

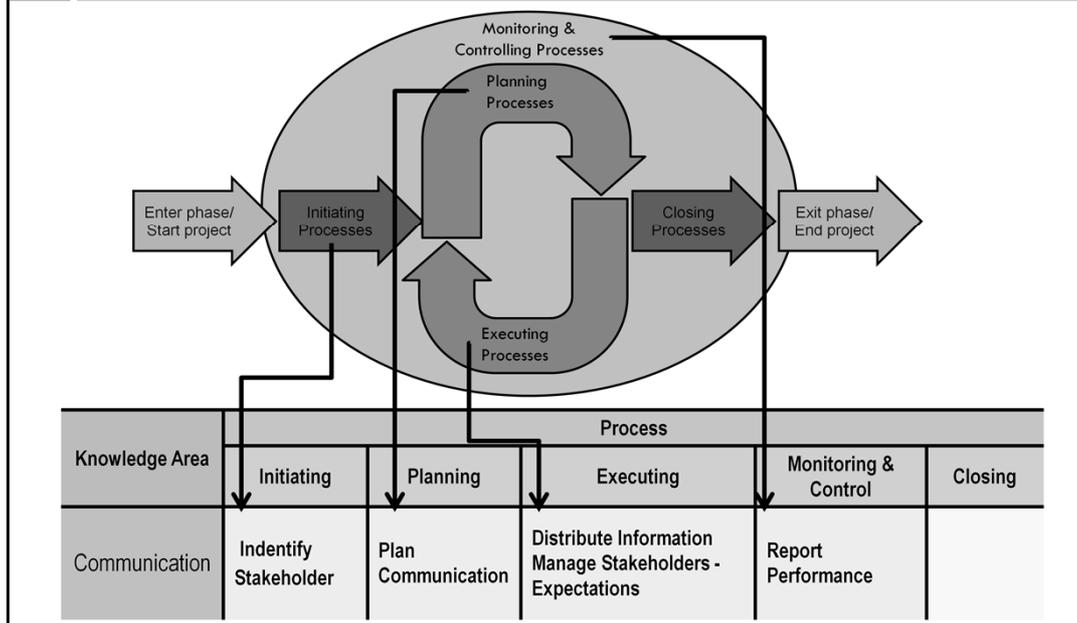
U08784

SOFTWARE PROJECT MANAGEMENT

Lecture 9: Project Communications Management

Peter Lo

Overview

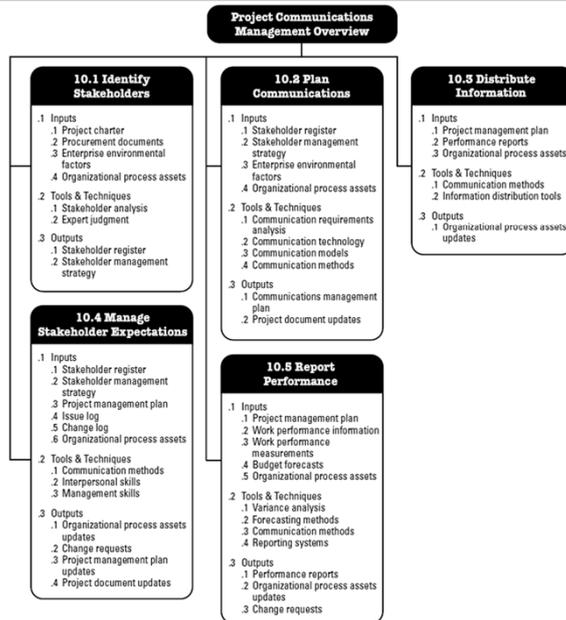


- Project managers spend the majority of their time to communicate.
- Some potential dimensions of communication activity:
 - Internal – external
 - Formal – informal
 - Vertical – horizontal
 - Official – unofficial
 - Written – oral
 - Verbal – non-verbal
- Communication dimensions
 - Internal/external (customer, other projects, the media, the public)
 - Formal (reports, memos, briefings)/informal (emails, ad-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

Overview

- Processes required to ensure timely and appropriate generation, collection, distribution, storage, retrieval, and ultimate disposition of project information

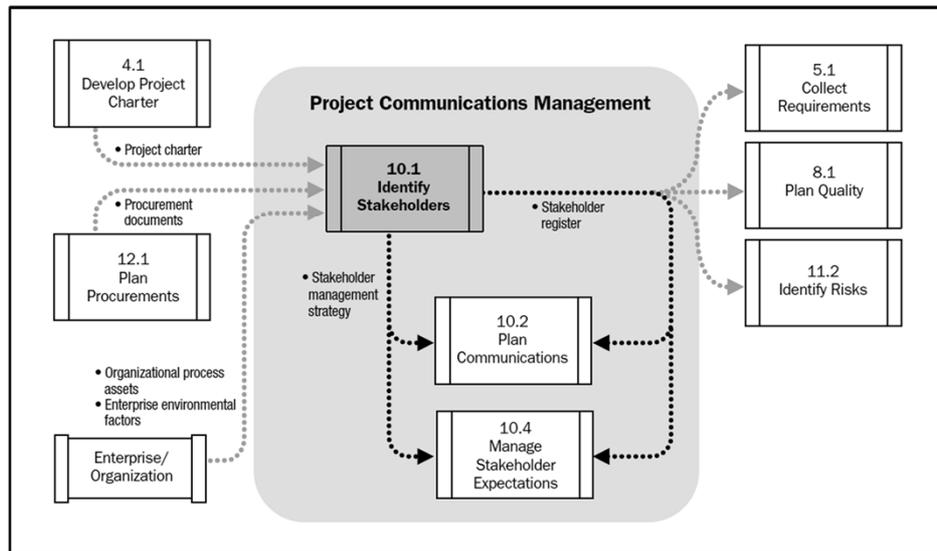
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Effective communication: bridge between diverse internal/external stakeholders, various cultural and organizational background, different levels of expertise, various perspectives and interests in the project execution or outcome

