



SPM

Risk, Procurement & Stakeholders Management

Day 11: SPM Risk, Procurement & Stakeholders Mgmt Summarized

Last Class We Discussed

- What is Project Communications Management?
- Project Communications Management Processes
- Plan Communications Management
- Manage Communications Management
- Control Communications Management
- 5Cs of communications management
- Number of communications channel and its impact
- Documents and Templates and their significance

Today's Learning Objectives

- What is Project Risk, Procurement and Stakeholders Management?
- Risk management in detail
- Risk Utility/ Risk Tolerance
- RBS (Risk Breakdown Structure)
- Probability/Impact Matrix
- Decision Tree and Estimated Monetary Value (EMV)
- Monte Carlo Simulation/Analysis
- Sensitivity Analysis
- Planning Risk Responses
- Procurement and Stakeholder Management

Importance of these 3 knowledge areas

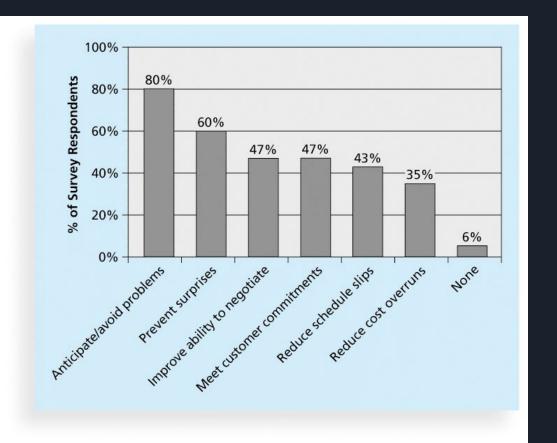
- Project risk management helps in identifying, analyzing and responding to risk throughout the life of the project in the best interest of meeting project objectives.
- Procurement means acquiring goods and/or other services from an outside source and thus concerns with its management
- Since stakeholder management is ultimately what counts, PMI decided to add it as an entire knowledge area in the PMBOK Guide in 2013. It's purpose is to identify all people or organizations affected by a project, to analyze stakeholder expectations, and to effectively engage stakeholders

Project Risk Management

A study by Ibbs and Kwak shows risk has the lowest maturity rating of all knowledge areas. This was also backed up by a similar survey done with software development companies in Mauritius, South Africa in 2003.

Knowledge Area	Engineering/ Construction	Telecommunications	Information Systems	Hi-Tech Manufacturing
Scope	3.52	3.45	3.25	3.37
Time	3.55	3.41	3.03	3.50
Cost	3.74	3.22	3.20	3.97
Quality	2.91	3.22	2.88	3.26
Human Resources	3.18	3.20	2.93	3.18
Communications	3.53	3.53	3.21	3.48
Risk	2.93	2.87	2.75	2.76
Procurement	3.33	3.01	2.91	3.33

^{*}Ibbs, C. William and Young Hoon Kwak. "Assessing Project Management Maturity," Project Management Journal (March 2000).

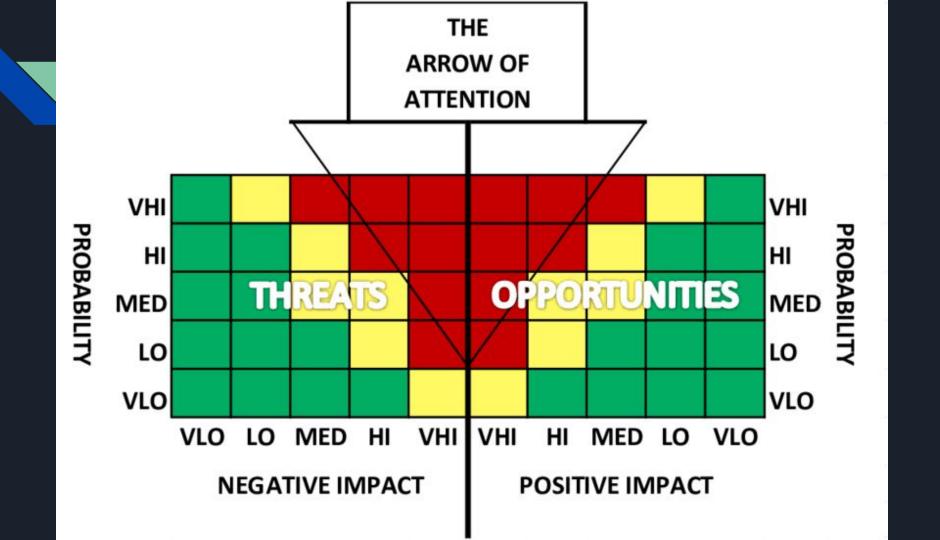


Benefits from Software Risk Management Practices

- Source: Kulik and Weber, KLCI Research Group.

