Project Communication Management

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Project Communication Management

Definition

Processes required to ensure <u>timely</u> and <u>appropriate generation</u>, <u>collection</u>, <u>distribution</u>, <u>storage</u>, <u>retrieval</u> and ultimate <u>disposition</u> of project information.

Project Communications Management

31. Plan Communications [PLANNING]

32. Manage Communication[EXECUTING]

33. Control Communications[M&C]

Definition

Determining the project stakeholder information needs and defining a communication approach.

Plan Communication Management

1. Project Management Plan
2. Stakeholder Register
3. Enterprise Environmental Factors
4. Organization Process Assets

1. Communication Requirement Analysis
2. Communication Technology
3. Communication Models
4. Communication Methods
5. Meetings

1. Communication Management Plan
2. Project Documents Updates

Communication Requirements Analysis

❖ Project resources should be expended only on communicating *information that contributes to success* or where a *lack of communication can lead to failure.*

❖ Depends upon the responsibilities and relationship between performing organization and stakeholder.

❖ Depends upon disciplines, departments, and specialties involved in the project.

❖ Depends upon logistics of how many individuals will be involved with the project and at which locations.

❖ Depends upon internal and External communication needs
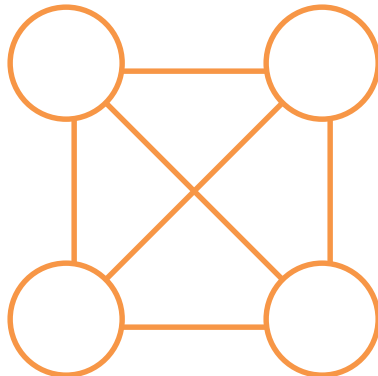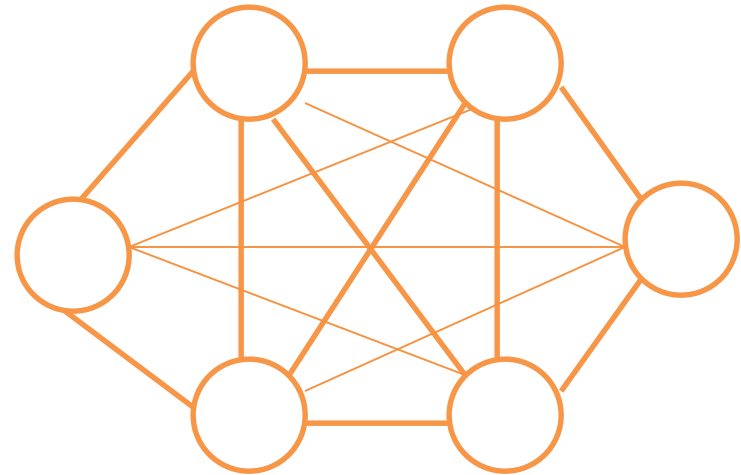
Number of Communication Channels

N(N-1)/2

Two People, One Channel
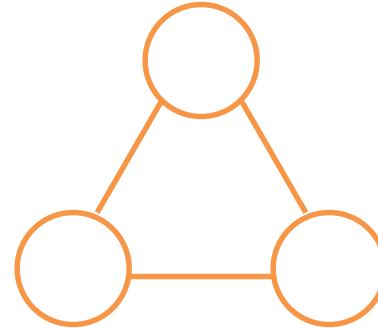
Three People, Three Channel

Four People, Six Channel

Six People, Fifteen Channel

Communication Methods

Which communication technology should be used depends upon what communication method is the needed

Three Communication Methods

— Interactive Communication

Phone, audio/video conferences, moderator lead discussion, workshop
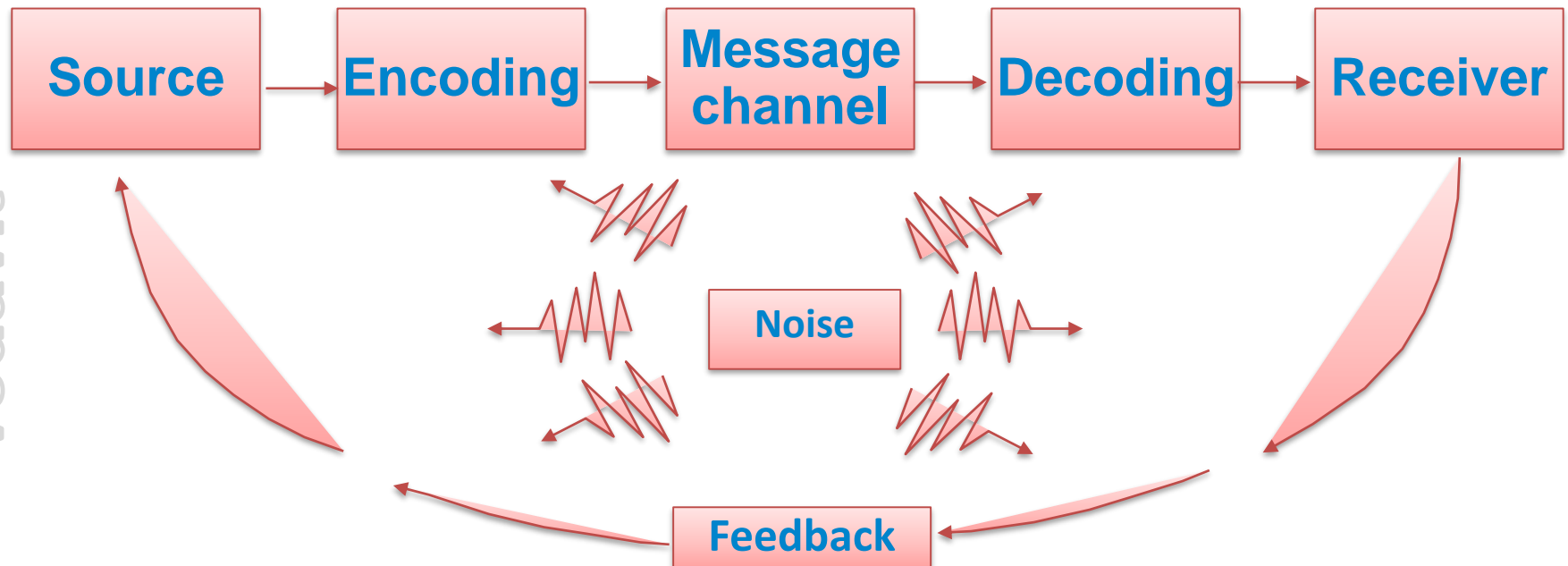
— Push Communication

