Chapter 10
Project Communication Management (PMBOK Guide)

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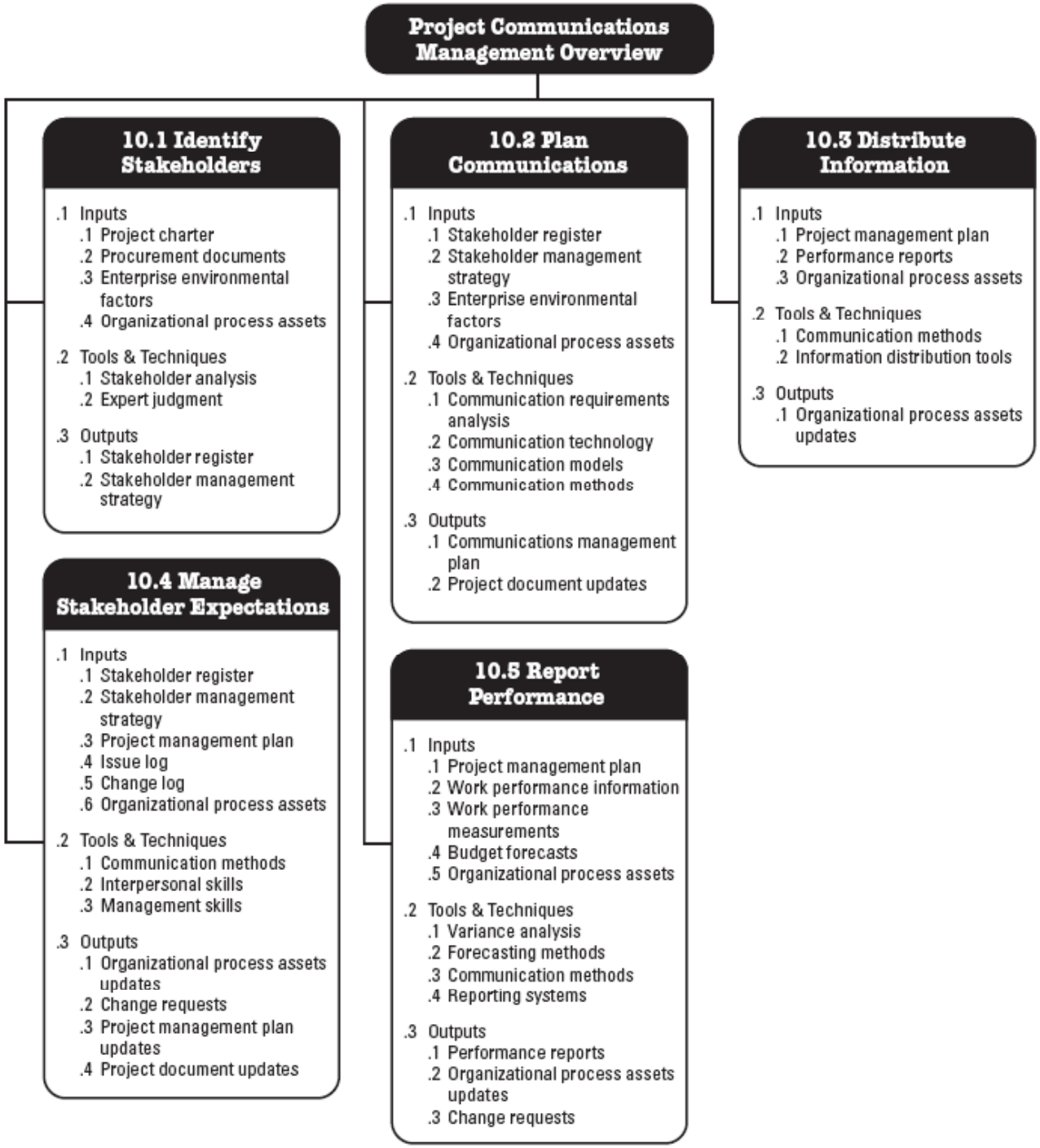
Introduction

- Processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, and ultimate disposition of project information
- Effective communication: bridge between diverse internal/external stakeholders, various cultural and organizational background, different levels of expertise, various perspectives and interests in the project execution or outcome
- Identify stakeholders
- Plan communications
- Distribute information
- Manage stakeholder expectations
- Report performance

Introduction

- Communication dimensions
  - Internal/external (costumer, other projects, the media, the public)
  - Formal (reports, memos, briefings)/informal (emails, d-hoc discussions)
  - Vertical (up and down the organization)/horizontal (with peers)
  - Official (newsletters, annual report)/unofficial (off the record communications)
  - Written/oral
  - Verbal/non-verbal (voice inflections, body language)
- Communication skills
  - Listening actively and effectively
  - Questioning, probing ideas and situations to ensure better understanding
  - Educating to increase team's knowledge so that they can be more effective
  - Fact-finding to identify or confirm information
  - Setting and managing expectations
  - Persuading a person or organization to perform an action
  - Negotiating to achieve mutually acceptable agreements between parties
  - Resolving conflict to prevent disruptive impacts, and
  - Summarizing, recapping, and identifying the next steps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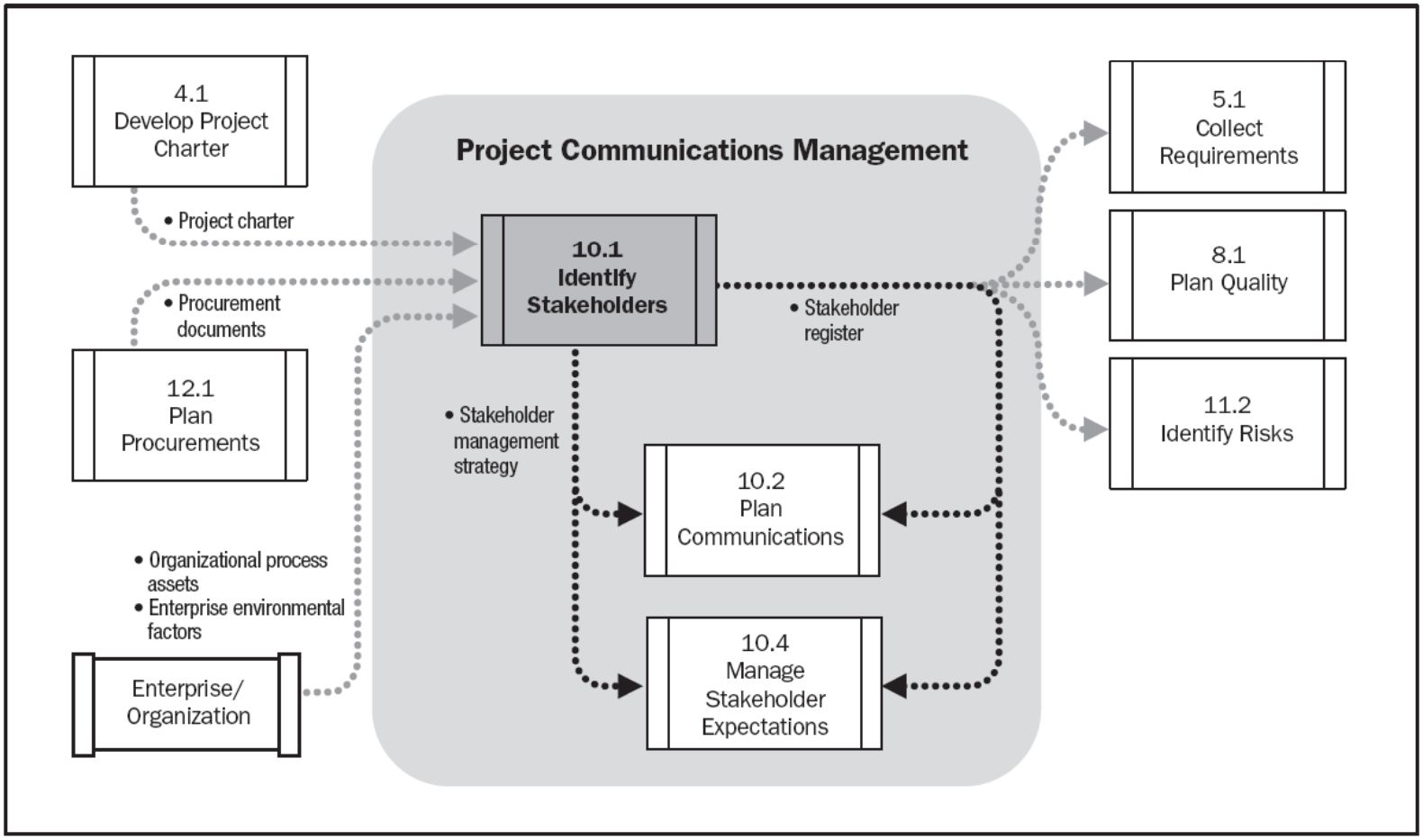
10.1 Identify Stakeholders