Types of Risk

- Risk is the possibility of loss or damage/injury
- Negative Risk involves understanding potential problems that might occur in the project and how they might impede project success
- Negative Risk management is like an insurance or investment
- Positive Risk on the other hand are ones that can lead to positive outcomes therefore also referred to as opportunities
- Goal should be to minimize potential negative risk while taking potential positive risks.



Project Risk Management Best Practices

Common mistake is to overlook positive risk and only focus on tactical/negative risks

David Hillson (risk-doctor.com) suggests overcoming this mistake by widening the scope of risk management to cover both strategic risk as well as upside opportunities, which he refers to as integrated risk management

In a 2014 paper Hillson described the importance of good working relationships, especially between project sponsor and project manager.

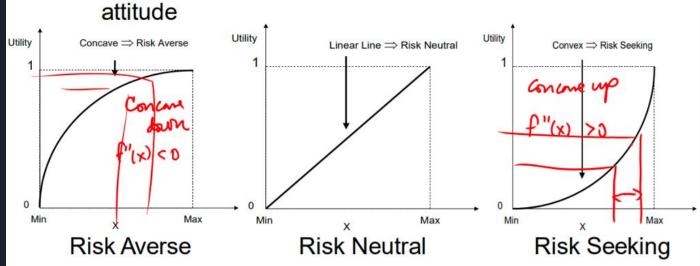
Risk Utility 'or' Risk Tolerance

It's the amount of satisfaction or pleasure received from a potential pay off.

- Utility rises at a decreasing rate for people who are risk-averse
- Those who are risk seeking have a higher tolerance of risk and their satisfaction increases when more payoff is at stake
- The risk neutral approach achieves a balance between risk and payoff, ideally a project manager would be analytical in which of these approaches to take.

Watch this: https://www.youtube.com/watch?v=Hr0K6K16PQs

- Utility Function Forms and Risk
 - Utility for money is an increasing function indicating more money is better
 - ➤ The curvature of the utility function indicates risk



Project Risk Management Processes

Planning risk management: Deciding how to approach and plan risk management activities for the project.

Identifying risks: Determining which risks are likely to affect a project and documenting the characteristics of each.

Performing qualitative risk analysis: Prioritizing risks based on their probability and impact of occurrence.

Performing quantitative analysis: Numerical estimates of effects of risks

Planning risk responses: Taking steps to enhance opportunity and reduce threats

Controlling risk: Monitoring identified/residual risk, identify new risk and carrying out risk response while also evaluating the effectiveness of strategies applied.

Risk Management Processes Steps

Planning

Process: Plan risk management Outputs: Risk management plan

Process: Identify risks
Outputs: Risk register

Process: Perform qualitative risk analysis

Outputs: Project documents updates

Process: Perform quantitative risk analysis

Outputs: Project documents updates

Process: Plan risk responses

Outputs: Project management plan updates, project documents updates

Monitoring and Controlling

Process: Control risks

Outputs: Work performance information, change requests, project

management plan updates, project documents updates,

organizational process assets updates

Project Start

Project Finish

Contingency and Fallback plans / Contingency Reserves

- Contingency plans are predefined actions that project team will take if identified risks occur.
- Fallback plans are developed for risks that have high impact on objectives and are put into effect if attempts to reduce risk aren't effective
- Contingency reserves or allowances are provisions held to reduce risk of cost or schedule overruns to an acceptable level.
- Management reserves are funds held for unknown risks that are part of budget and funding requirements

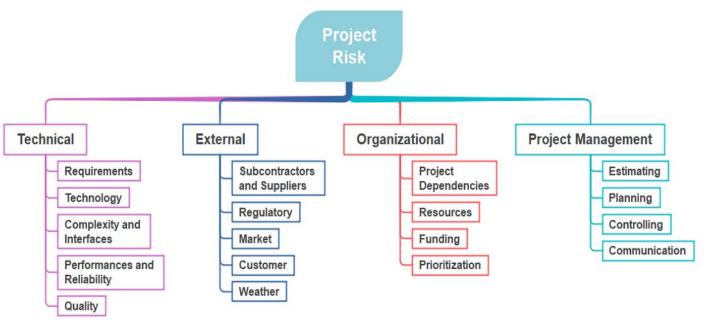
Broad categories of Risk

- Market Risk
- Financial Risk
- Technology Risk
- People Risk
- Structure/Process Risk



Risk Breakdown Structure

A RBS is a hierarchy of potential risk categories for a project



Similar to a WBS, but used to identify and categorize risk.