- Identify stakeholders
- Plan communications
- Distribute information
- Manage stakeholder expectations
- Report performance

Identify Stakeholders



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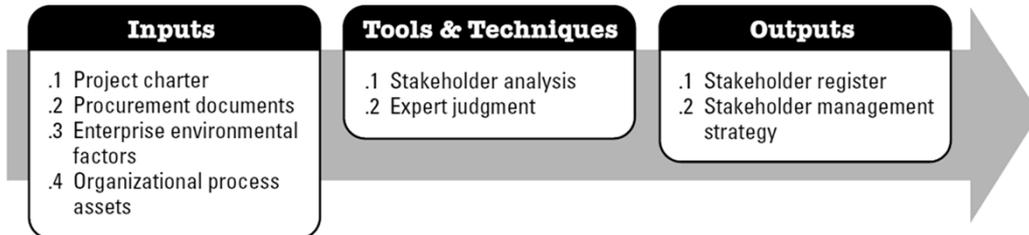
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The Identify Stakeholders process involves identifying and documenting all the stakeholders on the project, including their interests and potential positive or negative impacts on the project. Stakeholder identification should occur *as early as possible* in the project and continue throughout its life

- 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

Identify Stakeholders

- The process of identifying all people or organizations impacted by the project, and documenting relevant information regarding their interest, involvement, and impact on project success.



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Inputs

- Project Charter
- Procurement Documents
- Enterprise Environmental Factors
- Organizational Process Assets

Tools & Techniques

- Stakeholder Analysis
- Expert Judgment

Outputs

- Stakeholder Register
- Stakeholder Management Strategy

Identify Stakeholders (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

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Project Charter

- The project charter can provide information about internal and external parties involved in and affected by the project, such as project sponsor(s), customers, team members, groups and departments participating in the project, and other people or organizations affected by the project.

Procurement Documents

- If a project is the result of a procurement activity or is based on an established contract, the parties in that contract are key project stakeholders. Other relevant parties, such as suppliers, should also be considered as part of the project stakeholders list.

Enterprise Environmental Factors

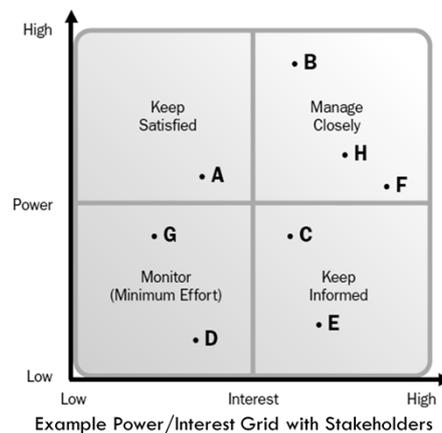
- The enterprise environmental factors that can influence the Identify Stakeholders process include, but are not limited to:
 - Organizational or company culture and structure, and
 - Governmental or industry standards (e.g. regulations, product standards).

Organizational Process Assets

- The organizational process assets that can influence the Identify Stakeholders process include, but are not limited to:
 - Stakeholder register templates,
 - Lessons learned from previous projects,
 - Stakeholder registers from previous projects.

Identify Stakeholders (Tools & Techniques)

- A technique of systematically gathering and analyzing quantitative & qualitative information to determine whose interests should be taken into account throughout the project.
 - ▣ Step 1: Identify all potential project **stakeholders** and **relevant information**
 - ▣ Step 2: Identify the potential impact or support each stakeholder could generate and **classify** them so as to define an approach strategy.
 - ▣ Step 3: Assess how key stakeholder are likely to **react or respond** in various situation



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- 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

Identify Stakeholders (Tools & 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

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To ensure comprehensive identification and listing of stakeholders, judgment and expertise should be sought from groups or individuals with specialized training or knowledge on the subject area such as:

- Senior management,
- Other units within the organization,
- Identified key stakeholders,
- Project managers who have worked on projects in the same area (directly or through lessons learned),
- Subject matter experts (SMEs) in business or project area,
- Industry groups and consultants, and
- Professional and technical associations.

Expert judgment can be obtained through individual consultations (one-on-one meetings, interviews, etc.) or through a panel format (focus groups, surveys etc).

Identify Stakeholders (Outputs)

□ Stakeholder Register

Name	Contact Information	Role in Project	Department/ Supervisor	Company	Impact	Influence	Main expectations	Attitude about the project	Major requirement

□ Stakeholder Management Strategy

- ▣ Defines an approach to increase the support and minimize negative impacts of stakeholder.
- ▣ The information could be too sensitive to be shared.
- ▣ A common way of representing is by using a stakeholder analysis matrix.

Stakeholder	Stakeholder interest(s) in the project	Assessment of impact	Potential strategies for gaining support or reducing obstacles

