Chapter 10
Project Communication Management
(PMBOK Guide)

Mohammad A. Rajabi
Dept. of Geomatics Eng., University of Tehran
Tel: +98 21 8833 4341, Cell: +98 912 132 5823
Email: marajabi@ut.ac.ir
Homepage: http://www.marajabi.com
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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
10.1 Identify Stakeholders

1. Inputs
   - Project charter
   - Procurement documents
   - Enterprise environmental factors
   - Organizational process assets

2. Tools & Techniques
   - Stakeholder analysis
   - Expert judgment

3. Outputs
   - Stakeholder register
   - Stakeholder management strategy

10.2 Plan Communications

1. Inputs
   - Stakeholder register
   - Stakeholder management strategy
   - Enterprise environmental factors
   - Organizational process assets

2. Tools & Techniques
   - Communication requirements analysis
   - Communication technology
   - Communication models
   - Communication methods

3. Outputs
   - Communications management plan
   - Project document updates

10.3 Distribute Information

1. Inputs
   - Project management plan
   - Performance reports
   - Organizational process assets

2. Tools & Techniques
   - Communication methods
   - Information distribution tools

3. Outputs
   - Organizational process assets updates

10.4 Manage Stakeholder Expectations

1. Inputs
   - Stakeholder register
   - Stakeholder management strategy
   - Project management plan
   - Issue log
   - Change log
   - Organizational process assets

2. Tools & Techniques
   - Communication methods
   - Interpersonal skills
   - Management skills

3. Outputs
   - Organizational process assets updates
   - Change requests
   - Project management plan updates
   - Project document updates

10.5 Report Performance

1. Inputs
   - Project management plan
   - Work performance information
   - Work performance measurements
   - Budget forecasts
   - Organizational process assets

2. Tools & Techniques
   - Variance analysis
   - Forecasting methods
   - Communication methods
   - Reporting systems

3. Outputs
   - Performance reports
   - Organizational process assets updates
   - Change requests
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

**Inputs**
1. Project charter
2. Procurement documents
3. Enterprise environmental factors
4. Organizational process assets

**Tools & Techniques**
1. Stakeholder analysis
2. Expert judgment

**Outputs**
1. Stakeholder register
2. Stakeholder management strategy
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
  – Step 2: 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

- A: Keep Satisfied
- B: Manage Closely
- C: Keep Informed
- D: Monitor (Minimum Effort)
- E: Keep Informed
- F: Monitor (Minimum Effort)
- G: Keep Satisfied
- H: Manage Closely
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

• Stakeholder 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

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Stakeholder Interest(s) in the Project</th>
<th>Assessment of Impact</th>
<th>Potential Strategies for Gaining Support or Reducing Obstacles</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

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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

**Inputs**
1. Stakeholder register
2. Stakeholder management strategy
3. Enterprise environmental factors
4. Organizational process assets

**Tools & Techniques**
1. Communication requirements analysis
2. Communication technology
3. Communication models
4. Communication methods

**Outputs**
1. Communications management plan
2. Project document updates
Data Flow
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

**Inputs**
1. Project management plan
2. Performance reports
3. Organizational process assets

**Tools & Techniques**
1. Communication methods
2. Information distribution tools

**Outputs**
1. Organizational process assets updates
Data Flow

- 4.2 Develop Project Management Plan
- Enterprise/Organization
- Project Communications Management
  - 10.5 Report Performance
  - 10.3 Distribute Information
    - Performance reports
    - Communications management plan
    - Organizational process assets
    - Organizational process assets updates
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

**Inputs**
1. Stakeholder register
2. Stakeholder management strategy
3. Project management plan
4. Issue log
5. Change log
6. Organizational process assets

**Tools & Techniques**
1. Communication methods
2. Interpersonal skills
3. Management skills

**Outputs**
1. Organizational process assets updates
2. Change requests
3. Project management plan updates
4. Project document updates
Data Flow

Project Communications Management

4.2 Develop Project Management Plan

Project Documents
- Issue log
- Change log
- Project document updates

Enterprise/Organization
- Organizational process assets
- Organizational process assets updates

10.1 Identify Stakeholders
- Project management plan updates
- Communications management plan
- Stakeholder register
- Stakeholder management strategy

10.4 Manage Stakeholder Expectations
- Change requests

4.5 Perform Integrated Change Control
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

**Inputs**
.1 Project management plan
.2 Work performance information
.3 Work performance measurements
.4 Budget forecasts
.5 Organizational process assets

**Tools & Techniques**
.1 Variance analysis
.2 Forecasting methods
.3 Communication methods
.4 Reporting systems

**Outputs**
.1 Performance reports
.2 Organizational process assets updates
.3 Change requests
Data Flow
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

<table>
<thead>
<tr>
<th>WBS Element</th>
<th>Planned Value (PV)</th>
<th>Earned Value (EV)</th>
<th>Actual Cost (AC)</th>
<th>Schedule EV - PV</th>
<th>Cost EV - AC</th>
<th>Schedule EV ÷ PV</th>
<th>Cost EV ÷ AC</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Pre-Pilot Plan</td>
<td>63,000</td>
<td>58,000</td>
<td>62,500</td>
<td>(5,000)</td>
<td>(4,500)</td>
<td>0.92</td>
<td>0.93</td>
</tr>
<tr>
<td>2.0 Checklists</td>
<td>64,000</td>
<td>48,000</td>
<td>46,800</td>
<td>(16,000)</td>
<td>1,200</td>
<td>0.75</td>
<td>1.03</td>
</tr>
<tr>
<td>3.0 Curriculum</td>
<td>23,000</td>
<td>20,000</td>
<td>23,500</td>
<td>(3,000)</td>
<td>(3,500)</td>
<td>0.87</td>
<td>0.85</td>
</tr>
<tr>
<td>4.0 Mid-Term Evaluation</td>
<td>68,000</td>
<td>68,000</td>
<td>72,500</td>
<td>–</td>
<td>(4,500)</td>
<td>1.00</td>
<td>0.94</td>
</tr>
<tr>
<td>5.0 Implementation Support</td>
<td>12,000</td>
<td>10,000</td>
<td>10,000</td>
<td>(2,000)</td>
<td>–</td>
<td>0.83</td>
<td>1.00</td>
</tr>
<tr>
<td>6.0 Practice Manual</td>
<td>7,000</td>
<td>6,200</td>
<td>6,000</td>
<td>(800)</td>
<td>200</td>
<td>0.09</td>
<td>1.03</td>
</tr>
<tr>
<td>7.0 Roll-Out Plan</td>
<td>20,000</td>
<td>13,500</td>
<td>18,100</td>
<td>(6,500)</td>
<td>(4,600)</td>
<td>0.68</td>
<td>0.75</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>257,000</strong></td>
<td><strong>223,700</strong></td>
<td><strong>239,400</strong></td>
<td><strong>(33,300)</strong></td>
<td><strong>(15,700)</strong></td>
<td><strong>0.87</strong></td>
<td><strong>0.93</strong></td>
</tr>
</tbody>
</table>
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