Potential Negative Risks with knowledge areas

Knowledge Area	Risk Conditions
Integration	Inadequate planning; poor resource allocation; poor integration management; lack of post-project review
Scope	Poor definition of scope or work packages; incomplete definition
Time	Errors in estimating time or resource availability; errors in determining the critical path; poor allocation and management of float; early release of competitive products
Cost	Estimating errors; inadequate productivity, cost, change, or contingency
Quality	Poor attitude toward quality; substandard design, materials, and workmanship; inadequate quality assurance program
Human resource	Poor conflict management; poor project organization and definition of responsibilities; absence of leadership
Communications	Carelessness in planning or communicating
Risk	Ignoring risk; unclear analysis of risk; poor insurance management
Procurement	Unenforceable conditions or contract clauses; adversarial relations
Stakeholders	Lack of consultation with key stakeholder

Risk Identification Techniques

Risk identification tools and techniques include:

- Brainstorming
- The Delphi Technique
- Interviewing
- SWOT analysis

The Delphi Technique is used to derive a consensus among a panel of experts who make predictions about future developments. It provides independent and anonymous input regarding future events. It uses repeated questions and written responses therefore avoiding any biases possible in in-person sessions

RISK REGISTER

The main output of risk identification process is a list of identified risks and other information needed to begin creating a risk register

A RISK REGISTER is a document containing the results of various risk management processes and that is often displayed in a table or spreadsheet format. It is also a tool for documenting potential risk events and related information.

RISK EVENTS refer to specific, uncertain events that may occur to the detriment or enhancement of the project.

Risk Register Contents

- 1. An ID no., rank, description and name for each risk event
- 2. Category under which each risk event falls
- 3. Root cause of each risk
- 4. TRIGGERS for each risk, triggers are indicators or symptoms of actual risk events
- 5. Potential responses to each risk
- 6. Risk Owner or person owning responsibility for each risk
- 7. Probability, Impact and Status of each risk

The Risk Register

Risk Register Word Template

The following Risk Register template includes the traditional risk register columns, <u>and also</u> the columns recommended by the PRINCE2 methodology. The headers for these columns are marked in <u>Blue</u>. The examples are the same ones which appear in the Risk Register article.

Name	Category	Impact	Probability	Rating	Mitigation	Owner	Strategy	Contingency	Trigger	New Rating
The legacy interface won't be the same in the new system	IT-GUI	2	40% I no-PN	4	Hire a GUI expert who has worked on similar projects to write the code in the new system which will allow the GUI to be as was in the legacy system. Cost: \$2,200	Gus Levine (GUI TL)	Ť	Write a manual on how to use the new interface, and train the users on it	The users aren't familiar with the new interface	2 (Impact = 2, Probability = 20%). The new interface mockup works in the testing environment
The new system won't allow users to access their old files			gement Tem 20%		Run a full testing course with the end users on the new system to make sure that it is compatible with the records. Cost: \$800	Sarah O'Connor (Data Migration TL)	А	Access the backup files on the DR servers	The access is denied to the users	0 (Impact = 5, Probability = 0%). The access is granted, and the new system works with the old files
Slow response time (more than 2.5 seconds)	IT-HW	2	60%	6	Buy another server which can handle the expected user load of 20 parallel users. Cost: \$3,400	Svetlana Dyakov (HW tech)	С	Rent cloud services which will grant faster response times	Multiple users try to access the system at once	No change, the new server hasn't been delivered or tested
The new system can't receive orders from users who	Business	5	20%	5	Create an interface which will allow communication between older versions	Maurice Jones (SW team)	Α	Use a manual form to receive orders	The clients call in to the helpdesk	3 (Impact = 3, Probability = 20%). The interface

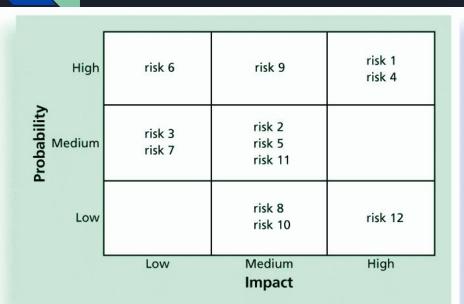
Qualitative Risk Analysis

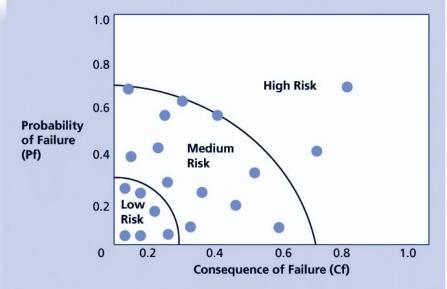
- Probability/Impact Matrices
- Top 10 Risk item tracking
- Expert Judgement

Are some of the risk quantification tools and techniques.