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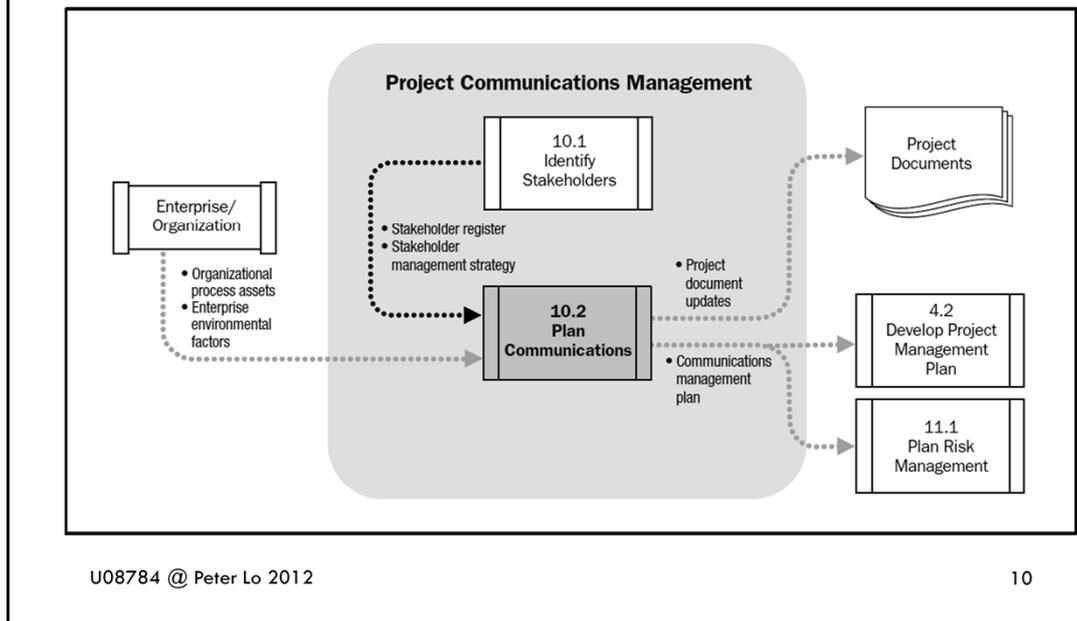
Stake Holder Register

- 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

Plan Communication



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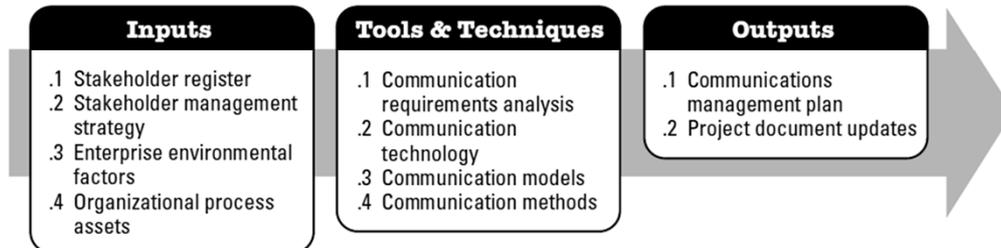
This process involves determining the communication needs of the stakeholders by defining:

- Types of information needed
- Format for communicating the information
- How often it's distributed
- Who prepares it

- 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

Plan Communication

- The process of determining the project stakeholder information needs and defining a communication approach.



90% of project manager's time is spent for communication

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Inputs

- Stakeholder Register
- Stakeholder Management Strategy
- Enterprise Environmental Factors
- Organizational Process Assets

Tools & Techniques

- Communication Requirement Analysis
- Communication Technology
- Communication Models
- Communication Methods

Outputs

- Communications Management Plan
- Project Document Updates

Plan Communication (Inputs)

- Stakeholder Register
- Enterprise Environmental Factors
 - Lessons learned
 - Historical information
- Organizational Process Assets
- Stakeholder Management Strategy
 - Communication should be adopted to the project environment

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

Figure 10-5. Sample Stakeholder Analysis Matrix

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Stakeholder Register

- The main output of the Identify Stakeholders process is the stakeholder register. This contains all details related to the identified stakeholders including, but not limited to:
 - Identification information: Name, organizational position, location, role in the project, contact information;
 - Assessment information: Major requirements, main expectations, potential influence in the project, phase in the life cycle with the most interest; and
 - Stakeholder classification: Internal/external, supporter/neutral/resistor, etc.

Stakeholder Management Strategy

- The stakeholder management strategy defines an approach to increase the support and minimize negative impacts of stakeholders throughout the entire project life cycle. It includes elements such as:
 - Key stakeholders who can significantly impact the project,
 - Level of participation in the project desired for each identified stakeholder, and
 - Stakeholder groups and their management (as groups).
- A common way of representing the stakeholder management strategy is a stakeholder analysis matrix.
- Some of the information related to certain stakeholder management strategies could be too sensitive to be included in a shared document. The project manager must exercise judgment with regard to the type of information and the level of detail to be included in the stakeholder management strategy.

Enterprise Environmental Factors

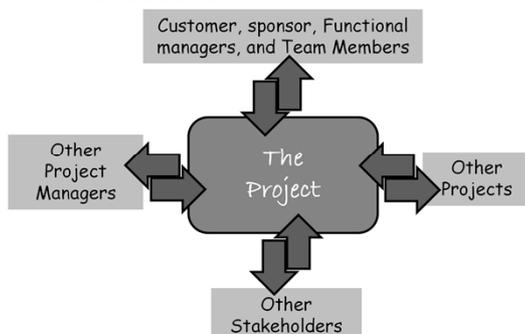
- All enterprise environmental factors are used as inputs for this process since communication must be adapted to the project environment.

Organizational Process Assets

- All organizational process assets are used as inputs for the Plan Communications process. Of these, lessons learned and historical information are of particular importance because they can provide insights on both the decisions taken regarding communications issues and the results of those decisions in previous similar projects. These can be used as guiding information to plan the communication activities for the current project.

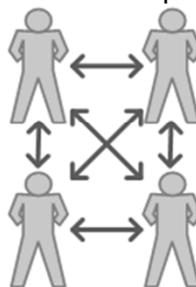
Plan Communication (Tools & Techniques)

- Includes communicating in all directions



- Determine and limit who will communicate with whom and who will receive what information.