- The process of identifying people/organizations (different levels of authority) impacted by the project, documenting their (positive/negative) interests, involvement, and impact on the project success (execution and completion)
- Important: levels of interest, expectations, importance, and influence
- Goal: maximize the positive influence, mitigate potential negative impacts
- Classification of stakeholders based on their interest, influence, and involvement in the project

Inputs, Tools & Techniques, Outputs

Data Flow


4.1
Develop Project
Charter
• Project charter
• Procurement
documents
12.1
Plan
Procurements
• Organizational process
assets
• Enterprise environmental
factors
Enterprise/
Organization
Project Communications Management
10.1
Identify
Stakeholders
• Stakeholder
register
• Stakeholder
management
strategy
10.2
Plan
Communications
10.4
Manage
Stakeholder
Expectations
5.1
Collect
Requirements
8.1
Plan Quality
11.2
Identify Risks

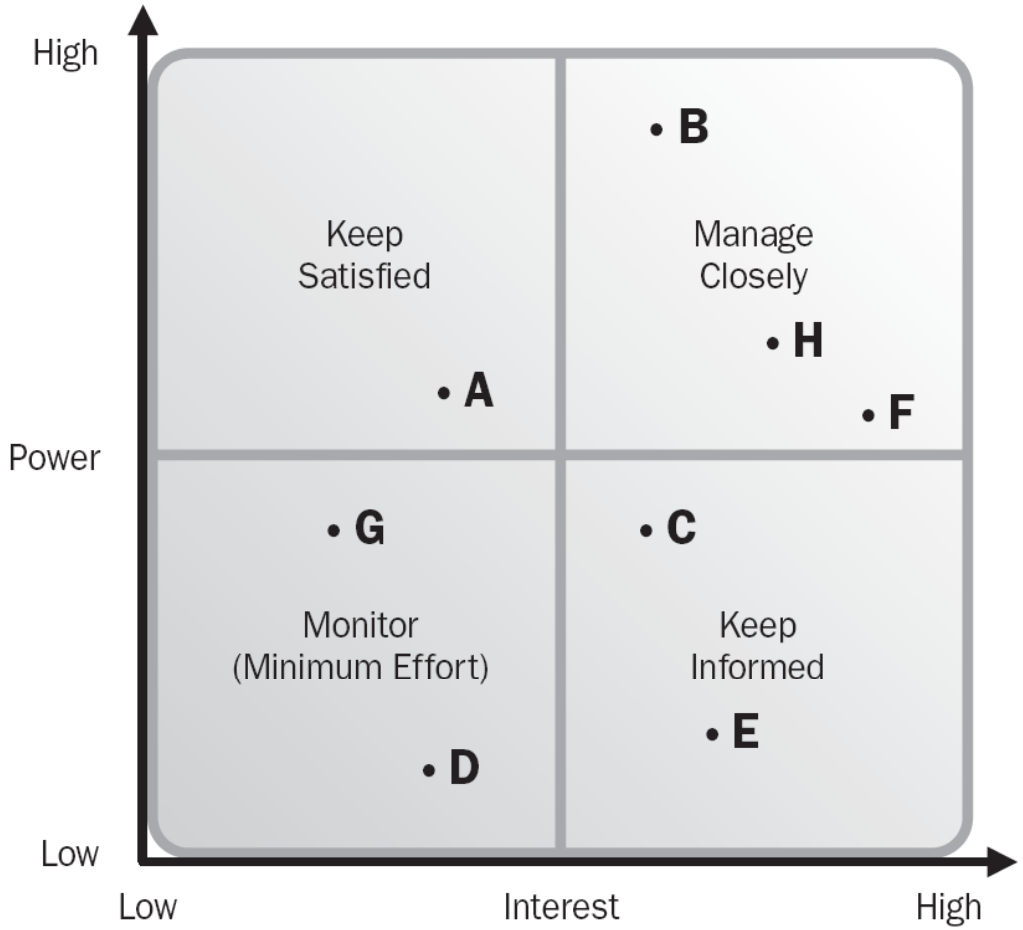
Inputs

- Project charter
  - Project sponsors, customers, team members, organizations, groups and departments participating in the project
- Procurement documents
  - The parties in the contract such as suppliers
- Enterprise environmental factors
  - Organizational or company culture and structure
  - Governmental or industry standards
- Organizational process assets
  - Stakeholder register templates
  - Lessons learned from previous projects
  - Stakeholder registers from previous projects