Letters, memos, reports, emails, faxes, voice mail, press releases

—Pull Communication

e-learning, knowledge repository, unknown people

Communication Model

32. Manage Communication

Definition

As per the communication management plan creating, collecting, distributing, storing, retrieving and ultimate disposition of project information

Manage Communications

Inputs:

1. Communication Management Plan
2. Work Performance Report
3. Enterprise Environmental Factors
4. Organization Process Assets

Tools & Techniques:

1. Communication Techniques
2. Communication Models
3. Communication Methods
4. Information Management Systems
5. Performance Reporting

Outputs:

1. Project Communications
2. Organization Process Assets Updates
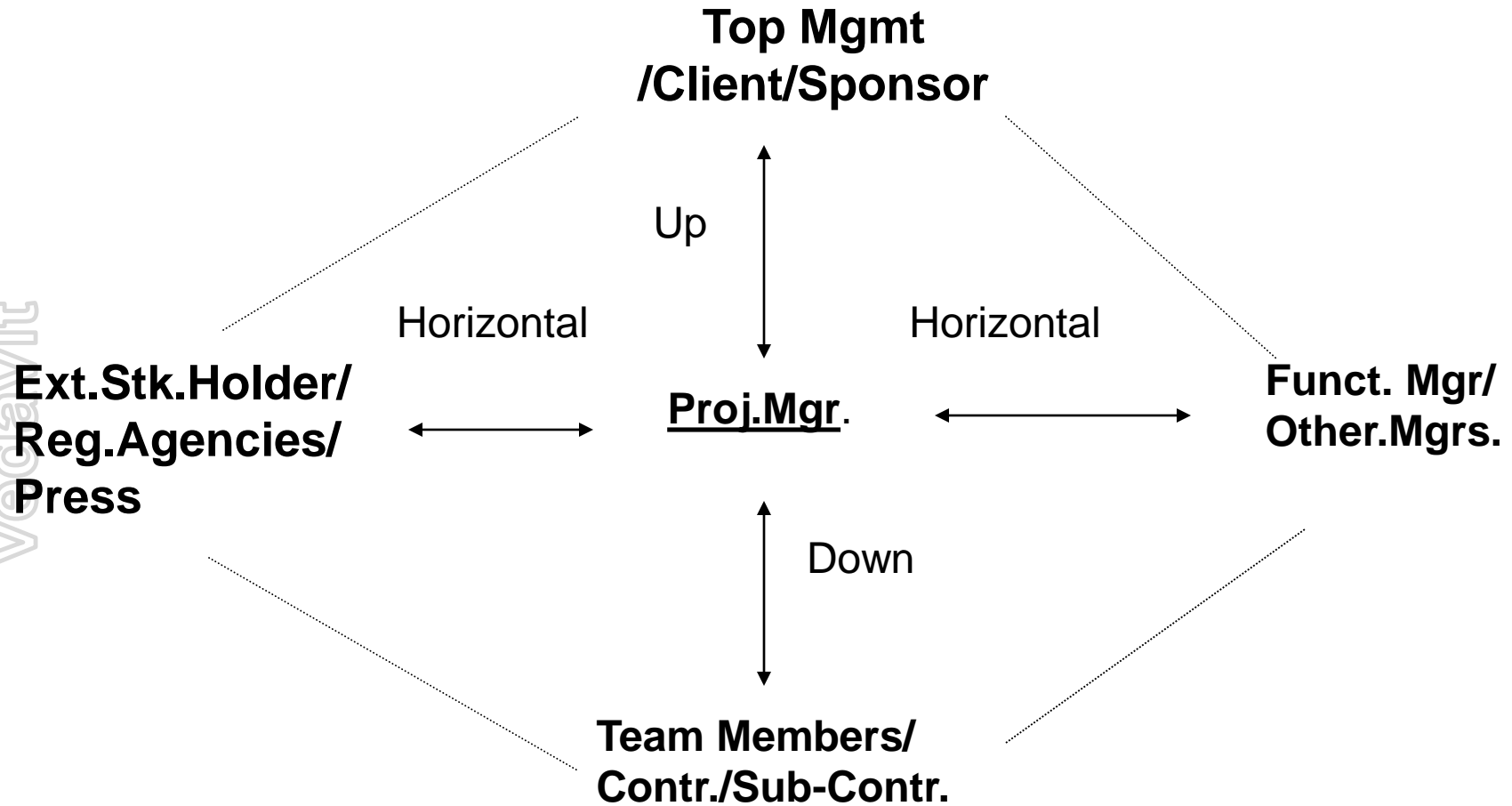3. Project Documents Updates
4. Project Management Plan Updates