Probability Matrix lists relative probability of risk occurring vs relative impact of risk occurring. It can also include risk factors using probability vs consequence of failure

Probability/Impact Matrix





MONTHLY	RANKING
MONTHLI	DINIMAN

RISK EVENT	RANK THIS MONTH	Rank Last Month	NUMBER OF MONTHS IN TOP TEN	RISK RESOLUTION PROGRESS
Inadequate planning	1	2	4	Working on revising the entire project management plan
Poor definition	2	3	3	Holding meetings with project customer and sponsor to clarify scope
Absence of leadership	3	1	2	After previous project manager quit, assigned a new one to lead the project
Poor cost estimates	4	4	3	Revising cost estimates
Poor time estimates	5	5	3	Revising schedule estimates

Quantitative Risk Analysis

Main techniques include:

- Decision Tree Analysis
- Simulation
- Sensitivity analysis

It often follows qualitative risk analysis but can also be done parallely. Large, complex projects involving leading edge technologies often require extensive quantitative risk analysis.

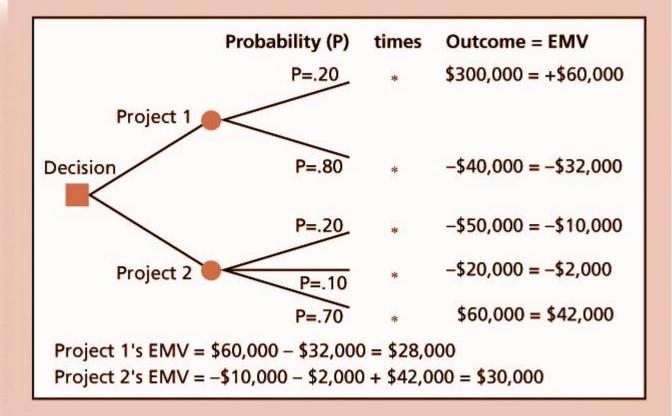
Decision Trees and EMV

Decision tree is a diagramming analysis technique used to help select the best course of action in situations where future outcomes are uncertain.

Estimated Monetary Value (EMV) is the product of a risk event probability and the risk event's monetary value

A decision tree is usually drawn to figure out the EMV and therefore make useful/sensible decisions.

Do you remember EVM in schedule/cost management ?? PS: EMV is different!



Simulation: Monte Carlo Analysis

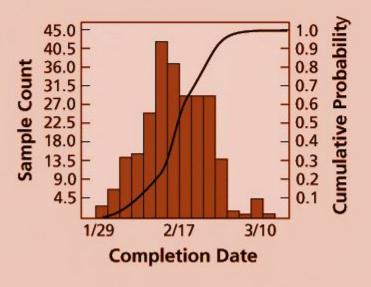
Monte Carlo analysis simulates a model's outcome many times to provide a statistical distribution of the calculated results. To use this analysis, you must have three estimates (most likely, pessimistic and optimistic) plus and estimate of the likelihood of the estimate being between the most likely and optimistic values.

STEPS:

- 1. Assess range for the variables being considered
- 2. Determine probability distribution of each variable
- 3. Select random value for each variable based on probability distribution
- 4. Run a deterministic analysis or one pass through the model and Repeat steps 3 and 4 multiple times to obtain probability distribution of the model's results.