- Consider the number of potential communication channels or paths



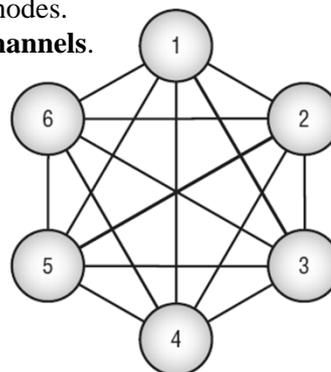
- Formula:

$$\frac{N (N - 1)}{2}$$

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- Type and format of information
- Analysis of the value of the information
- Number of potential communication channels/paths $(n(n-1)/2)$, 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 specialties 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
- Lines of communication:
 - Network model with **nodes and lines** connecting the nodes.
 - These lines indicate the number of **communication channels**.
- Formula for calculating the lines of communication
 - Participants (Participants -1) / 2



Nodes = participants
Lines = lines of communication between participants

Plan Communication (Tools & 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)

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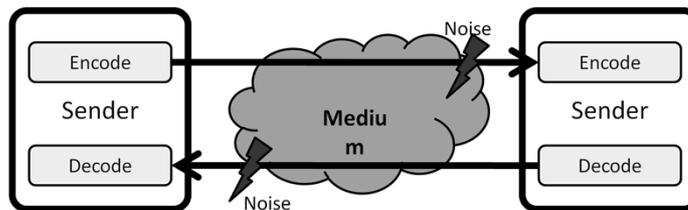
The methods used to transfer information among project stakeholders can vary significantly. For example, a project team may use techniques from brief conversations all the way through to extended meetings, or from simple written documents to material (e.g., schedules and databases) that is accessible online as methods of communication.

Factors that can affect the project include:

- **Urgency of the need for information.** Is project success dependent upon having frequently updated information available on a moment's notice, or would regularly issued written reports suffice?
- **Availability of technology.** Are appropriate systems already in place or do project needs warrant change? For example, do the intended stakeholder(s) have access to a selected communications technology?
- **Expected project staffing.** Are the proposed communication systems compatible with the experience and expertise of the project participants, or is extensive training and learning required?
- **Duration of the project.** Is the available technology likely to change before the project is over?
- **Project environment.** Does the team meet and operate on a face-to-face basis or in a virtual environment?

Plan Communication (Tools & Techniques)

- Basic Communication Model
 - ▣ The components in the model need to be taken into account when discussing project communications.
 - ▣ The sender is responsible for making information clear and complete so that the receiver can receive it correctly, and for confirming that it is properly understood.



- To make effective communication, sender/receiver need to be aware of these factors:
 - Nonverbal: 55% of all communication is nonverbal
 - Paralingual: pitch and tone of voice
 - Effective listening

- 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)
- 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

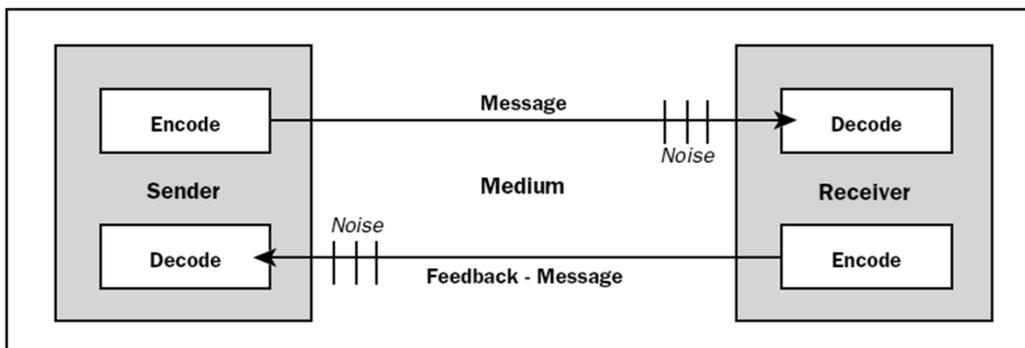


Figure 10-8. Basic Communication Model

Plan Communication (Tools & Techniques)

□ Communication Methods

▣ Interactive Communication

- Most efficient way to ensure a common understanding
- E.g. meetings, phone calls, video conferencing

▣ Push Communication

- Does not certify that it reached or understood
- E.g. letters, email, press release, faxes, voice mail

▣ Pull communication

- Used for very large information volumes, very large audiences
- E.g. intranet site, e-learning



Project manager cannot control all communications but should try to control to prevent miscommunication, unclear directions, and scope creeps.

- 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

Plan Communication (Output)

- Communication Management Plan
 - The communications management plan is contained in or is a subsidiary of the project management plan.
 - The communications management plan can be formal or informal, highly detailed or broadly framed, and based on the needs of the project.

What	Who/Target	Purpose	When/Frequency	Type/Method(s)
Initiation Meeting	All stakeholders*	Gather information for Initiation Plan	FIRST Before Project Start Date	Meeting
Distribute Project Initiation Plan	All stakeholders*	Distribute Plan to alert stakeholders of project scope and to gain buy in.	Before Kick Off Meeting Before Project Start Date	Document distributed via hardcopy or electronically. May be posted on project website or OIT Blackboard site.
Project Kick-Off	All stakeholders*	Communicate plans and stakeholder roles/responsibilities. Encourage communication among stakeholders.	At or near Project Start Date	Meeting
Status Reports	All stakeholders and Project Office	Update stakeholders on progress of the project.	Regularly Scheduled. Monthly is recommended for large/midsize projects.	Distribute electronically and post via web/OIT Blackboard site. Template: Status Report
Team Meetings	Entire Project Team. Individual meetings for sub-teams, technical team, and Functional teams as appropriate.	To review detailed plans (tasks, assignments, and action items).	Regularly Scheduled. Weekly is recommended for entire team. Weekly or bi-weekly for sub-teams as appropriate.	Meeting

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The communications management plan usually provides:

- Stakeholder communication requirements
- Information to be communicated, including language, format, content, and level of detail
- Reason for the distribution of that information
- Time frame and frequency for the distribution of required information
- Person responsible for communicating the information
- Person responsible for authorizing release of confidential information
- Person or groups who will receive the information
- Methods or technologies used to convey the information, such as memos, e-mail, and/or press releases
- Resources allocated for communication activities, including time and budget
- Escalation process identifying time frames and the management chain (names) for escalation 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, etc.
- Communication constraints, usually derived from specific legislation or regulation, technology, and organizational policies, etc.
- Guidelines and templates for project status meetings, project team meetings, e-meetings, and e-mail.
- The use of a project website and project management software can also be included if they are used in the project.