Tools and Techniques

- Stakeholder analysis
  - Gathering and analyzing quantitative and qualitative information on interests, expectations, and influence
  - Step 1: identify all potential stakeholders, relevant information, such as their roles, departments, interests, knowledge levels, expectations, and influence levels
  - Key stakeholders: decision-makings, sponsors, project managers, primary costumers
  - Other stakeholders: known through interviewing identified stakeholders
  - Step2: identifying their potential impact or support, classifying them to define an approach strategy. Classification models:
    - Power/interest (concern) grid
    - Power/influence (involvement) grid
    - Influence/impact (ability to effect change) grid
    - Salience model: power/urgency/legitimacy (how appropriate is their involvement) grid
  - Step 3: assessing how they may react/respond in various situations to influence them, to enhance their support, mitigate their potential negative impact

Power/Interest Grid with Stakeholders



Tools and Techniques

- Expert judgment
  - Senior management
  - Other units in the organization
  - Identified key stakeholders
  - Project managers who worked on the project in the same area
  - Subject matter experts (SMEs)
  - Industry groups and consultants
  - Professions and technical associations

Outputs

- Stake holder register
  - Identification information
    - Name, organizational position, location, role in the project, contact information
  - Assessment information
    - Major requirements, main expectations, potential influence, phase in the life cycle with the most interest
  - Stakeholder classification
    - External/internal. Supporter/neutral, resistor, etc
- Stakeholder management strategy
  - Key stakeholders who can significantly impact the project
  - Level of participation
  - Stakeholder groups and their management
  - Stakeholder analysis matrix
  - Should we write everything in shared documents????

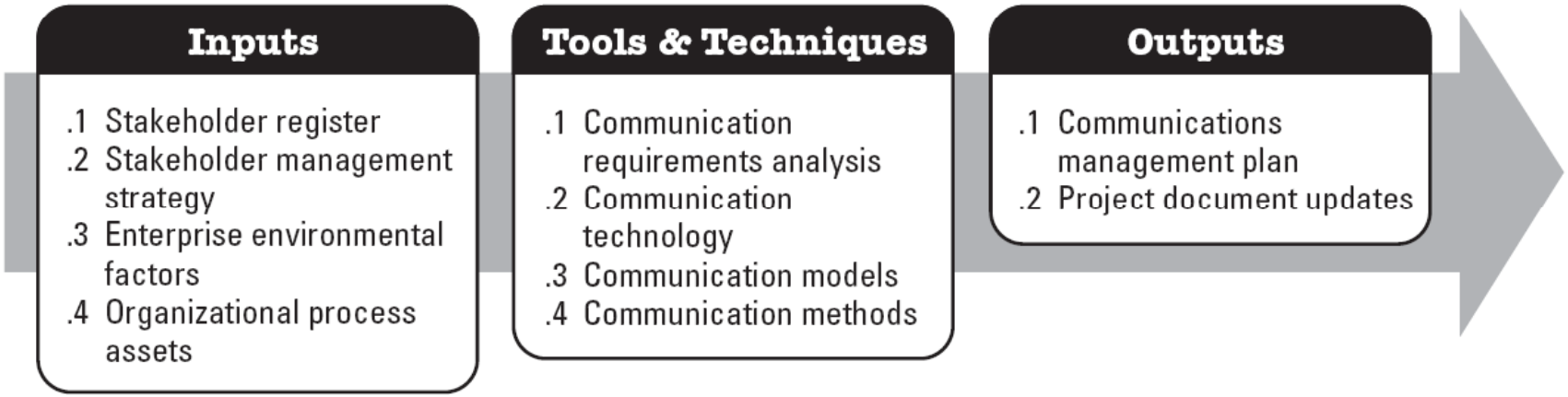
Sample Stakeholder Analysis Matrix

Stakeholder	Stakeholder Interest(s) in the Project	Assessment of Impact	Potential Strategies for Gaining Support or Reducing Obstacles

10.2 Plan Communications

- The process of determining the project stakeholder information needs and defining a communication approach
  - Who need what information, when, how should be delivered, by whom
- Improper communication planning: delay in message delivery, communication of sensitive info. To wrong audience, lack of communication to the required stakeholders
- Communication effectively and efficiently
  - Effective: Right format, right time, with the right impact
  - Efficient: providing only the information that is needed
- Communication planning should be very early so that time and budget (resources) are allocated to it
- Should be reviewed and revised regularly

Inputs, Tools & Techniques, Outputs



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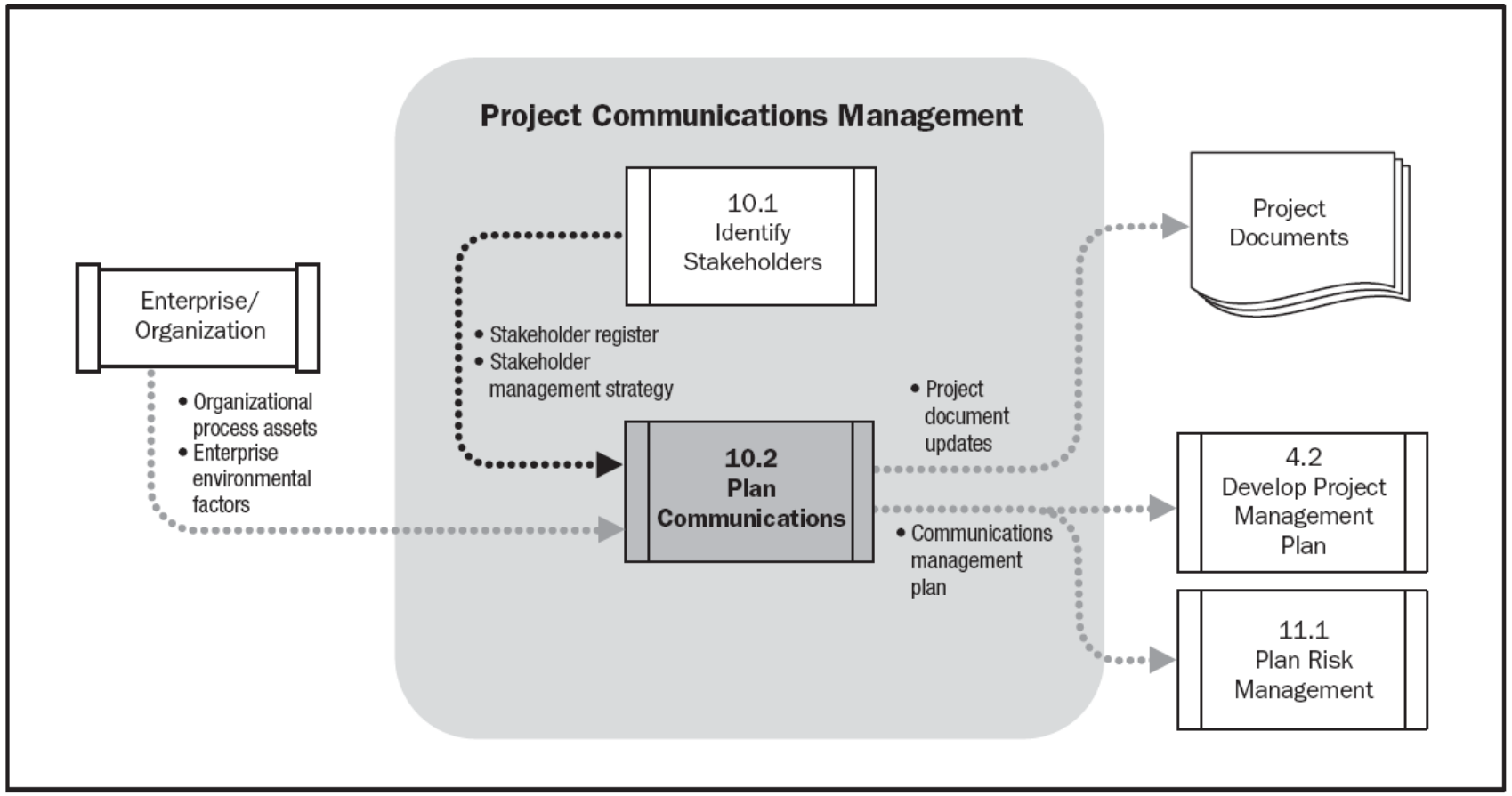