Date: 1/14 11:13:56 AM Number of Samples: 250

Unique ID: 1 Name: Widget

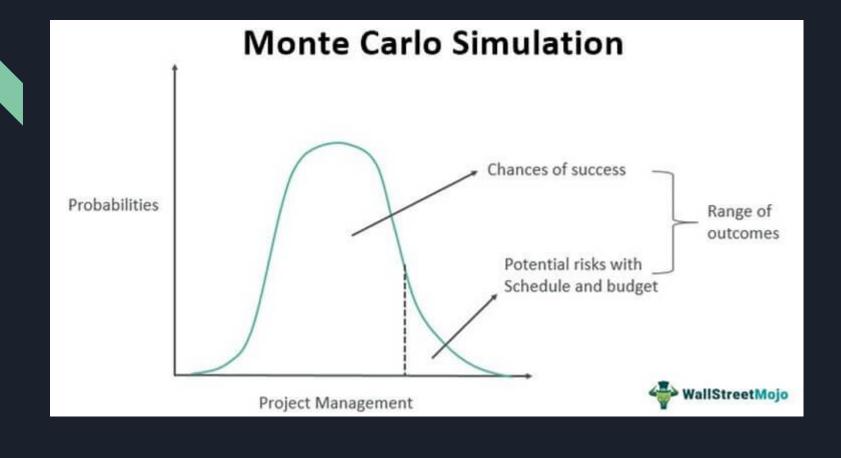


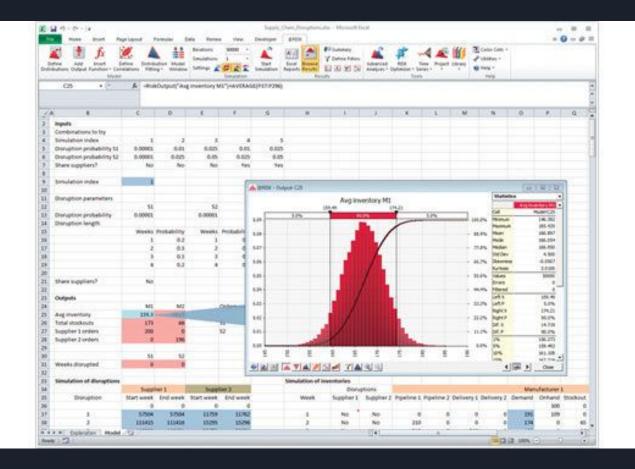
Completion Std Deviation: 5.2d 95% Confidence Interval: 0.6d

Each bar represents 2d

Completion Probability Table

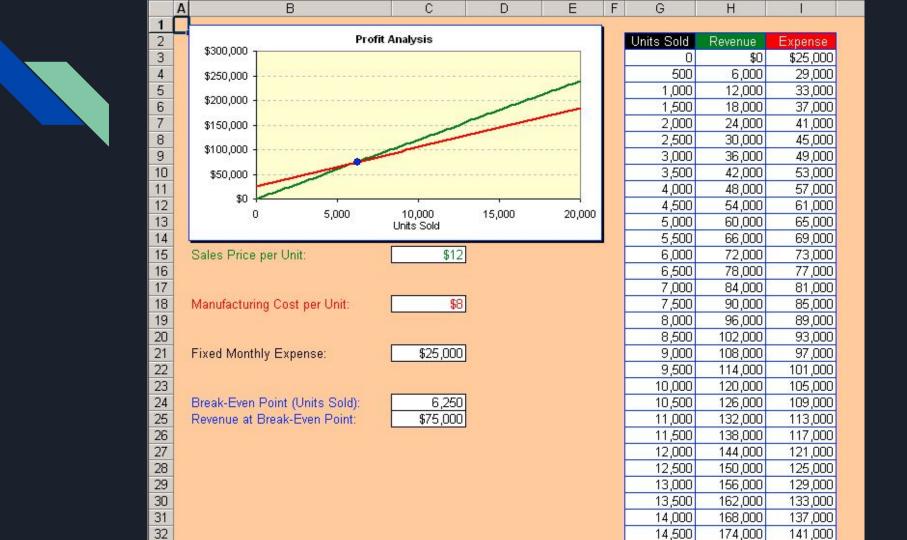
Prob	Date	Prob	Date
0.05	2/4	0.55	2/17
0.10	2/8	0.60	2/18
0.15	2/9	0.65	2/19
0.20	2/10	0.70	2/22
0.25	2/11	0.75	2/22
0.30	2/12	0.80	2/23
0.35	2/15	0.85	2/24
0.40	2/15	0.90	2/25
0.45	2/16	0.95	2/26
0.50	2/17	1.00	3/10





Sensitivity Analysis

- Sensitivity analysis is a technique used to show the effects of changing one or more variables on an outcome
- For eg: many people use it to determine what the monthly payments for a loan will be, given different interest rates or periods of the loans, or for determining break even points based on different assumptions
- Spreadsheet software, such as Excel, is a common tool for performing sensitivity analysis.



Planning Risk Responses

After identification and quantification of risks, we ended to decide how to respond to them.

Four major response strategies for positive risks are:

- Risk exploit
- Risk enhance
- Risk acceptance
- Risk Share

Four major response strategies for negative risks are:

- Risk avoidance
- Risk acceptance
- Risk transference
- Risk Mitigation

Residual Risk are remaining risk after risk response strategies, Secondary risks are result of implementing a risk response.



https://www.linkedin.com/pulse/risk-response-strategies-managing-negative-positive-stephen/

General Risk Mitigation Strategies for 3 basic types of risks

TECHNICAL RISKS	Cost Risks	SCHEDULE RISKS
Emphasize team support and avoid stand-alone project structure	Increase the frequency of project monitoring	Increase the frequency of project monitoring
Increase project manager authority	Use WBS and CPM	Use WBS and CPM
Improve problem handling and communication	Improve communication, project goals understanding, and team support	Select the most experienced project manager
Increase the frequency of project monitoring	Increase project manager authority	
Use WBS and CPM		