Plan Communication (Output)

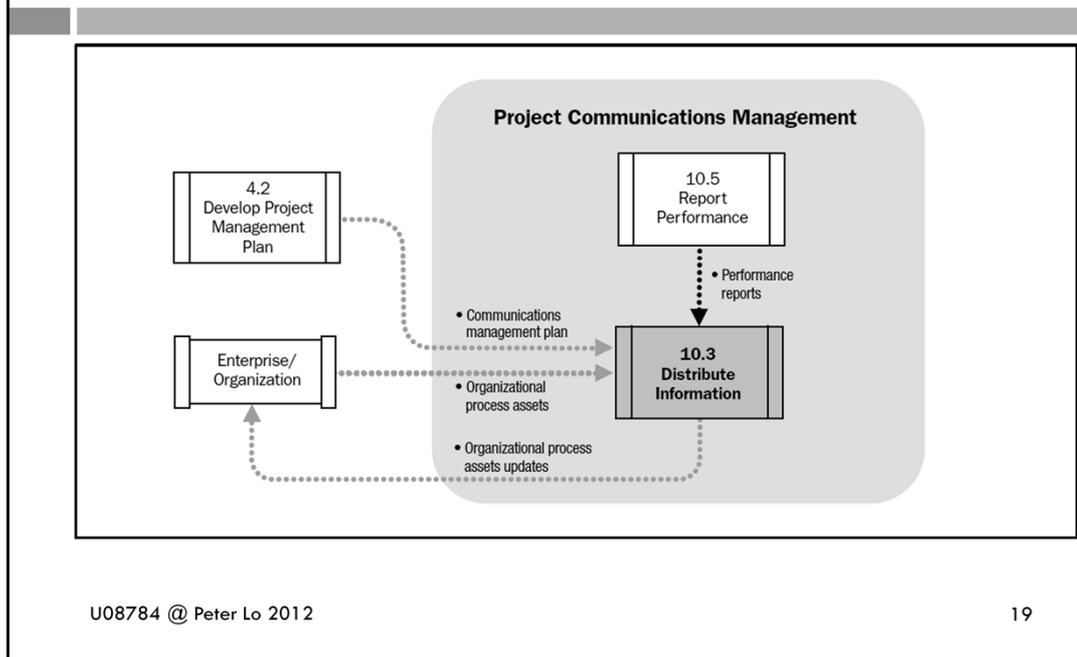
- Project Document Updates
 - ▣ Project schedule
 - ▣ Stakeholder register
 - ▣ Stakeholder management strategy



Project documents that may be updated include but are not limited to:

- Project schedule,
- Stakeholder register, and
- Stakeholder management strategy.

Distribute Information

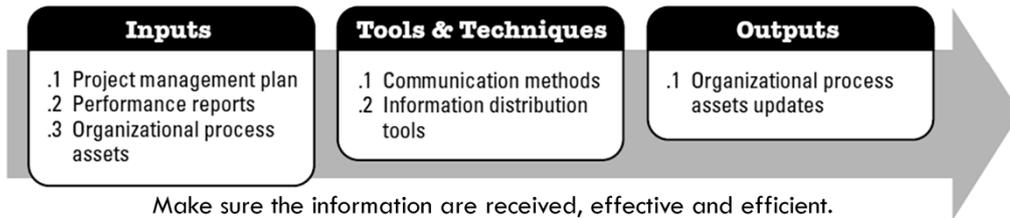


This is concerned with getting stakeholders information about the project in a timely manner. This can come about in several ways like status reports, project meeting, review meetings and so on. This process describes how the information are distributed and to whom.

- 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)

Distribute Information

- The process of making relevant information available to project stakeholders as planned.



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Exam Spotlight

According to the *PMBOK® Guide*, it's a project manager's professional obligation to hold lessons learned meetings.

Inputs

- Project Management Plan
- Performance Reports
- Organizational Process Assets

Tools & Techniques

- Communication Methods
- Information Distribution Tools

Outputs

- Organizational Process Assets Updates

Distribute Information (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
 - Historical information and lessons learned

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Project Management Plan

- The project management plan contains the communications management plan

Performance Reports

- Performance reports are used to distribute project performance and status information, should be made available prior to project meetings, and should be as precise and current as possible.
- Forecasts are updated and reissued based on work performance measurements provided as the project is executed. This information is about the project's past performance that could impact the project in the future, for example, estimates at completion and estimates to complete. Forecast information is often generated using earned value methods, but may use other methods such as analogy with past projects, re-estimating remaining work, inclusion of impact of external events in the schedule, and others. This information should be available along with performance information and other important information that must be distributed for decision-making purposes. Forecasting methods are described in Section 10.5.2.2. Additional information on performance reports is provided in Section 10.5.3.1.

