Fishing For the Root Cause

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Learning Objectives

➢ By participating in this workshop, the participant will be able to:
  o Identify potential contract risks
  o Develop a plan to manage risk
  o Use tools and techniques to identify and control risks
  o Conduct a Root Cause Analysis
Conflicting Interests

- Business risk – Given all of this, can the vendor make a profit
- Satisfaction
- Program risk – Focus on technical issues and design risks in order to perform

Contractor

- Observe the public interest
- Choose an appropriate balance of risk
- Fiduciary care in spending public dollars
- Must be cautious

Public Agency

Views of Risk
Sourcing and Risk

- Pre-award
- Market research
- ITB or RFP
- Evaluation
- Source selection
- Risk in the vendor’s proposal
- Risk in the vendor’s performance
- Post-award
Assessing Contract Risk

- Proposal risk
- Surety/liability risk
- Contractual risk
- Schedule risk
- Performance risk
- Price risk
Proposal Risk

- A contract is a legal document
- “If it’s not in writing it doesn’t exist”
- Language must be clear and concise
  - Accurate workmanship
  - Best commercial practices
  - Clean and orderly
  - Standard type
  - Unless otherwise directed
  - As soon as possible
Surety/Liability Risk

- Insurance
- Licensing
- Bonds
- Indemnity
- Data privacy
- Role of subs
- Non-discrimination, equal employment
- Independent contractor
Contractual Risk

- Living document
- Handling changes
  - In writing
  - Unilateral
- Settling disputes
- Breach and cure
- Termination
Other Risks

- **Schedule risk**
  - Deliverables
  - Delivery terms

- **Performance risk**
  - Defines acceptance
  - Inspections

- **Price risk**
  - Payment terms
  - Payment schedule
The Risk Continuum

- Risk Avoidance
- Risk Sharing
- Risk Assumption
A Framework for Managing Risk

- Risk identification
- Risk assessment
- Risk outcomes and monitoring
- Risk mitigation
Risk Identification

- AKA phase 1
- Types of risk are identified
- Includes a brief description of each risk
- Identify perceived causes
- Ask who, what, when, where and why
- Common risks to examine: technical, performance, schedule, contract type & cost
- Additionally: environmental, political, economic, financial and organizational states
- Dynamic process – reexamine and update
Risk Assessment

- AKA Phase 2
- Determining the degree of risk
- Ultimately a subjective process
- Can be categorized
- Must cover the risk continuum
- Nature abhors a vacuum
- All things are not equal
- Degrees of difference; ranges
- Accuracy requires understanding
Likelihood of Occurrence

- Not likely
- Low likelihood
- Moderate likelihood
- High likelihood
- Almost certain
Risk Outcomes

- AKA Phase 3
- Identify consequences
- Directly link cause and effect
- Quantitatively characterize outcomes
- Either acceptable or unacceptable
Risk Monitoring

- Also part of Phase 3
- Involves tracking & evaluation of risk areas
- Do planned results actually occur or are there variances?
- Variances can trigger how to handle risk
- Handling must be linked to predefined events or milestones so info. is timely
- These are linked to the Statement of Work
Risk Mitigation

➤ AKA Phase 4
➤ Tactics and strategies developed
➤ Unacceptable consequences generate actions to reduce or eliminate the risk
➤ Plan for the possibility of issues
➤ Continuous measurement and control
➤ Examples: requiring bonds and insurance
➤ Notice of existing conditions
➤ Can be expensive
Key Indicators in Risk Assessment (1)

- Unclear or vague specs or Scope of Work
- Unrealistic performance or delivery schedule
- Lack of qualified sources or product
- Product too new to the marketplace
- T&C’s not used commercially
- Poor pricing methodology
- Failure of supplier to use best practices
- Non-compliance with industry standards
- Lack of industrial certifications relating to process control
Key Indicators in Risk Assessment (2)

- Lack of experienced, available resources
- High turnover of necessary personnel
- Supplier adoption of unproven processes
- Negative industry or economic trends
- Supplier offers unrealistically low price
- Supplier requires financial assistance
- Products fail testing
- Actual schedule lags planned schedule
- Supplier mgmt. shows lack of commitment
Conducting Risk Assessment

➢ Do it early in the acquisition planning stages
➢ Dynamic process requiring continual review
  ○ Provides assurances of stability & plan validity
  ○ Confirms risk mitigation strategies are effective
  ○ Identifies new or evolving risks needing re-exam.
➢ Use a cross-functional team
➢ Avoid groupthink
➢ Various mechanisms: face-to-face, E-rooms, teleconferencing
➢ Frequency depends on complexity
Methods of Handling Risk

- Control
- Avoidance
- Assumption
- Transfer
- Other considerations
  - Contract terms and conditions
  - Non-negotiable requirements
  - Licenses and certifications
  - Experience and past performance
Tools and Techniques (2)

➢ Watch lists
  ○ Time on list, responsible person, risk-mitigation actions, planned completion date, other info.
➢ Earned value management
➢ TRIMS
➢ Root cause analysis
  ○ Use functional experts, participation of stakeholders, adopt processes to prevent repeat
Conducting a Root Cause Analysis

- **Individual vs team**
- **Typical design**
  - Decision is made to form a small team to include line manager, internal customer, quality improvement expert
  - Can take up to two months
  - Equal emphasis on defining problem, brainstorming, analyzing cause and effect, possible solutions
  - Meet 1-3 times weekly; max. of two hours; loose agenda
  - One person appointed to keep everyone on task
  - Solution may take a day to several months to implement
Approaches to Root Cause Analysis

- Events & casual factor analysis
- Change analysis
- Barrier analysis
- Risk tree analysis
- Fishbone diagram
Fishbone Diagram (1)

- **People**
  - Rude
  - No training
  - Wrong fee

- **Procedures**
  - Too much work
  - Wrong location
  - Too many orders

- **Bad Coffee**
  - Bad cream
  - Brow time too long
  - Dirty cups

- **Material**
  - Bad sugar
  - Molded
  - Lids don't fit cap

- **Equipment**
  - Dirty
  - Coffee not hot enough

**Fishing For the Root Cause**
Fishbone Diagram (2)

Material
Wrong specification of the material
poor storage conditions
Worn out material
wrong production procedure

Measurement
Wrong size of the mold
blueprint mistake
production mistake
wrong production conditions
too hot
too cold
too humid

Machine
Machine malfunction
employee's fault
machine defect

Employee mistake
mistaken machine settings
mistake in production procedure

Environment
People

The part is produced wrong size

Fishing For the Root Cause
Fishbone Diagram (3)

Fishbone Diagram Example

<table>
<thead>
<tr>
<th>Cause</th>
<th>Method</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>Micro-managing boss</td>
<td>Bureaucratic</td>
</tr>
<tr>
<td></td>
<td>Absent secretary</td>
<td>Poor prioritization</td>
</tr>
<tr>
<td></td>
<td>Sick children</td>
<td>Unforeseen variables</td>
</tr>
<tr>
<td></td>
<td>Lack of communication from client</td>
<td>Lack of planning</td>
</tr>
<tr>
<td>Machine</td>
<td>Coffee machine broken</td>
<td>Fluorescent lights</td>
</tr>
<tr>
<td></td>
<td>Car wouldn't start</td>
<td>Small cubicle</td>
</tr>
<tr>
<td></td>
<td>Poor internet connection</td>
<td>Office too cold</td>
</tr>
<tr>
<td></td>
<td>Slow computer</td>
<td>Noisy coworkers</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Materials</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Effect: Missed Deadline

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Hope You’ll Try Fishing!

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