Project Communications Management
10.1
Identify
Stakeholders
Enterprise/
Organization
• Stakeholder register
• Stakeholder
management strategy
• Organizational
process assets
• Enterprise
environmental
factors
10.2
Plan
Communications
• Project
document
updates
• Communications
management
plan
Project
Documents
4.2
Develop Project
Management
Plan
11.1
Plan Risk
Management

Inputs

- Stakeholder register
- Stakeholder management strategy
  - Communication should be adopted to the project environment
- Enterprise environmental factors
  - Lessons learned
  - Historical information
- Organizational process assets

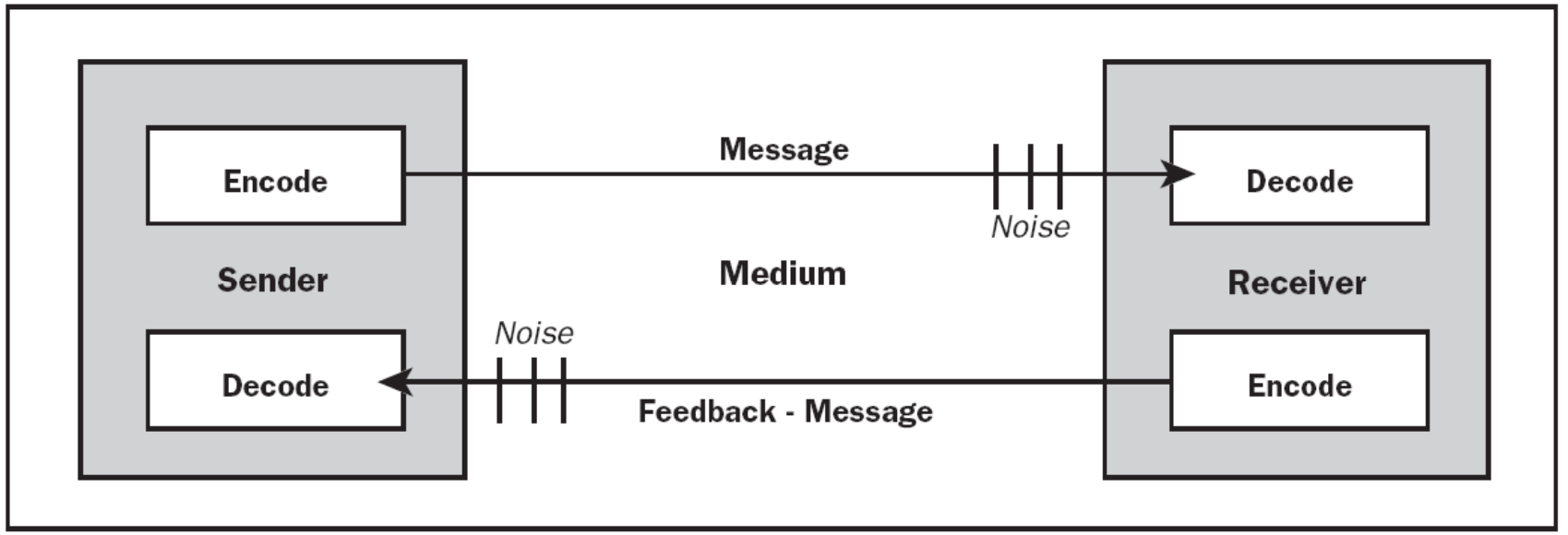
Tools and Techniques

- Communication requirement analysis
  - Type and format of information
  - Analysis of the value of the information
  - Number of potential communication channels/paths (n(n-)/2), n: number of stakeholders
  - Who communicates with whom, who will receive what information
  - Communication requirements depends on:
    - Organizational chart
    - Project organization and stakeholder responsibility relationships
    - Disciplines, departments, and specialities involved in the project
    - Logistics of how many persons will be involved with the project and at which locations
    - Internal information needs (communicating across organizations)
    - External information needs (communicating with the media, public, or contractors
    - Stakeholder information from the stakeholder register and the stakeholder management strategy

Tools and Techniques

- Communication technology (brief/extended meetings, simple written materials to online materials)
  - Urgency of the need for information (frequency of reporting available on a moment notice?)
  - Availability of technology
  - Expected project staffing (communication system compatible with experience and expertise of the project participants?)
  - Duration of the project (changing system after the project is over?)
  - Project environment (face-to-face meetings or virtual meetings?)
- Communication models
  - Encode (transferring thoughts/ideas into language understood by others)
  - Message and feedback-message (output of encoding)
  - Medium (method of conveying the message)
  - Noise (anything interfering with the transmission and understanding of the message (distance, unfamiliar technology, lack of background information)
  - Decode (translating the message back into meaningful thoughts or ideas)

Basic Communication Model



Tools and Techniques

  - Sender's responsibility:
    - Information is clear, complete so that receiver can receive it correctly and understand it properly
  - Receiver's responsibility
    - Information has been received entirely, understood correctly, and acknowledged
- Communication methods
  - Interactive communication
    - Multidirectional exchange of information
    - Most effective
    - Meetings, phone calls, video conferencing, ...
  - Push communication
    - Send to recipients who need to know the information
    - Information is distributed, but not clear if it reached or understood
  - Pull communication
    - Used for very large volume of information or
    - Very large audiences
    - Intranet sites, e-learning, and knowledge repositories

Outputs

- Communication management plan
  - Stakeholder communication requirements
  - Information to be communicated (language, format, content, and level of detail)
  - Reason for distribution
  - Time frame and frequency for distribution
  - Person responsible for communicating
  - Person responsible for authorizing release of confidential information
  - Person/groups who will receive the information
  - Methods/technologies used to convey the information (memos, email, and/or press releases)
  - Resources allocated for communication activities (time, budget)
  - Escalating process identifying time frames and the management chain (names) for escalating of issues that cannot be resolved at a lower staff level
  - Method for updating and refining the communications management plan as the project progresses and develops
  - Glossary of common terminology
  - Flow charts of the information flow in the project, workflows with possible sequence of authorization, list of reports, and meeting plans, ...
  - Communication constrains derived from specific legislation/regulation, technology, and organizational policies
  - Guidelines/templates for project status meeting, project team meetings, e-meeting, email, project website, PM software