Organizational Process Assets

- The organizational process assets that can influence the Distribute Information process include, but are not limited to:
 - Policies, procedures, and guidelines regarding information distribution
 - Templates
 - Historical information and lessons learned

Distribute Information (Tools & Techniques)

- Communication Methods
 - ▣ Individual/group meetings, video and audio conferences, computer chats, other remote communication methods
 - ▣ Forms of communications: It occurs primarily in written or verbal form.
 - **Formal written** is used in legal documents, contracts, specifications, project documents or formal communication about the project.
 - **Informal written** is used when send quick mails, leave memos o stick notes.
 - **Formal verbal** is used for updates presentations about the project, speeches, meeting and planning sessions.
 - **informal verbal** is used by example when calling for chat about your project o resolve disputes among team members
 - **Internal** (within the project) and **External** (customer, other project, the media, the public)
 - **Vertical** (up and down the organization) and **Horizontal** (with peers)
 - **Non verbal** (voice inflections, body language)
 - **Paralingual** is the tone and pitch of your voice when you are talking to the people.
 - **Feedback** is when you respond to the people

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- Developing great communication skills
 - Project managers spend as much as 90% of their time communicating in one form or another. Therefore communication skills is one of the most important skills a project manager can have.
- Information Exchange
 - Communication is the process of exchanging information. All communications include three elements:
 - Sender
 - Message
 - Receiver
- Methods of information exchange
 - The way the sender packages or encodes the information and transmits it and the way the receivers unpack or decode the message are the methods of communication exchange.
- Resolving conflicts
 - The resolving conflicts ways are:
 - Forcing
 - Smoothing/accommodating
 - Compromise
 - Confrontation/Problem solving
 - Collaborating
 - Withdrawal/Avoidance
- Effective listening skills
 - You should be as good a listener as you are a communicator.
 - Appear interested in what the speaker is saying.
 - Making eye contact with the speaker.
 - Put your speaker at ease by letting them know beforehand that you are interested in what they are going to talk.
 - Recap what the speaker said in your own words and tell it back to them.
 - It is impolite to interrupt.

Distribute Information (Tools & Techniques)

- 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 project management such as web interfaces to scheduling and project management software, meeting and virtual office support software, portals, collaborative work management tools

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Information distribution tools

- Are ways of getting the project information to the project team or stakeholders including email, hard copy, voicemail, videoconferencing and so on.

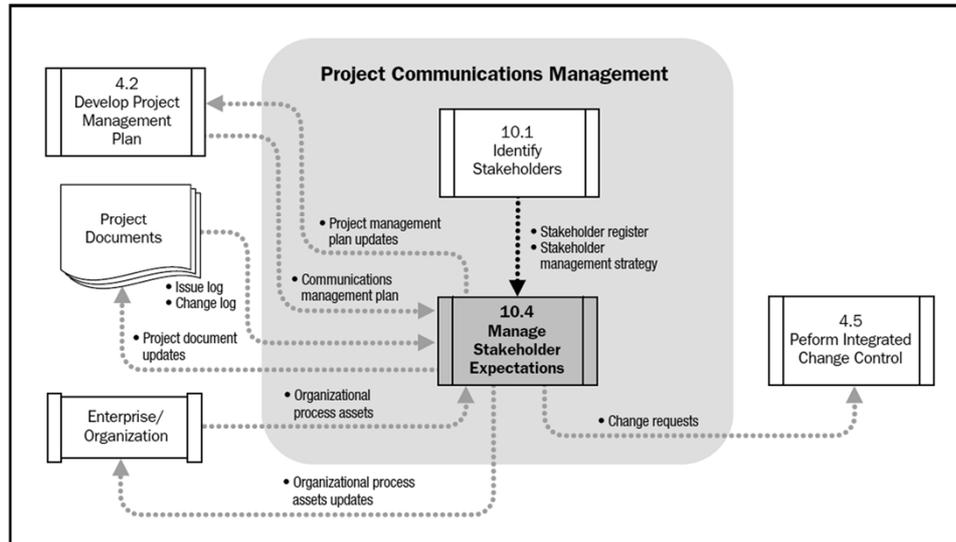
Distribute Information (Outputs)

- 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)

The organizational process assets which may be updated include, but are not limited to:

- **Stakeholder notifications.** Information may be provided to stakeholders about resolved issues, approved changes, and general project status.
- **Project reports.** Formal and informal project reports describe project status and include lessons learned, issues logs, project closure reports, and outputs from other Knowledge Areas (Chapters 4–12).
- **Project presentations.** The project team provides information formally or informally to any or all of the project stakeholders. The information and presentation method should be relevant to the needs of the audience.
- **Project records.** Project records can include correspondence, memos, meeting minutes, and other documents describing the project. This information should, to the extent possible and appropriate, be maintained in an organized manner. Project team members can also maintain records in a project notebook or register, which could be physical or electronic.
- **Feedback from stakeholders.** Information received from stakeholders concerning project operations can be distributed and used to modify or improve future performance of the project.
- **Lessons learned documentation.** Documentation includes the causes of issues, reasoning behind the corrective action chosen, and other types of lessons learned about information distribution. Lessons learned are documented and distributed so that they become part of the historical database for both the project and the performing organization.

Manage Stakeholder Expectation



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Involves communicating activities directed toward project stakeholders to influence their expectations, address concerns, and resolve issues such as:

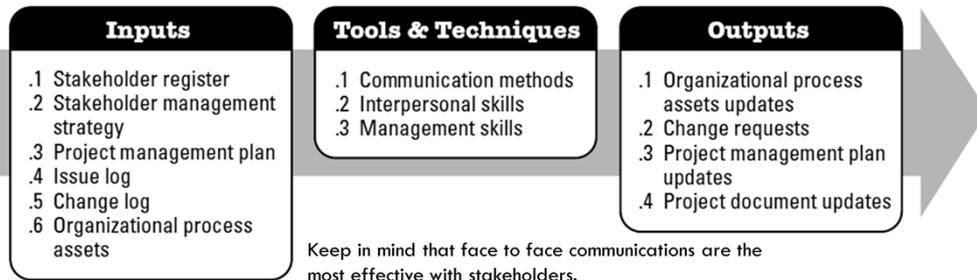
- Actively managing the expectations of stakeholders to increase the likelihood of project acceptance by negotiating and influencing their desires to achieve and maintain the project goals
- Addressing, uncovering, and discussing concerns that have not become issue yet
- Clarifying and resolving identified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

It is about satisfying the needs of the stakeholders by managing communications with them, resolving issues, improving project performance by implementing requested changes, and managing concerns in anticipation of potential problems.

