of quantified risks
  - .2 Probabilistic analysis of the project
  - .3 Probability of achieving the cost and time objectives
  - .4 Trends in quantitative risk analysis results

11.5 Risk Response Planning

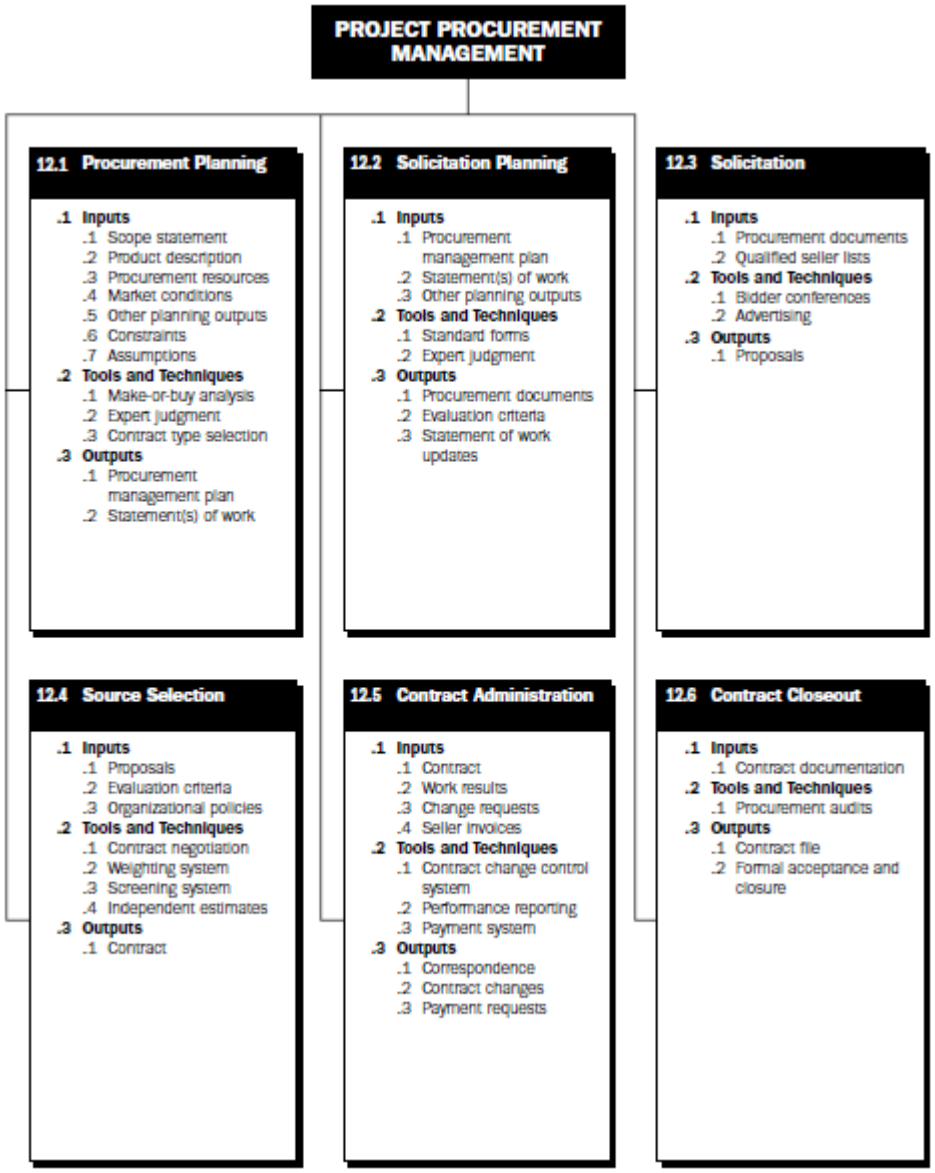
- .1 **Inputs**
  - .1 Risk management plan
  - .2 List of prioritized risks
  - .3 Risk ranking of the project
  - .4 Prioritized list of quantified risks
  - .5 Probabilistic analysis of the project
  - .6 Probability of achieving the cost and time objectives
  - .7 List of potential responses
  - .8 Risk thresholds
  - .9 Risk owners
  - .10 Common risk causes
  - .11 Trends in qualitative and quantitative risk analysis results
- .2 **Tools and Techniques**
  - .1 Avoidance
  - .2 Transference
  - .3 Mitigation
  - .4 Acceptance
- .3 **Outputs**
  - .1 Risk response plan
  - .2 Residual risks
  - .3 Secondary risks
  - .4 Contractual agreements
  - .5 Contingency reserve amounts needed
  - .6 Inputs to other processes
  - .7 Inputs to a revised project plan