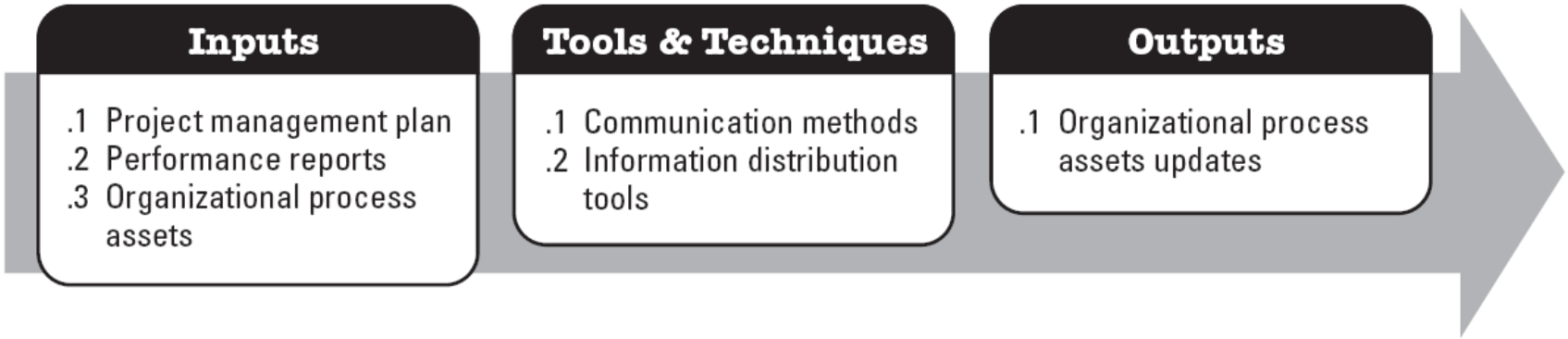
Outputs

- Project document updates
  - Project schedule
  - Stakeholder register, and
  - Stakeholder management strategy

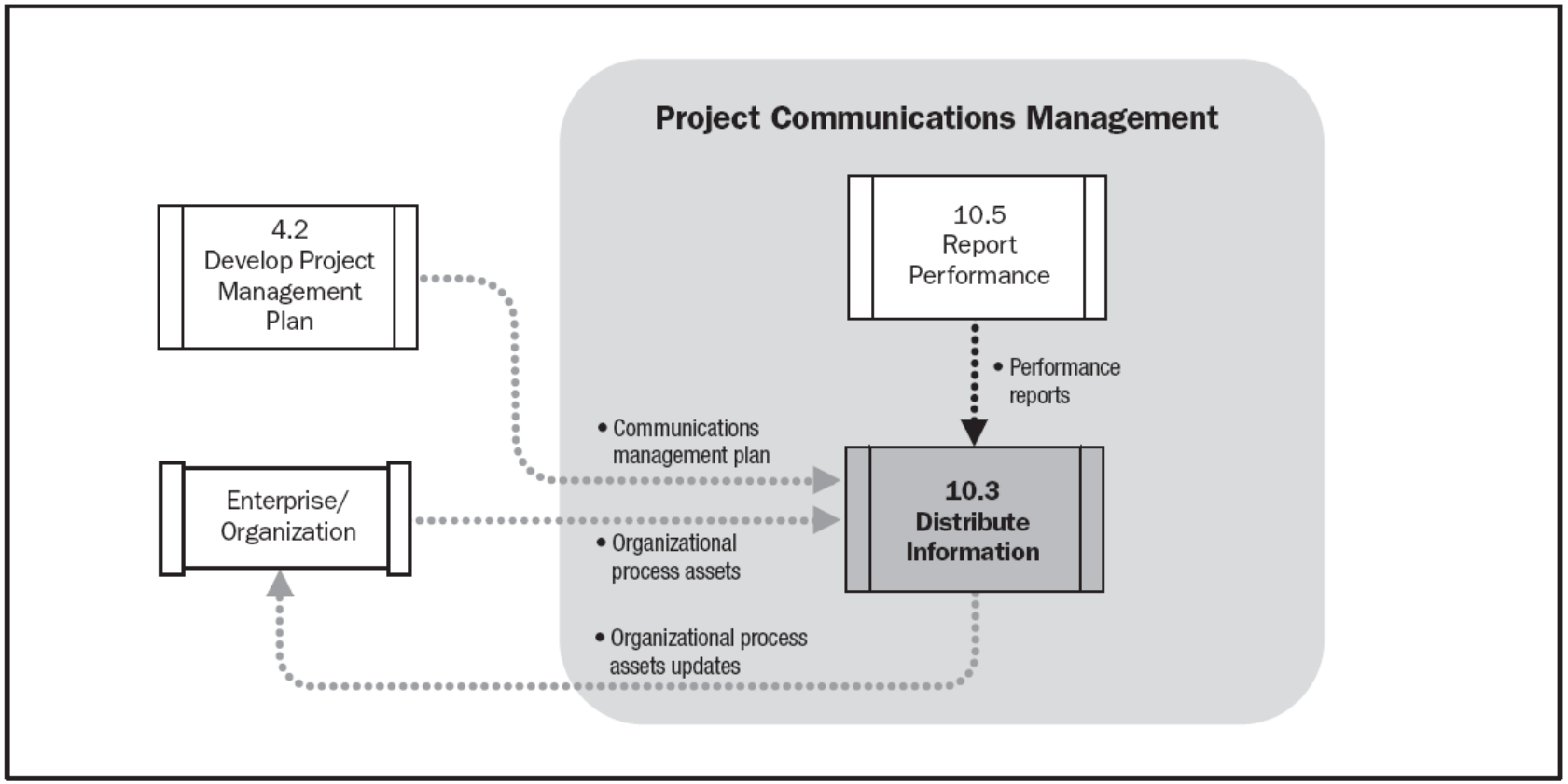
10.3 Distribute Information

- Focus mainly on the execution process, implementing the communication management plan, responding to unexpected requests for information including:
  - Sender-receiver model (feedback loops and barriers to communication)
  - Choice of media (writing, oral, when to write informal memo/formal report, face-to-face/email)
  - Writing style (active/passive voice, sentence structure, word choice)
  - Meeting arrangement techniques (preparing an agenda and dealing with conflicts)
  - Presentation techniques (body language and design of visual aids)
  - Facilitation techniques (building consensus and overcoming obstacles)