- Actively managing the expectation of stakeholders.
 - Increase the likelihood of project acceptance by negotiating.
 - Influencing their desire to achieve & maintain project goals.
- Addressing concerns that have not become issues yet (anticipation).
Clarifying and resolving issues that have been identified.

Manage Stakeholder Expectation

- The process of communicating and working with stakeholders to meet their needs and addressing issues as they occur.



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Exam Spotlight

According to the *PMBOK® Guide*, the issue log (or action item log) can be used to promote communication with stakeholders and to ensure that stakeholders and the project team have the same understanding of the issues.

Inputs

- Stakeholder Register
- Stakeholder Management Strategy
- Project Management Plan
- Issue Log
- Change Log
- Organizational Process Assets

Tools & Techniques

- Communication Method
- Interpersonal Skills
- Management Skills

Outputs

- Organizational Process Assets Updates
- Change Requests
- Project Management Plan Updates
- Project Document Updates

Manage Stakeholder Expectation (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
 - Acts like an action item log where you record the actions needed to resolve stakeholder concerns and project issues they raise. Issues should be ranked according to their urgency and potential impact on the project.
- 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

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Stakeholder Register

- The stakeholder register is a list of the relevant stakeholders for the project. It is used to ensure that all stakeholders are included in the project communications.

Stakeholder Management Strategy

- An understanding of stakeholder goals and objectives is used to determine a strategy to manage stakeholder expectations. The strategy is documented in the stakeholder management strategy document

Project Management Plan

- The project management plan contains the communications management plan. Stakeholder requirements and expectations provide an understanding of stakeholder goals, objectives, and level of communication required during the project. The needs and expectations are identified, analyzed, and documented in the communications management plan, which is a subsidiary of the project 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.

- Documents all the changes made during the course of the project. Keep stakeholders updated on changes and their impact on the project.

Organizational Process Assets

- The organizational process assets that can influence the Manage Stakeholder Expectations process include, but are not limited to:
 - Organizational communication requirements,
 - Issue management procedures,
 - Change control procedures, and
 - Historical information about previous projects.

Manage Stakeholder Expectation (Tools & 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
 - Public speaking

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Communication Method

- The methods of communication identified for each stakeholder in the communications management plan are utilized during stakeholder management.

Interpersonal Skills

- The project manager applies appropriate interpersonal skills to manage stakeholder expectations. For example:
 - Building trust,
 - Resolving conflict,
 - Active listening, and
 - Overcoming resistance to change.

Management Skills

- Management is the act of directing and controlling a group of people for the purpose of coordinating and harmonizing the group towards accomplishing a goal beyond the scope of individual effort. Management skills used by the project manager include but are not limited to:
 - Presentation skills,
 - Negotiating,
 - Writing skills, and
 - Public speaking

Manage Stakeholder Expectation (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

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Organizational Process Assets Updates

- Organizational process assets that may be updated include, but are not limited to:
 - Causes of issues,
 - Reasoning behind corrective actions chosen
 - Lessons learned from managing stakeholder expectations

Change Requests

- Managing stakeholder expectations may result in a change request to the product or the project. It may also include corrective or preventive actions as appropriate.

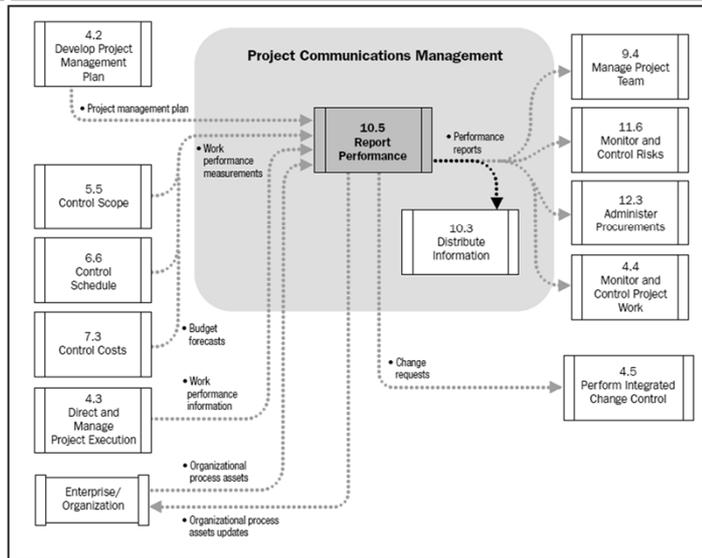
Project Management Plan Updates

- Elements of the project management plan that may be updated include, but are not limited to, a communications management plan. This is updated when new or changed communication requirements are identified. For example, some communications may no longer be necessary, an ineffective communication method may be replaced by another method, or a new communication requirement may be identified.

Project Document Updates

- Project documents that may be updated include, but are not limited to:
 - **Stakeholder management strategy.** This is updated as a result of addressing concerns and resolving issues. For example, it may be determined that a stakeholder has additional informational needs.
 - **Stakeholder register.** This is updated as information on stakeholders change, when new stakeholders are identified or if registered stakeholders are no longer involved in or impacted by the project, or other updates for specific stakeholders are required.
 - **Issue log.** This is updated as new issues are identified and current issues are resolved.