Controlling Risks

- Involves executing risk management process to respond to risk events and ensuring that risk awareness is an ongoing activity performed by entire project team throughout the project.
- Workarounds are unplanned responses to risk events that must be doen when there are no contingency plans
- Main outputs of risk control are:
 - Work performance information
 - Change requests
 - Updates to PM plan, other documents and organizational process assets

PROCUREMENT Management

- Purchasing/Outsourcing goods or services
- Outsourcing & Offshoring
- Case study: US companies are transferring more work abroad, especially in the areas of IT, application development and maintenance and innovation processes. India, China and the Philippines are the preferred locations for outsourcing with Latin America also growing in popularity.
- Not cost savings but a shortage of qualified personnel is the top reason for global outsourcing of IT services, although it costs foreign companies cheaper to outsource to developing or under-developed countries.

Why Outsource?

- To access skills and technologies
- To reduce both fixed and recurrent costs
- To allow the client organization to focus on its core business
- To provide flexibility
- To increase accountability

Importance of a CONTRACT: A contract is a mutually binding agreement that obligates the seller to provide the specified products or services and obligates the buyer to pay for them. It clarifies responsibilities at both ends and ensures accountability as it is legally binding.

Project Procurement Management Processes

Planning procurement management: Determining what to procure and how to do it

Conducting procurements: Obtaining seller responses, selecting sellers, and awarding contracts

Controlling procurements: Managing relationships with sellers, monitoring contract performance and making changes as needed.

Closing procurements: completing and settling each contract/agreement including resolving of any open items.

Planning

Process: Plan procurement management

Outputs: Procurement management plan, procurement statements of work, procurement documents, source selection criteria, make-or-buy decisions, change requests, project documents updates

Executing

Process: Conduct procurements

Outputs: Selected sellers, agreements, resource calendars, change requests, project management plan updates, project documents updates

Monitoring and Controlling

Process: Control procurements

Outputs: Work performance information, change requests, project management plan updates, project documents updates, organizational process assets updates

Closing

Process: Close procurements

Outputs: Closed procurements, organizational process assets udates

Project Start

Project Finish

Types of Contracts

- Fixed price or lump sum: contracts involve a fixed total price for a well defined product or service
- Cost reimbursable contracts: involve payment to the seller for direct and indirect costs
- Time and material contracts: Hybrid of both fixed price and cost reimbursable contracts often used by consultants
- Unit Price contracts: Requires the buyer to pay the seller a predetermined amount per unit of service.

A single contract may actually include all four of these categories, if it makes sense for that procurement.

Point of Total Assumption

The PTA is the cost at which contractor assumes total responsibility for each additional dollar of contract cost.

No contractor would want to reach the point of total assumption, because it hurts them financially, so they have an incentive to prevent cost overruns.

PTA = (ceiling price - target price) / government share + target cost.

Cost Reimbursable Contracts

Cost plus incentive fee (CPIF): Buyer pays the supplier for allowable performance costs plus a predetermined fee and incentive bonus

Cost plus fixed fee (CPFF): Buyer pays supplier for allowable performance costs plus a fixed fee payment usually based on a percentage of estimated costs.

Cost plus percentage of costs (CPPC): Buyer pays the supplier for allowable performance costs plus a predetermined percentage based on total costs.

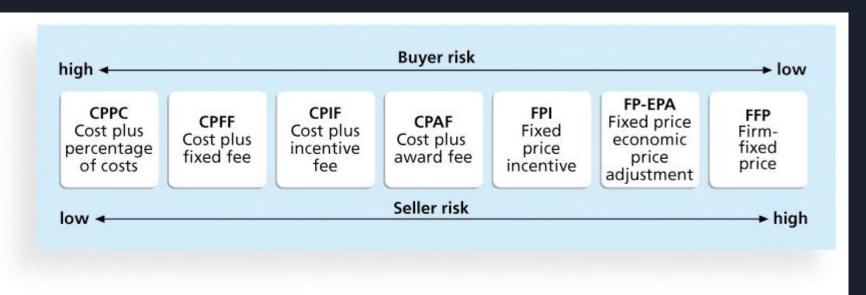
CASE STUDY

Contract incentives can be extremely effective. On August 1, 2007, tragedy struck Minneapolis, Minnesota, when a bridge on I-35W collapsed, killing 13 motorists, injuring 150 people, and leaving a mass of concrete and steel in the river and on its banks

Peter Sanderson, project manager for the joint venture of Flatiron-Manson led his team in completing the project. The contractors earned \$25 million in incentive fees on top of their \$234 million contract for completing the bridge three months ahead of schedule

MnDOT justified the incentive payment by saying that each day the bridge was closed it cost road users more than \$400,000

Contract Types Vs Risk



Tools and Techniques for purchase/acquisition

Expert Judgement | Market Research | Make or buy Analysis

Make or buy Analysis: General Management technique to determine whether an organization should make a particular product/service themselves or simply buy from someone else.