Project Executing

Communication Methods

– **Individual Meetings**

– **Group Meetings**

– **Audio & Video conferences**

– **Computer chats**

– **Remote communication methods**

Information distribution tools

–Hardcopy distribution, manual filing systems, press released, shared access to electronic database

–Electronic communication & conferencing tool: email, fax, voice mail, telephone, video, web conferencing, websites and web publishing

–Electronic tools for project management web interfaces to scheduling and project management software, meeting and virtual office software, portals and collaborating work management tool

Distribute Information

Top Mgmt /Client/Sponsor

Up

Horizontal   Horizontal

Ext.Stk.Holder/ Reg.Agencies/ Press   **Proj.Mgr**.   **Funct. Mgr/ Other.Mgrs.**

Down

Team Members/ Contr./Sub-Contr.

Definition

Monitoring and controlling communication throughout project life cycle to ensure the information needs of the project stakeholders are met

Control Communications

1. Project Management Plan
2. Project Communications
3. Issue Log
4. Work Performance Data
5. Organization Process Assets

1. Expert Judgement
2. Information Management Systems
3. Meetings

1. Work Performance Information
2. Change Requests
3. Project Management Plan Updates
4. Project Documents Updates
5. Organization Process Assets Updates

Communication Types

	Verbal	Written
Informal	Meeting, Conversation	Email, Status Update, Memos
Formal	Speech, Presentation	Project Plan, Contract, Charter

Communication Management

- ✓ **Filtering – A phenomenon that occurs when a large portion of the message is lost in vertical/horizontal communication**

- ✓ **Nonverbal communication carries 55% of the message**

- ✓ **Progress Reports generally show problems after they have occurred.**

- ✓ **A communication matrix is an excellent tool to identify the stakeholders and their requirements for communication.**

Communication Management

Probable Factors

- ❖ Senders reputation

- ❖ Status within the organization

- ❖ Environmental Background

- ❖ Dysfunctional emotional behaviors

- ❖ Situational Consideration – Predefined Mindset

- ❖ Historical Consideration in message interpretation

Other Factors

- ❖ Ambiguity in language

- ❖ Culture

- ❖ Semantics

- ❖ Knowledge Base

- ❖ Message Content – hidden agendas

Cross Cultural Problems

Project may require inputs from individual and groups from different countries

Relevant concerns are -

❖ Differences in culture

❖ Differences in project environments.

❖ Attitude – perceiving others using one's own standards rather than other's.

❖ Stereotypes – sticking to a particular culture to apply in any situation

❖ Thought patterns – differing culture across geographical distances/organizations

❖ Time sense – differing sense of urgency

Exercise 25
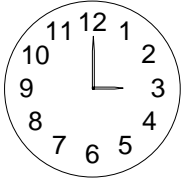
- Prepare Communication Management Plan for your project
  - Information to be shared
  - Report formats (Name & Identifiers)
  - Reporting frequency
  - Reporting Technology
  - Purpose of Communication
  - Presenter
  - Audience (Name & Number)
- Prepare different reporting formats
  - Progress Reports
  - Status Reports
  - Forecast Reports