11.6 Risk Monitoring and Control

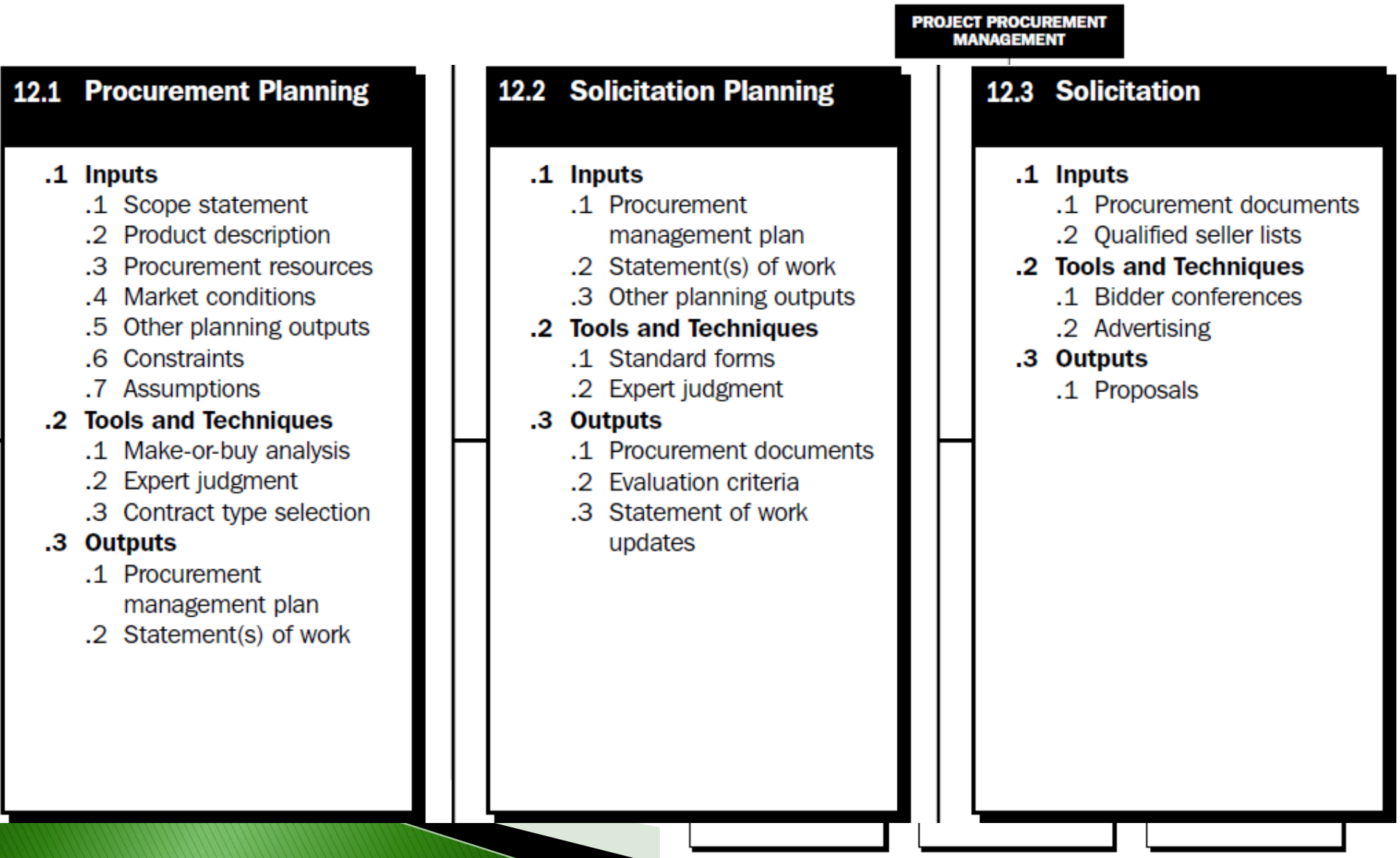
- .1 **Inputs**
  - .1 Risk management plan
  - .2 Risk response plan
  - .3 Project communication
  - .4 Additional risk identification and analysis
  - .5 Scope changes
- .2 **Tools and Techniques**
  - .1 Project risk response audits
  - .2 Periodic project risk reviews
  - .3 Earned value analysis
  - .4 Technical performance measurement
  - .5 Additional risk response planning
- .3 **Outputs**
  - .1 Workaround plans
  - .2 Corrective action
  - .3 Project change requests
  - .4 Updates to the risk response plan
  - .5 Risk database
  - .6 Updates to risk identification checklists