Example Problem:

An item needed for a project can be leased for \$800/day.

Its purchase cost is \$12,000 plus daily operational cost of \$400/day.

How long will it take for purchase cost to be same as lease cost?

Make or buy analysis

Set up an equation so both options, purchase and lease, are equal

In this example, use the following equation. Let d be the number of days to use the item:

Subtracting \$400d from both sides, you get:

Dividing both sides by \$400, you get:

$$d = 30$$

Hence,

If the item is needed for more than 30 days, it's more economical to purchase it

Statement of Work (SOW)

- A statement of work is a description of the work required for the procurement
- If a SOW is used as part of a contract to describe only the work required for that particular contract, it is called a contract statement of work
- A SOW is a type of scope statement
- A good SOW gives bidders a better understanding of the buyer's expectations

Statement of Work (SOW)

- Scope of Work: Describe the work to be done in detail. Specify the hardware and software involved and the exact nature of the work.
- II. Location of Work: Describe where the work must be performed. Specify the location of hardware and software and where the people must perform the work.
- 111. Period of Performance: Specify when the work is expected to start and end, working hours, number of hours that can be billed per week, where the work must be performed, and related schedule information.
- IV. Deliverables Schedule: List specific deliverables, describe them in detail, and specify when they are due.
- V. Applicable Standards: Specify any company or industry-specific standards that are relevant to performing the work.
- VI. Acceptance Criteria: Describe how the buyer organization will determine if the work is acceptable.
- VII. Special Requirements: Specify any special requirements such as hardware or software certifications, minimum degree or experience level of personnel, travel requirements, and so on.

Request for Proposal Template

- I. Purpose of RFP
- II. Organization's Background
- III. Basic Requirements
- IV. Hardware and Software Environment
- V. Description of RFP Process
- VI. Statement of Work and Schedule Information
- VII. Possible Appendices
 - A. Current System Overview
 - B. System Requirements
 - C. Volume and Size Data
 - D. Required Contents of Vendor's Response to RFP
 - E. Sample Contract

Sample Proposal Evaluation Sheet

		Proposal 1		Proposa	Proposal 2		Proposal 3, etc.		
Criteria	Weight	Rating	Score	Rating	Score	Rating	Score		
Technical approach	30%								
Management approach	30%								
Past performance	20%								
Price	20%								
Total score	100%								

Closing Procurement

- Involves completing and settling contracts and resolving any open items
- The project team should:
 - Determine if all work was completed correctly and satisfactorily
 - Update records to reflect final results
 - Archive information for future use
- The contract itself should include requirements for formal acceptance and

closure

Project Stakeholder Management

Initiating Process: Identify stakeholders Outputs: Stakeholder register **Planning** Process: Plan stakeholder management Outputs: Stakeholder management plan, project documents updates Executing Process: Manage stakeholder engagement Outputs: Issue log, change requests, project management plan updates, project documents updates, organizational process assets updates Monitoring and Controlling Process: Control stakeholder engagement Outputs: Work performance information, change requests, project documents updates, organizational process assets updates **Project Start Project Finish**

Stakeholder Types

Internal project stakeholders generally include the project sponsor, project team, support staff, and internal customers for the project. Other internal stakeholders include top management, other functional managers, and other project managers because organizations have limited resources

External project stakeholders include the project's customers (if they are external to the organization), competitors, suppliers, and other external groups that are potentially involved in the project or affected by it, such as government officials and concerned citizens

www.projectstakeholder.com lists other stakeholders including:

Program director

Project manager's family

Labor unions

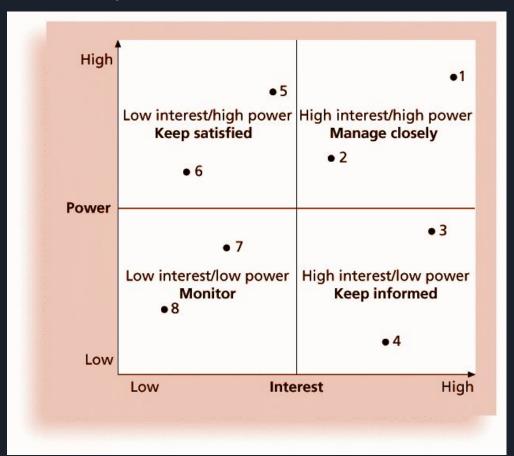
Potential customers

It is also <u>necessary to focus on stakeholders with the most direct ties to a project</u>, for example only key suppliers