Discussions !
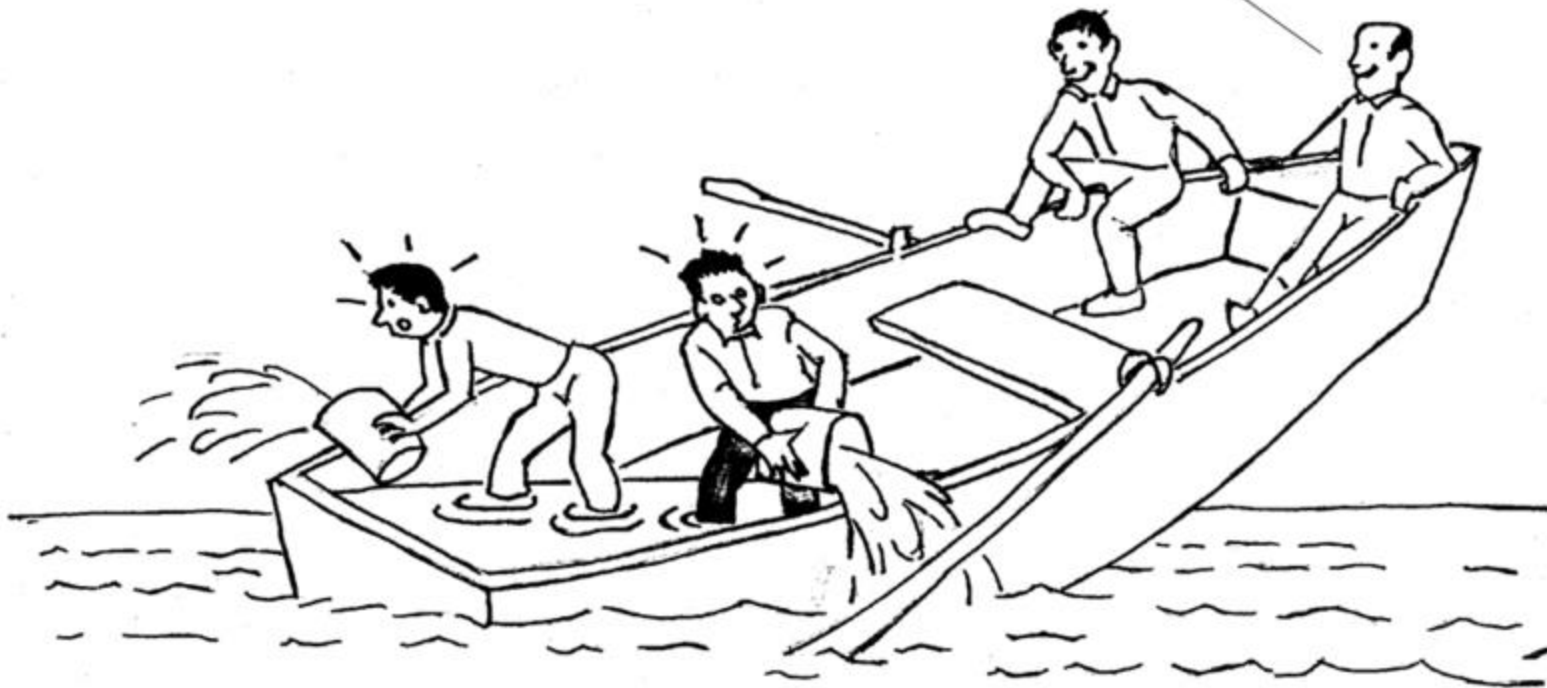
Project Risk Management

Definition

Processes for conducting risk management planning, identification, analysis, response planning and monitoring and control on a project.

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Project Risk Management

34. Plan Risk Management [PLANNING]

35. Identify Risks [PLANNING]

36. Perform Qualitative Risk Analysis [PLANNING]

37. Perform Quantitative Risk Analysis [PLANNING]

38. Plan Risk Responses [PLANNING]

39. Control Risks [M&C]

Personal Attitude to Risk

– **Individuals fall into one of the three categories**

❖ Risks Averse

❖ Risk Seeking

❖ Risk Neutral

Definition

Defining how to conduct risk management activities for a project .

Plan Risk Management

1. Project Management Plan
2. Project Charter
3. Stakeholder Register
4. Enterprise Environmental Factors
5. Organization Process Assets

1. Expert Judgement
2. Analytical techniques
3. Meetings

1. Risk Management Plan

Risk Breakdown Structure
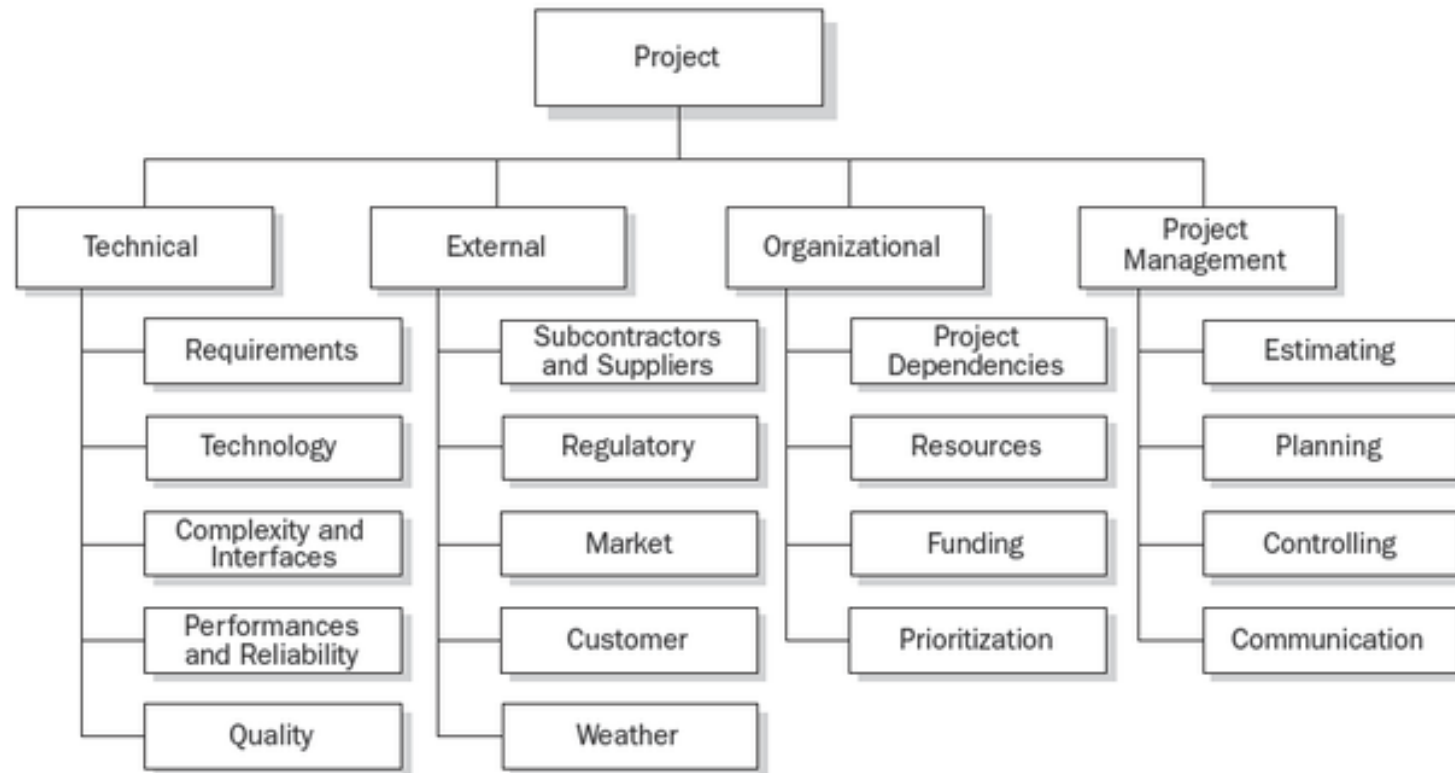
The Risk Breakdown Structure (RBS) lists the categories and sub-categories within which risks may arise for a typical project. Different RBSs will be appropriate for different types of projects and different types of organizations. One benefit of this approach is to remind participants in a risk identification exercise of the many sources from which project risk may arise.