Inputs, Tools & Techniques, Outputs



Data Flow



Inputs

- Project management plan
- Performance reports
  - Project performance and status information should be made available prior to project meetings, should be precise and current
  - Updated forecasts (EVM)
- Organizational process assets
  - Policies, procedures and guidelines regarding information distribution
  - Templates, and
  - Historical information and lessons learned

Tools and Techniques

- Communication methods
  - Individual/group meetings, video and audio conferences, computer chats, other remote communication methods
- Information distribution tools
  - Hardcopy, manual filing systems, press releases, shared-access electronic databases
  - Electronic communication and conferencing tools such as email, fax, voice, mail, telephone, video and web conferencing, websites, web publishing
  - Electronic tools for PM such as web interfaces to scheduling and PM software, meeting and virtual office support software, portals, collaborative work management tools

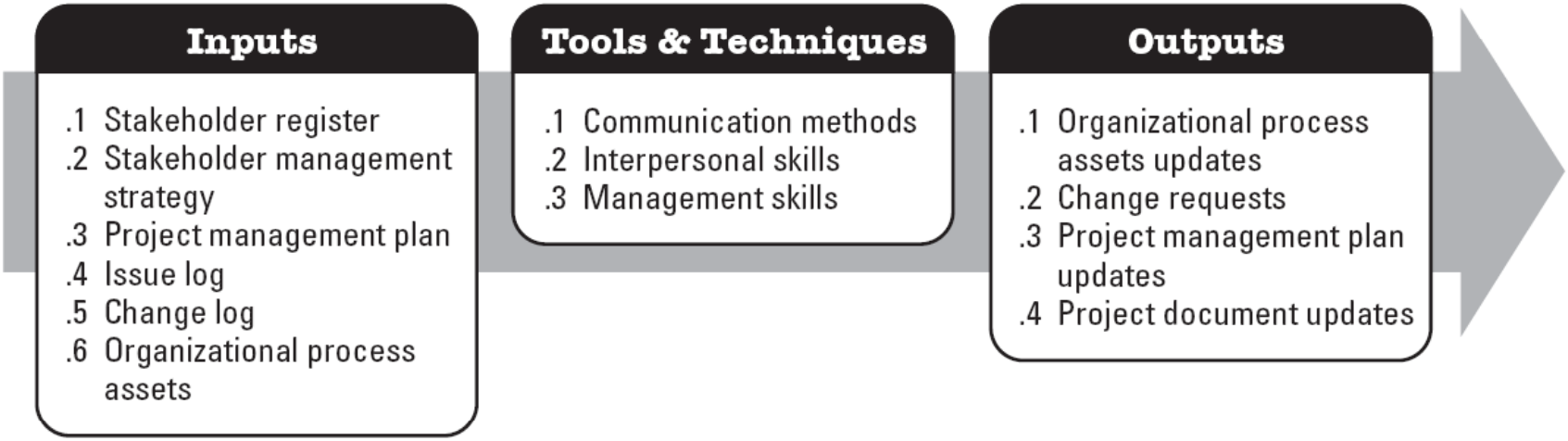
Outputs

- Organizational process assets updates
  - Stakeholder notifications (resolved issues, approved changes, and general project status)
  - Project reports (formal/informal describing project status, lessons learned, issue logs, project closure reports, outputs from other knowledge areas)
  - Project presentations (formal/informal information to all of project stakeholders)
  - Project records (correspondence, memos, meeting minutes, and other documents describing the project, appropriate and extend possible, and organized)
  - Feedback from stakeholders
  - Lessons learned documentation (causes and issues, reasoning behind changes, lessons learned about information distribution)

10.4 Manage Stakeholder Expectations

- Involves communicating activities directed toward project stakeholders to influence their expectations, address concerns, and resolve issues such as:
  - Actively managing the expectations of stakeholders to increase the likelihood of project acceptance by negotiating and influencing their desires to achieve and maintain the project goals
  - Addressing, uncovering, and discussing concerns that have not become issue yet
  - Clarifying and resolving identified issues resulting in change request, postponing another project/phase, ...

Inputs, Tools & Techniques, Outputs



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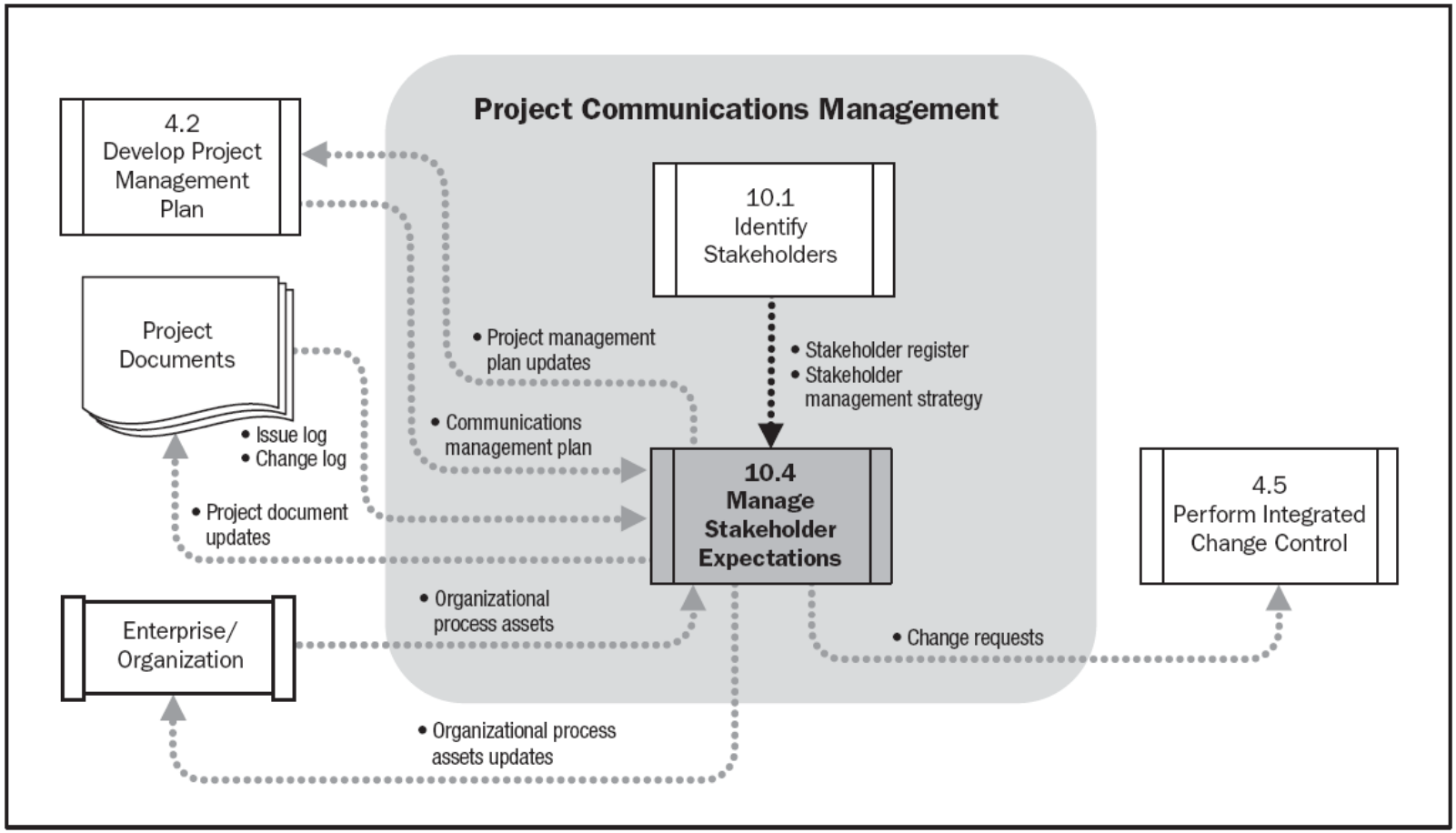