Report Performance



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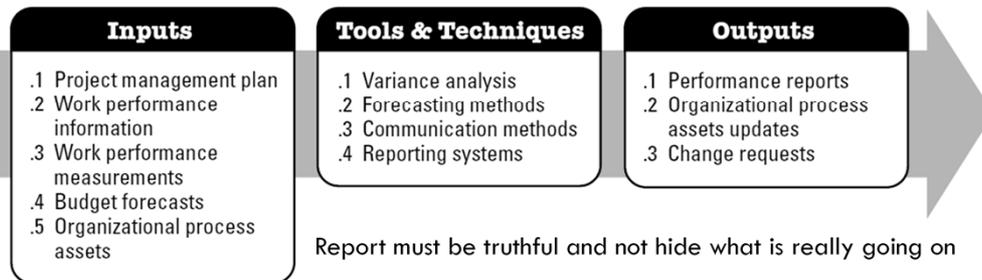
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This process concerns to collecting information regarding to project progress and project accomplishments and to reporting it to the stakeholders. Reporting might include information concerning project quality, cost, scope, project schedules, procurement and risk, and it can be presented in the form of status reports.

- 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

Report Performance

- The process of making relevant information available to project stakeholders as planned.



Exam Spotlight

According to the *PMBOK® Guide*, the performance reports produced as a result of this process should include project completion forecasts. We'll talk about forecasting methods as a tool and technique of this process.

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Inputs

- Project Management Plan
- Work Performance Information
- Work Performance Measurements
- Budget Forecasts
- Organizational Process Assets

Tools & Techniques

- Variance Analysis
- Forecast Methods
- Communication Methods
- Reporting Systems

Outputs

- Performance Reports
- Organization Process Assets Updates
- Change Requests

Report Performance (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 vs. actual schedule performance
 - Planned vs. actual cost performance, and
 - Planned vs. actual technical performance
- Budget Forecasts
- Organizational Process Assets
 - Report templates
 - Policies and procedures that define the measures and indicators to be used
 - Organizationally defined variance limits

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Project Management Plan

- The project management plan provides information on project baselines. The performance measurement baseline is an approved plan for the project work to which the project execution is compared, and deviations are measured for management control.
- The performance measurement baseline typically integrates scope, schedule, and cost parameters of a project, but may also include technical and quality parameters.

Work Performance Information

- Information from project activities:
 - Deliverables
 - Schedule Progress.
 - Costs Incurred.

Work Performance Measurements

- Planned vs. actual schedule performance.
- Planned vs. actual cost performance.
- Planned vs. actual technical performance.

Budget Forecasts

- Budget forecast information from the Control Cost provide information on the additional funds that are expected to be required for the remaining work, as well as estimates for the completion of the total project work.

Organizational Process Assets

- Report templates.
- Policies & procedures that define the measures and indicators to use.
- Organizationally defined variance limits

Report Performance (Tools & 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

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- The difference between the baseline and the actual performance. Common steps for this are:
- Verify the quality of the information
- Determine variances noting favorable and unfavorable differences
- Determine the impact of the variances

Report Performance (Tools & Techniques)

- Forecasting Methods
 - **Time Series Methods** uses historical data to predict future performance.
 - Earned Value, Moving average, Extrapolation, Linear prediction, Trend estimation, Growth curve are some.
 - **Causal/Econometric Methods** are based on the ability to identify variables that many cause or influence the forecast.
 - **Judgmental Methods.** It uses opinion, Intuitive judgment and probability Estimates to determine possible future results.
 - •Composite forecasts, Surveys, Delphi method, Scenario building, Technology forecasting, forecast by analogy
 - **Other methods.** Simulation, Probabilistic Forecasting, Ensemble Forecasting.

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- 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 judgments, 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)

Report Performance (Tools & Techniques)

- Communication Methods
 - ▣ Usually push technique to distribute the info.

Status review meetings can be used to exchange and analyze information about the project progress and performance. The project manager generally uses a push communication technique as defined *above* to distribute performance reports.

Report Performance (Tools & Techniques)

- 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)

A reporting system provides a standard tool for the project manager to capture, store, and distribute information to stakeholders about the project cost, schedule progress, and performance. Software packages allow the project manager to consolidate reports from several systems and facilitate report distribution to the project stakeholders. Examples of distribution formats may include table reporting, spreadsheet analysis, and presentations. Graphic capabilities can be used to create visual representations of project performance information.

Report Performance (Outputs)

- Performance Reports
 - ▣ Is the primary output of this process. May range from simply stated status reports to highly detailed reports. Might take any forms including: Bar Charts, S-Curves, Histograms, Tables, Variance analysis, Earned value, Forecast data.

WBS Element	Values			Variance		Performance Index	
	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

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Figure 10-15. Tabular Performance Report Sample

- 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

Report Performance (Outputs)

- Organizational Process Assets Updates
 - ▣ Report formats
 - ▣ Lessons learned documentation
 - ▣ Causes and issues
 - ▣ Reasoning behind the corrective action chosen

Lessons learned documentation, Report formats, Causes of issues, Corrective actions taken.

Report Performance (Outputs)

- Change requests (through Integrated Change Control Process)
 - ▣ Recommended corrective actions
 - ▣ Recommended prevention actions

Recommended Corrective Actions to bring performance in alignment with the project management plan and preventive actions to reduce probable future negative performance.

Reference

- Ch. 10, PMBOK Guide, 4th Edition
- Ch. 3, Software Engineering, A Practitioner's Approach, 5th Edition
- Ch. 23, Project Management for Information Systems, 5th Edition
- Ch. 27, Software Engineering, 7th Edition