Source : PMI PMBOK® *Fourth Edition*

Definition of Impact

Defined Conditions for Impact Scales of a Risk on Major Project Objectives (Examples are shown for negative impacts only)					
Project Objective	Relative or numerical scales are shown				
	Very low /.05	Low /.10	Moderate /.20	High /.40	Very high /.80
Cost	Insignificant cost increase	<10% cost increase	10-20% cost increase	20-40% cost increase	>40% cost increase
Time	Insignificant time increase	<5% time increase	5-10% time increase	10-20% time increase	>20% time increase
Scope	Scope decrease barely noticeable	Minor areas of scope affected	Major areas of scope affected	Scope reduction unacceptable to sponsor	Project end item is effectively useless
Quality	Quality degradation barely noticeable	Only very demanding applications are affected	Quality reduction requires sponsor approval	Quality reduction unacceptable to sponsor	Project end item is effectively useless

This table presents examples of risk impact definitions for four different project objectives. They should be tailored in the Risk Management Planning process to the individual project and to the organization's risk thresholds. Impact definitions can be developed for opportunities in a similar way.

Source : PMI PMBOK® *Fourth Edition*

Definition

Determining which risks may affect the project and documenting their characteristics

Identify Risks

1. Risk Management Plan
2. Cost Management Plan
3. Schedule Management Plan
4. Quality Management Plan
5. Human Resource Management Plan
6. Scope Baseline
7. Activity Cost Estimates
8. Activity Duration Estimates
9. Stakeholder Register
10. Project Documents
11. Procurement Documents
12. Enterprise Environmental Factors
13. Organization Process Assets

1. Expert Judgement
2. Documentation Reviews
3. Information Gathering Techniques
4. Checklist Analysis
5. Assumptions Analysis
6. Diagramming Techniques
7. SWOT Analysis

1. Risk Register

Diagramming Techniques

- Cause and effect diagrams

- System or process flow charts

- Influence Diagram

Definition

Prioritizing risks for further analysis or action by assessing and combining their probability of occurrence and impact.

Perform Qualitative Risk Analysis

1. Risk Management Plan
2. Scope Baseline
3. Risk Register
4. Enterprise Environmental Factors
5. Organization Process Assets

1. Expert Judgement
2. Risk Probability and impact assessment
3. Probability and impact matrix
4. Risk data quality assessment
5. Risk Categorization
6. Risk urgency assessment

1. Project Documents Updates

Probability Impact Matrix

Probability and Impact Matrix

Probability	Threats					Opportunities				
0.90	0.05	0.09	0.18	0.36	0.72	0.72	0.36	0.18	0.09	0.05
0.70	0.04	0.07	0.14	0.28	0.56	0.56	0.28	0.14	0.07	0.04
0.50	0.03	0.05	0.10	0.20	0.40	0.40	0.20	0.10	0.05	0.03
0.30	0.02	0.03	0.06	0.12	0.24	0.24	0.12	0.06	0.03	0.02
0.10	0.01	0.01	0.02	0.04	0.08	0.08	0.04	0.02	0.01	0.01
	0.05	0.10	0.20	0.40	0.80	0.80	0.40	0.20	0.10	0.05

Impact (relative scale) on an objective (e.g., cost, time, scope or quality)

Each risk is rated on its probability of occurring and impact on an objective if it does occur. The organization's thresholds for low, moderate or high risks are shown in the matrix and determine whether the risk is scored as high, moderate or low for that objective.