Project Communications Management
4.2
Develop Project
Management
Plan
10.1
Identify
Stakeholders
Project
Documents
• Project management
plan updates
• Stakeholder register
• Stakeholder
management strategy
• Issue log
• Change log
• Communications
management plan
10.4
Manage
Stakeholder
Expectations
4.5
Perform Integrated
Change Control
• Project document
updates
Enterprise/
Organization
• Organizational
process assets
• Change requests
• Organizational process
assets updates

Inputs

- Stakeholder register
- Stakeholder management strategy
- Project management plan
  - Communication management plan in which goals, and objectives of stakeholders as well as level of communication required during project is listed.
  - Needs and expectations are identified, analyzed, and documented in communication management plan
- Issue log
  - Documenting and monitoring the resolution of issues
  - Clearly stated and categorized based on urgency and potential impact
  - An owner is assigned for action, a target date is established for closure
  - Unresolved issues can be a major source of conflict and project delays
- Change log
  - Changes, their impact on the project (time, cost, and risk) must be communicated with appropriate stakeholders
- Organizational process assets
  - Organizational communication requirements
  - Issue management procedures
  - Change control procedures
  - Historical information about previous projects

Tools and Techniques

- Communication methods
- Interpersonal skills
  - Building trust
  - Resolving conflict
  - Active listening
  - Overcoming resistance to change
- Management skills (act of directing and controlling a group of people for the purpose of coordinating and harmonizing the group toward the goal)
  - Presentation skills
  - Negotiating
  - Writing skills, and
  - Public speaking

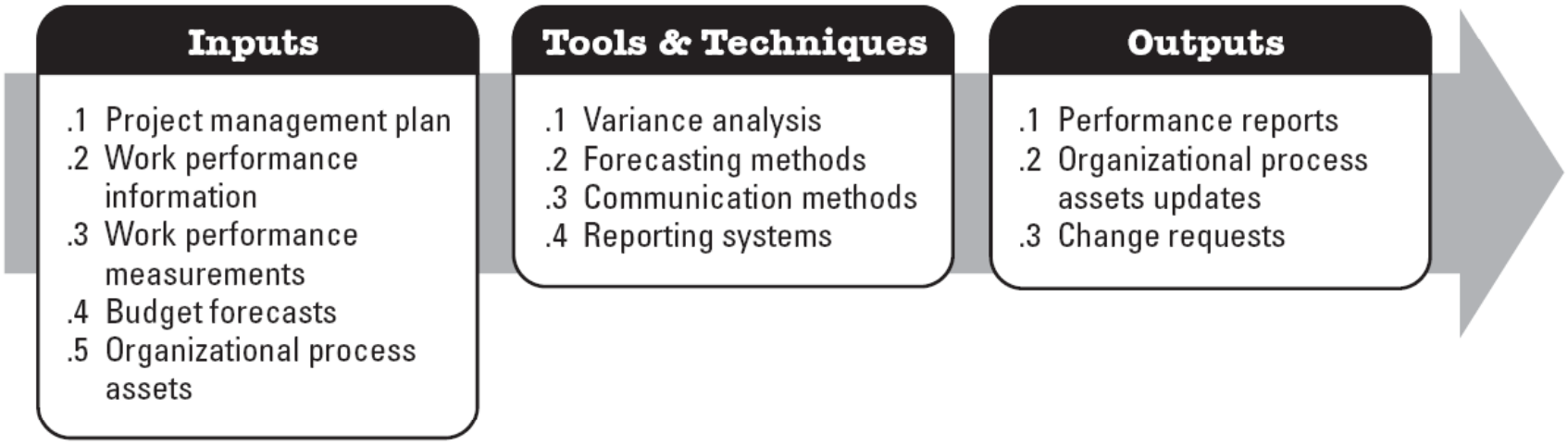
Outputs

- Organizational process assets updates
  - Causes of issues
  - Reasoning behind corrective actions chosen, and
  - Lessons learned from managing stakeholder expectations
- Change requests
- Project management plan updates
  - Communication management plan
- Project document updates
  - Stakeholder management strategy (addressing concerns and resolving issues)
  - Stakeholder register
  - Issue log