Project Procurement Management

PPM includes the processes required to acquire goods and services, to attain project scope, from outside the performing organization



Project Procurement Management



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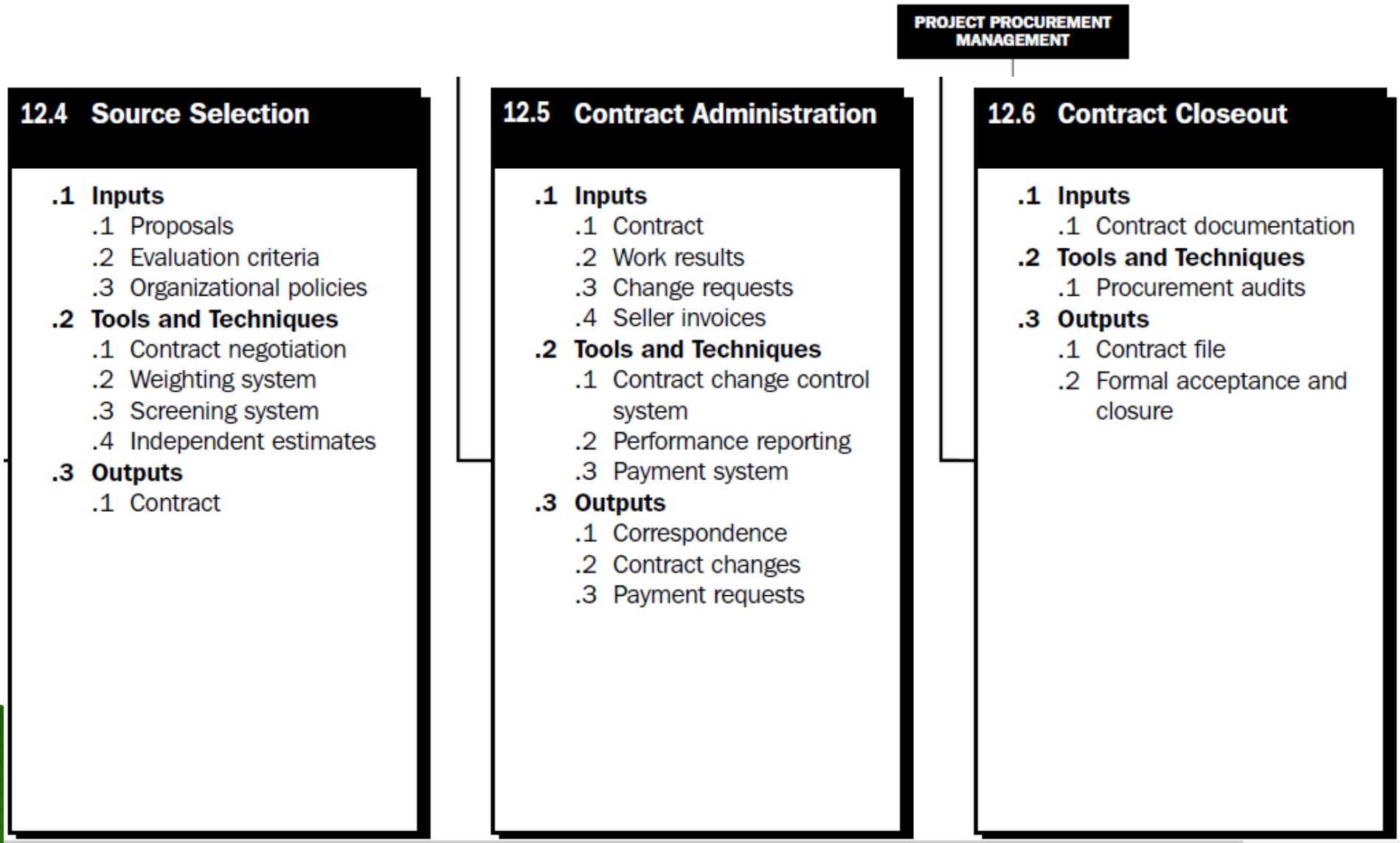