Define Threshold
High risk ("red condition")
Medium risk ("yellow condition")
Low risk ("green condition")

Source : PMI PMBOK® *Fourth Edition*

Definition

Numerically analyzing the effect of identified risks on overall project objectives.

Perform Quantitative Risk Analysis

1. Risk Management Plan
2. Cost Management Plan
3. Schedule Management Plan
4. Risk Register
5. Enterprise Environmental Factors
6. Organization Process Assets

1. Expert Judgement
2. Data gathering and representation techniques
3. Quantitative Risk analysis and modelling techniques

1. Project Documents Updates

PQnRA- Tools & Techniques

✓ Data Gathering & Representation Techniques
  - ✓ Interview
  - ✓ Probability Distribution (Normal, Beta, Triangular)

✓ Quantitative Risk Analysis Modeling Techniques
  - ✓ Sensitivity analysis- helps to determine which risks have the most potential impact- Tornado diagrams (compare relative importance and impact of variables of high degree of uncertainty)

  - ✓ Expected monetary value analysis (EMV)- Calculates average outcome of future scenarios that may or may not happen

  - ✓ Modeling & Simulation- Monte Carlo techniques

Formulae

- Probability = Number of Occurrences / Total Number occurrences
  = Frequency of Related Events / Total Number of Events

- Probability = Frequency of Related Events /
  Total Number of Possible Events

- Expected Monetary Value (EMV) = Risk Event Probability X
  Risk Event Value

- The sum of their probabilities of occurrence is 1.0

Decision Tree

A decision tree is a diagram that describes a decision under consideration and the implications of choosing one or other available alternatives