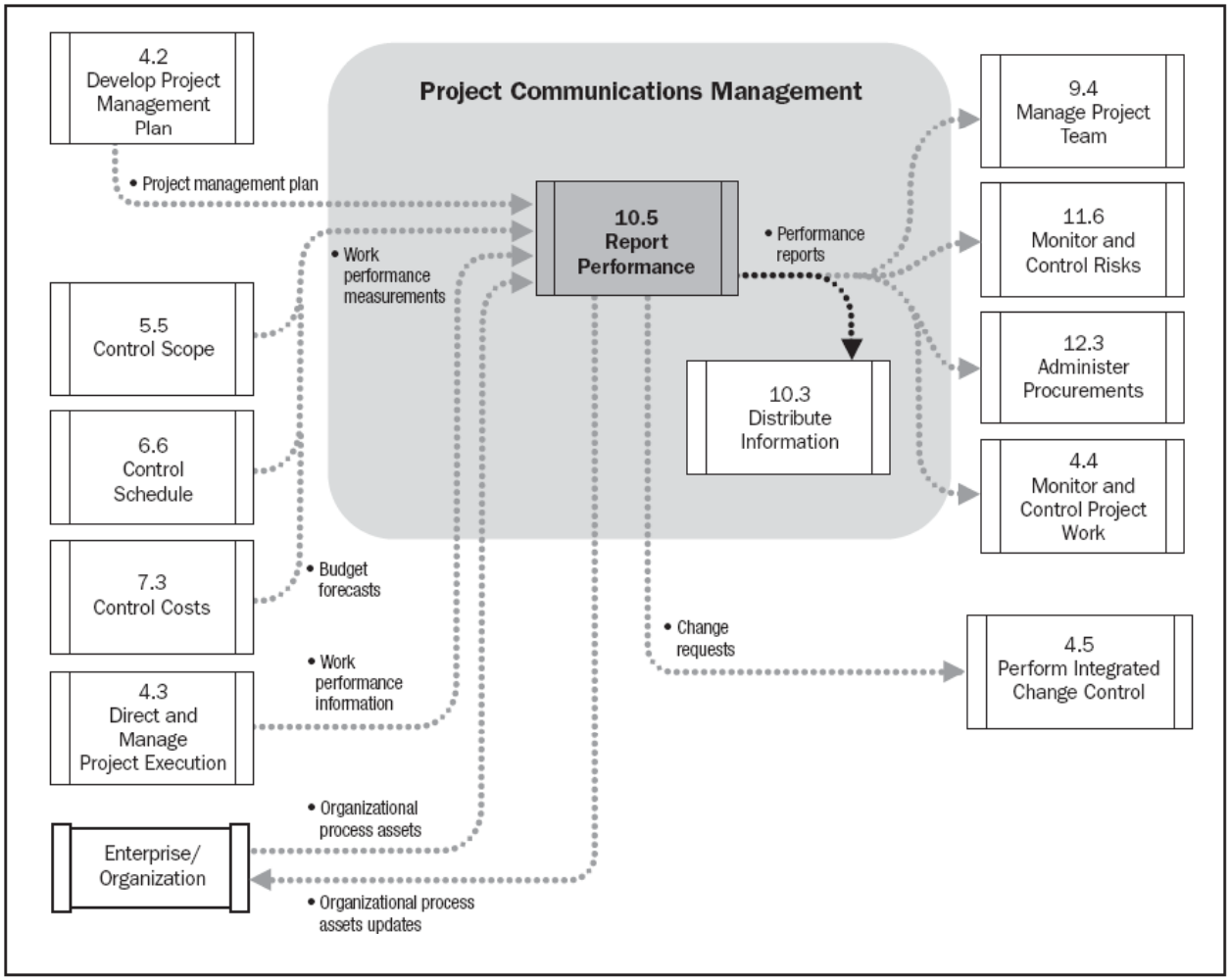
10.5 Report Performance

- The process of collecting and distributing performance information including status reports, progress measurements, and forecasts
- Should provide information at a level appropriate for audience
- Simple/elaborated reports
  - Analysis of past performance
  - Current status of risks and issues
  - Work completed during the period
  - Work to be completed next
  - Summary of changes approved in the period, and
  - Other relevant information which must be reviewed and discussed
- Should be prepared regularly (or on an exception basis)
- Should include forecasted project completion

Inputs, Tools & Techniques, Outputs



Data Flow


Project Communications Management
4.2 Develop Project Management Plan
• Project management plan
10.5 Report Performance
• Performance reports
9.4 Manage Project Team
11.6 Monitor and Control Risks
12.3 Administer Procurements
4.4 Monitor and Control Project Work
• Work performance measurements
5.5 Control Scope
6.6 Control Schedule
7.3 Control Costs
10.3 Distribute Information
• Budget forecasts
• Change requests
4.5 Perform Integrated Change Control
• Work performance information
4.3 Direct and Manage Project Execution
• Organizational process assets
Enterprise/ Organization
• Organizational process assets updates

Inputs

- Project management plan
  - Typically integrates scope, schedule, and cost
  - Can include technical and quality parameters
- Work performance information
  - Deliverables status
  - Schedule progress
  - Cost incurred
- Work performance measurements
  - Planned versus actual schedule performance
  - Planned versus actual cost performance, and
  - Planned versus actual technical performance
- Budget forecasts
- Organizational process assets
  - Report templates
  - Policies and procedures that define the measures and indicators to be used, and
  - Organizationally defined variance limits

Tools and Techniques

- Variance analysis
  - An after-the-fact look
  - May vary depending on the application area, the standard used, and the industry
  - Steps:
    - Verify the quality of the information collected to check if it is complete, consistent, and credible
    - Determine variances (and sources)
    - Determine the impact of the variances in the project cost and schedule as well as other areas

Tools and Techniques

- Forecasting methods
  - Time series methods (EVM, MA, extrapolation, linear prediction, trend estimation, and growth curve)
  - Casual/econometric methods (finding factors that might influence the variable forecasted, e.g., selling umbrella -> weather condition. Methods: regression analysis using linear/non linear regression, autoregressive moving average (ARMA), and econometrics)
  - Judgmental methods (intuitive judgements, opinions, and probability estimates, e.g., composite forecasts, surveys, Delphi method, scenario building, technology forecasting, and forecast analogy)
  - Other methods (simulation, probabilistic forecasting, and ensemble forecasting)

Tools and Techniques

- Communication methods
  - Usually push technique to distribute the info.
- Reporting systems
  - Standard tool for the project manager to capture, store, and distribute information to stakeholders about cost and schedule progress
  - Tabular, spreadsheets analysis, presentations, visual representations)

Outputs

- Performance reports
  - Should be at the detail level required by various stakeholders, as documented in the communications management plan
  - Common format: bar charts, S-curves, histograms, tables
  - Issued periodically
  - Simple/elaborated report
    - Analysis of past performance
    - Current status of risks and issues
    - Work completed during the next reporting period
    - Work to be completed during the next reporting period
    - Summary of changes approved in the period
    - Results of variance analysis
    - Forecasted project completion (time and cost), and
    - Other relevant information to be reviewed and discussed

Tabular Performance Report Sample

	Values			Variance		Performance Index	
WBS Element	**Planned Value (PV)**	**Earned Value (EV)**	**Actual Cost (AC)**	**Schedule EV - PV**	**Cost EV - AC**	**Schedule EV ÷ PV**	**Cost EV ÷ AC**
1.0 Pre-Pilot Plan	63,000	58,000	62,500	(5,000)	(4,500)	0.92	0.93
2.0 Checklists	64,000	48,000	46,800	(16,000)	1,200	0.75	1.03
3.0 Curriculum	23,000	20,000	23,500	(3,000)	(3,500)	0.87	0.85
4.0 Mid-Term Evaluation	68,000	68,000	72,500	–	(4,500)	1.00	0.94
5.0 Implementation Support	12,000	10,000	10,000	(2,000)	–	0.83	1.00
6.0 Practice Manual	7,000	6,200	6,000	(800)	200	0.89	1.03
7.0 Roll-Out Plan	20,000	13,500	18,100	(6,500)	(4,600)	0.68	0.75
Totals	**257,000**	**223,700**	**239,400**	**(33,300)**	**(15,700)**	**0.87**	**0.93**

Outputs

- Organizational process assets updates
  - Report formats
  - Lessons learned documentation
  - Causes and issues
  - Reasoning behind the corrective action chosen
- Change requests (through Integrated Change Control Process)
  - Recommended corrective actions
  - Recommended prevention actions