Project Risk Analysis

Project Integration Management

- Scope
- Time
- Cost
- Quality

- HR
- Comm.
- Risk
- Procure.
Any uncertainties related to your project?

- Internal factors
- External factors
Potential Areas of Uncertainties

- Health and Safety
- Quality
- Rules and regulations
- Market
- Natural disasters
- Environment
- Cost
- Time
From Uncertainties to Risks...

Uncertainty:
- The unknown

Risk:
- Identified uncertainty

Analysed risk:
- Risk Factor
- Actions

Fact:
- The known

Level of Knowledge
Uncertainties – Events – Risks

Uncertainties are abstract
- Something about the work environment…
- The cost index may change…
- Production problems might occur…

Events are binary
- Fire – the house is burned down
- Rain – the gypsum boards are damaged
- Work accident – the carpenter is dead

Risk - analysed (quantified and assessed) uncertainties
- Probability * Consequence = Risk Level
The Process of Risk Analysis
Risk identification

- Brainstorming
- Check lists
- Reference Projects
- SWOT
- ...

SWOT Analysis

- Strengths
- Weaknesses
- Opportunities
- Threats
Risk Analysis – The Probability

How likely is it that the risk will occur? Assess the probability from 1 to 5

- Very high: 5
  - 4
  - 3
  - 2
- Very low: 1
Risk Assessment – Consequences

If the Risk occurs – What are the consequences?
Assess the Consequences from 1 to 5

Very high  
5
4
3
2

Very low  
1
## Risk Assessment – The Risk Value

<table>
<thead>
<tr>
<th>RISK</th>
<th>Probability</th>
<th>Consequence</th>
<th>Risk Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM finds a new job</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Computer breakdown</td>
<td>4</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Labour Strike</td>
<td>1</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Delayed Deliveries</td>
<td>3</td>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>Internal conflicts</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>
Actions

- Accept the risk
- Reduce the risk (by probability)
- Reduce the risk (by consequence)
- Eliminate the risk
- Transfer the risk
… is not about adding to the total cost of the project but to identify and to transfer non-value adding costs into more predicable cost estimates
Risk Analysis – A continuous process

Possibilities for change

Cost of change

Brief  Design  Tender  Contract  Construction  Hand-over
Risk Analysis is not about avoiding risks …

but to identify and to manage the project risks

in order to increase predictability

and to improve the revenue