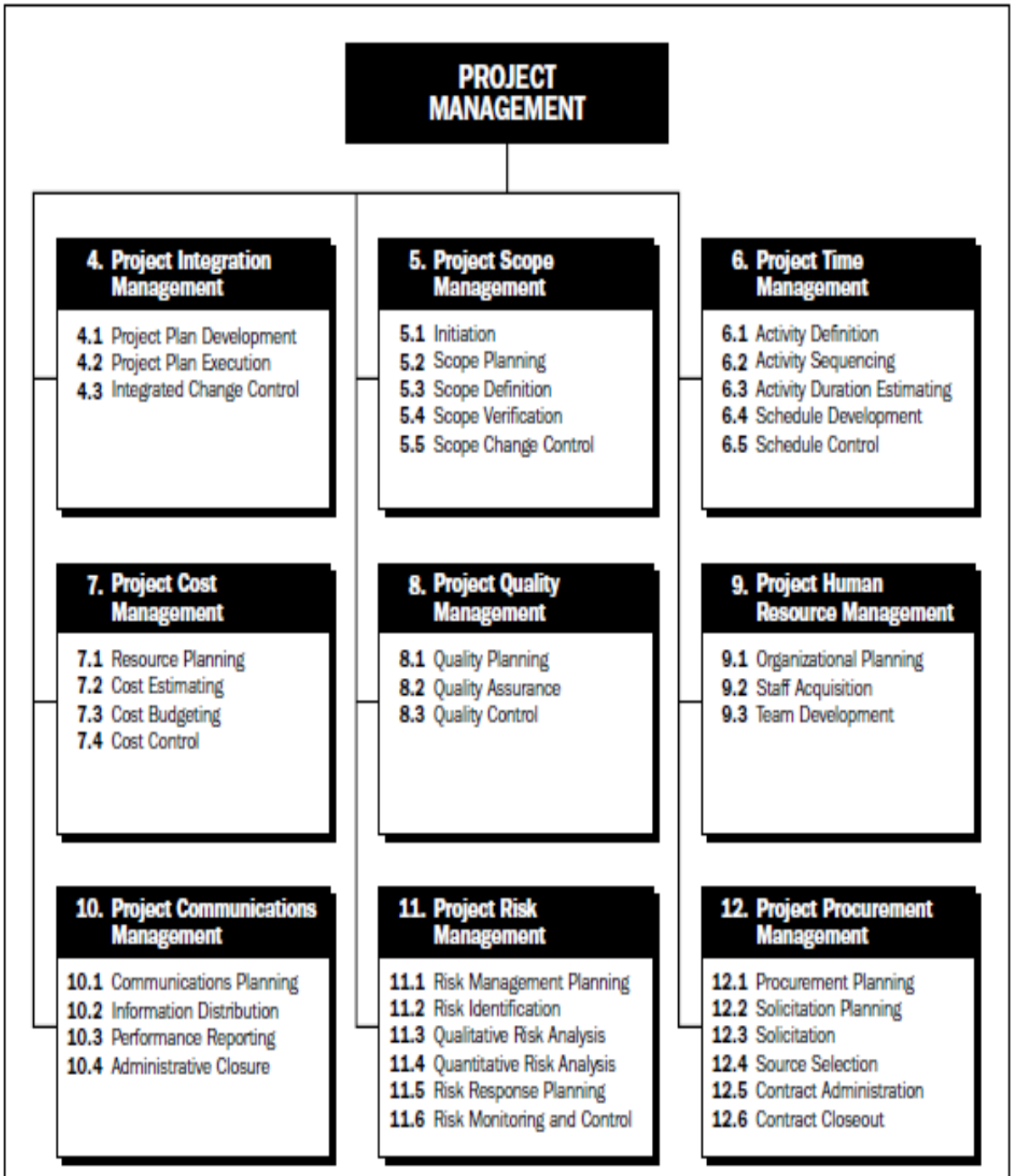


Q and A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12.2 Solicitation Planning
12.3 Solicitation
12.4 Source Selection
12.5 Contract Administration
12.6 Contract Closeout