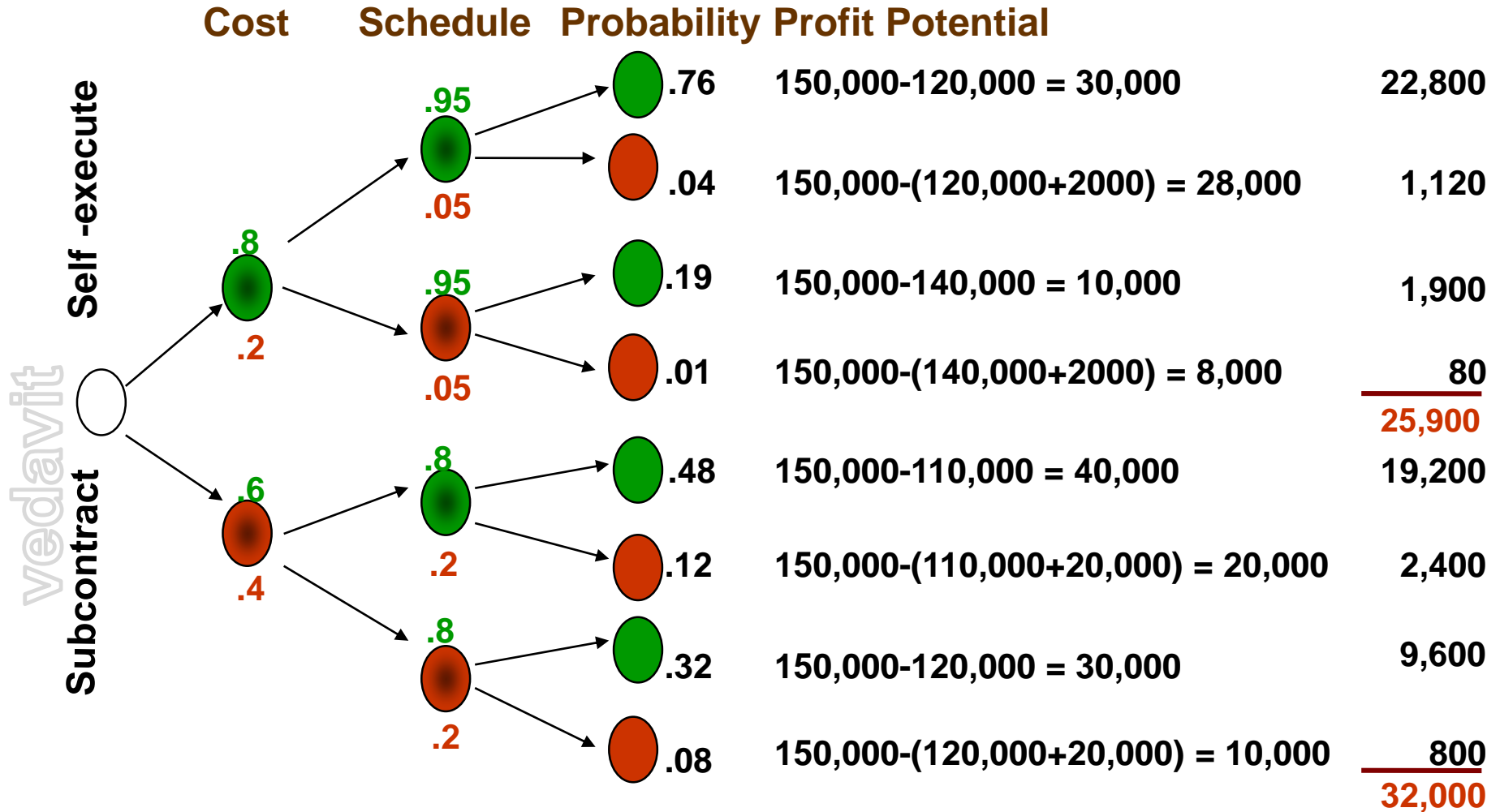|		Probability (P)	Time	Outcome	Value
Aggressive Schedule (EMV$4,000)	Uncertain Outcome	Success: P .20	X	+ $100,000	+$20,000
		Failure: P .80	x	-$20,000	-$16,000
Conservative Schedule (EMV$1,000)	Uncertain Outcome	Failure: P .30	X	-$20,000	-$6,000
		Success: P .70	X	+$10,000	+ $7,000
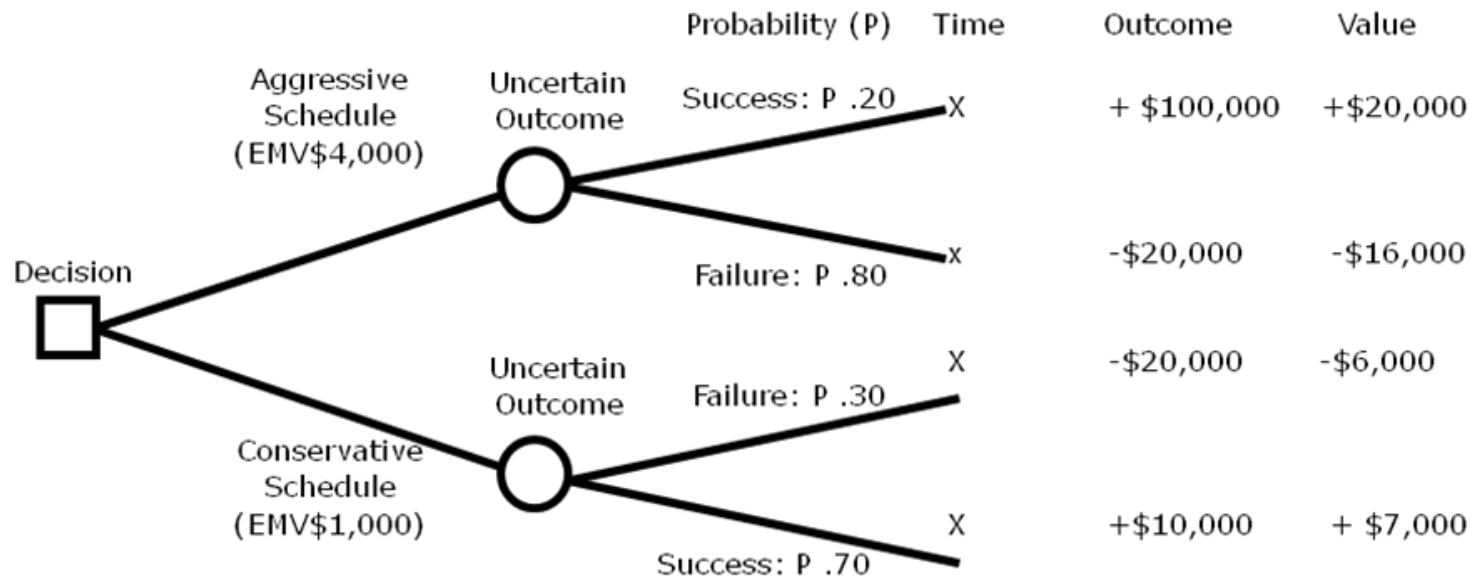
- Expected monetary value (EMV) of result Outcome x Probability of that outcome
- Expected monetary value of a decision sum of EMVs of all Outcomes stemming from that decision
- Aggressive schedule has expected monetary value of $4,000 and is "preferred" over conservative schedule with expected monetary value of $1,000

Decision Tree

- A Fixed Price Contract worth $150,000 has a clause of $1000 penalty per day of schedule delay. The following estimates for Cost and Schedule are provided:

- Self-execute
    - Cost can vary : with a likelihood 80% ⬜ 120,000 vs. with a likelihood
      of 20% ⬜ 140,000
    - Schedule: can vary : 95% on time, 5% possibility of 2 days delay

- Subcontract
    - Cost can vary : with a likelihood of 60% ⬜ 110,000 vs. with a likelihood
      of 40% ⬜ 120,000
    - Schedule can vary:: 80% on time, 20% possibility of 20 days delay

Decision Tree- Solution

Cost	Schedule	Probability	Profit Potential	

.95 — .76 — 150,000-120,000 = 30,000 — **22,800**

.05 — .04 — 150,000-(120,000+2000) = 28,000 — **1,120**

Self -execute

.8

.95 — .19 — 150,000-140,000 = 10,000 — **1,900**

.2

.05 — .01 — 150,000-(140,000+2000) = 8,000 — **80**

25,900

.6

.8 — .48 — 150,000-110,000 = 40,000 — **19,200**

.4

.2 — .12 — 150,000-(110,000+20,000) = 20,000 — **2,400**

Subcontract

.8 — .32 — 150,000-120,000 = 30,000 — **9,600**

.2 — .08 — 150,000-(120,000+20,000) = 10,000 — **800**

32,000

Definition

Developing options and actions to enhance opportunities and reduce threats to project objectives.