Sample Stakeholder Register

Name	Position	Internal/ External	Project Role	Contact Information
Stephen	VP of Operations	Internal	Project sponsor	stephen@globaloil.com
Betsy	CFO	Internal	Senior manager, approves funds	betsy@globaloil.com
Chien	CIO	Internal	Senior manager, PM's boss	chien@globaloil.com
Ryan	IT analyst	Internal	Team member	ryan@globaloil.com
Lori	Director, Accounting	Internal	Senior manager	lori@globaloil.com
Sanjay	Director, Refineries	Internal	Senior manager of largest refinery	sanjay@globaloil.com
Debra	Consultant	External	Project manager	debra@gmail.com
Suppliers	Suppliers	External	Supply software	suppliers@gmail.com

Power/Interest Grid for stakeholders



Planning Stakeholder Management

The stakeholder management plan can include:

- Current and desired engagement levels
- Interrelationships between stakeholders
- Communication requirements
- Potential management strategies for each stakeholders
- Methods for updating the stakeholder management plan

Stakeholder management plan is CONFIDENTIAL

Because a stakeholder management plan often includes sensitive information, it should not be part of the official project documents, which are normally available for all stakeholders to review

In many cases, only project managers and a few other team members should prepare the stakeholder management plan

Parts of the stakeholder management plan are not written down, and if they are, distribution is strictly limited

Name	Power/ Interest	Current Engagement	Potential Management Strategies
Stephen	High/high	Leading	Stephen can seem intimidating due to his physical stature and deep voice, but he has a great personality and sense of humor. He previously led a similar refinery upgrade program at another company and knows what he wants. Manage closely and ask for his advice as needed. He likes short, frequent updates in person.
Chien	High/ medium	Resistant	Chien is a very organized yet hardheaded man. He has been pushing corporate IT standards, and the system the PM and sponsor (Debra and Stephen) like best goes against those standards, even though it's the best solution for this project and the company as a whole. Need to convince him that this is okay and that people still respect his work and position.
Ryan	Medium/ high	Supportive	Ryan has been with the company for several years and is well respected, but he feels threatened by Debra. He also resents her getting paid more than he does. He wants to please his boss, Chien, first and foremost. Need to convince him that the suggested solution is in everyone's best interest.
Betsy	High/low	Neutral	Very professional, logical person. Gets along well with Chien. She has supported Debra in approving past projects with strong business cases. Provide detailed financial justification for the suggested solution to keep her satisfied. Also ask her to talk to Chien on Debra's behalf.

Expectation Management Matrix (EMM)

Measure of Success	Priority	Expectations	Guidelines
Scope	1	The scope statement clearly defines mandatory requirements and optional requirements.	Focus on meeting mandatory requirements before considering optional ones. In this case, following corporate IT standards is optional.
Time	1	There is little give in the project completion date. The schedule is very realistic.	The project sponsor must be alerted if any issues might affect meeting schedule goals.
Cost	3	This project is crucial to the organization. If you can clearly justify the need for more funds, they can be made available.	There are strict rules for project expenditures and escalation procedures. Cost is very important, but it takes a back seat to meeting schedule and then scope goals.
Technology/ standards	2	There are several potential solutions available, but only one that meets all of the sponsor's technical requirements, especially for accounting.	While corporate IT standards are important, an exception makes sense in this case.

Sample Issue Log

lssue#	Description	Impact	Date Reported	Reported By	Assigned To	Priority (H/M/L)	Due Date	Status	Comments
1	Need require- ments cate- gorized as mandatory and optional	Cannot do much without it	Feb. 4	Ryan	Stephen	Н	Feb. 8	Closed	Require- ments clearly labeled
2	Need shorter list of potential suppliers—no more than 10	Will delay evaluation without it	Feb. 6	Debra	Ryan	Н	Feb. 12	Open	Almost finished; needed requirements categorized first

Etc.

Best Practices

Project managers are often faced with challenges, especially in managing stakeholders

Sometimes they simply cannot meet requests from important stakeholders

Suggestions for handling these situations include the following:

- Be clear from the start
- Explain the consequences
- Have a contingency plan
- Avoid surprises
- Take a stand

You cannot control stakeholders, but you can control their level of engagement



https://agilemania.com/what-is-stakeholder-management/

PS: Submit Assignment Report asap!

THANKYOU

It has been an absolute joy!

All the best for your finals!