Plan Risk Response

1. Risk Management Plan
2. Risk Register

1. Expert Judgement
2. Strategies for Negative risk or threats
3. Strategies for Positive risks or opportunities
4. Contingent response strategies

1. Project Management Plan Updates
2. Project Documents Updates

Project Planning

Risk Response Strategies

Threats or Negative Risk	Positive Risk or Opportunities
• Avoid	Exploit
• Mitigate	Enhance
• Transfer	Share
• Acceptance	Acceptance

Negative Risk Responses

Avoid

Risk avoidance involves changing the project management plan to eliminate the threat posed by an adverse risk, to isolate the project objectives from the risk's impact or to relax the objective that is in jeopardy, such as extending the schedule or reducing scope.

Transfer

It requires shifting the negative impact of a threat, along with ownership of the response, to a third party.

Mitigate

It implies a reduction in the probability and / or impact of an adverse risk event to an acceptable threshold. Transference is a form of mitigation.

Positive Risk Responses

Exploit

It seeks to eliminate the uncertainty associated with a particular upside risk by making the opportunity definitely happen. It may be selected for opportunities where the organization wishes to ensure that it is realized.

Examples include assigning more talented resources to the project to reduce time to completion or to provide better quality than originally planned.

- It is analogous to 'avoidance'

Share

It involves allocating ownership to a third-party who is best able to capture the opportunity for the benefit of the project.

Examples include forming risk-sharing partnerships or joint ventures.

- It is analogous to 'transference'.

Positive Risk Responses

Enhance

It modifies the 'size' of an opportunity by Increasing probability and / or positive impacts and identifying and maximizing key drivers of positive- impact risks.

It seeks to facilitate or strengthen the cause of the opportunity and proactively target and reinforce it's trigger conditions to increase the probability.

It is analogous to 'mitigation'.

+/- Risk Responses

Accept

It is a strategy that is adopted because it is seldom possible to eliminate all risk from a project.

It indicates that the project team

1. Has decided not to change the project management plan to deal with risk or
2. Is unable to identify any other suitable response strategy.

- *Active Acceptance* *most commonly involves establishing a*

'contingency reserve', including amounts of time, money or resources to handle known or unknown threats or opportunities.

- *Passive Acceptance* *requires no action*, leaving the project team to deal with threats or opportunities as they occur.

Understanding Reserves

Contingency reserves : Known – Unknown

—It is designed for use only if certain events occur or only under certain predefined conditions, provided there is sufficient warning to implement the response.

—Examples of events that may trigger the contingency response include missing intermediate milestones or gaining higher priority with a supplier.

—Events triggering the contingency response should be triggered and tracked.

Management reserves: Unknown – Unknown

It is defined for use only if 'the events that occur or only under certain conditions', where information about the event & its occurrence is absolutely NOT available.

Definition

•**Implementing risk response plans, tracking identified risks, monitoring residual risks, identifying new risks, and evaluating risk process effectiveness throughout the project.**

Control Risks

1. Project Management Plan
2. Risk Register
3. Work Performance Data
4. Work Performance Report

1. Risk Reassessment
2. Risk Audits
3. Variance and trend analysis
4. Technical performance measurement
5. Reserve Analysis
6. Meetings

1. Work Performance Information
2. Change Requests
3. Project Management Plan Updates
4. Project Documents Updates
5. Organization Process Assets Updates

Risk Management Terms

- ✓ **Contingency Reserve**

  - ✓ A separately planned quantity used to allow for future situations which may be planned for only in part (sometimes called "Known-unknowns")
  - ✓ Intended to reduce the impact of missing cost or schedule objectives
  - ✓ Normally included in the project costs

- ✓ **Management Reserves**

  - ✓ "A separately planned quantity used to allow for future situations which are impossible to predict (sometimes called "Unknown- unknowns")
  - ✓ Intended to reduce the risk of missing cost or schedule objectives

  - ✓ Use of Management reserves requires a change to the project's cost baseline
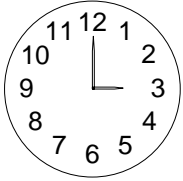
- ✓ **Residual Risks**
  - ✓ Residual risks are those that remain after response measures have been taken.
  - ✓ Include minor risks that have been accepted and addressed. E.g., By adding contingency amounts to the cost or by allowing time

- ✓ **Secondary risks**
  - ✓ Risks that arise as a result of implementing risk response
  - ✓ Should be identified and responses planned

Exercise 26

- Prepare Risk Management Plan for your project
  - Setup a template to capture all the information to manage risk
  - Training content for risk awareness
  - Training audience
  - Roles & Responsibilities for Risk Management Activities
  - Risk assessment techniques & tools
  - Risk Manager, Risk Audits Frequency, Risk Auditor
  - Define Impact Table
  - Define Probability and Impact Table/ Risk Tolerances of Stakeholders
- Prepare Risk Register
  - Analyse Assumptions, Constraints, Dependencies of your project
  - Identify Risk for your projects
- Prepare Risk Response Plan
  - Prepare Risk Response Strategy for every risk which cannot be tolerated
  - Establish Contingency Fund
  - Discuss Unknown-Unknown and Management Reserve

Discussions !