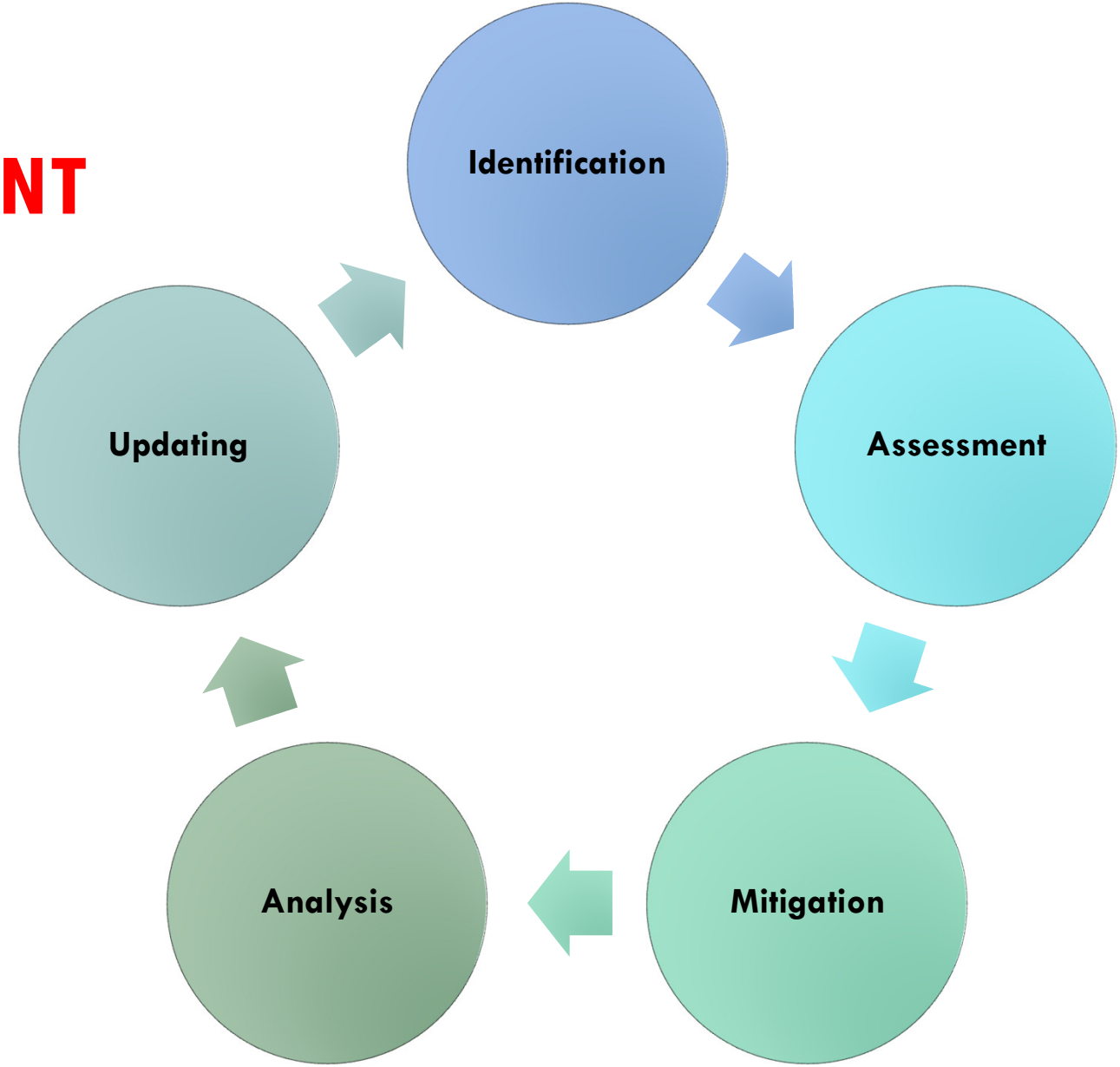
RISK MANAGEMENT STEPS

Lecture 2

RISK MANAGEMENT STEPS



RISK IDENTIFICATION

- Risk identification is a critical phase
- The result of this phase will have an effect on the succeeding phases;
- If this stage misses any risk consequently phases will not take it into account.
- If risk is not identified it will not be evaluated and managed.

OBJECTIVES OF RISK IDENTIFICATION

- Identify risks that could affect project
- Assess how risks should be classified and grouped for evaluation
- The outcome of risk identification is a list of risks that can be assigned to a team member.

RISK IDENTIFICATION DOCUMENTS

PROJECT-SPECIFIC DOCUMENTS

- Project description
- Work breakdown structure
- Cost estimate
- Construction schedule
- Procurement plan
- Listing of team's issues and concerns

PROGRAMMATIC DOCUMENTS

- Historic data
- Checklists
- Final project reports
- Risk response plans
- Organized lessons Learned
- Published commercial databases

RISK IDENTIFICATION TECHNIQUES

- Brainstorming
- SWOT analysis
- Delphi methods
- Expert interviews
- Root cause identification
- Checklist analysis
- Assumptions Analysis
- Diagramming techniques

BRAINSTORMING

- Brainstorming involves getting subject matter experts, team members, risk management team members, and anyone else who might benefit the process in a room and asking them to start identifying possible risk events.
- The trick here is that one person's idea might start another idea, and so on, so that by the end of the session you've identified all the possible risks.

SWOT ANALYSIS

S – Strengths

W – Weaknesses

O – Opportunities

T – Threats

Opportunities-external 1. 2. 3.	**Threats-external** 1. 2. 3.
Strengths-Internal 1. 2. 3.	**Weaknesses-Internal** 1. 2. 3.

DELPHI TECHNIQUE

- The **Delphi technique** is a lot like **brainstorming**.
- People participating in this technique don't all have to be **located** in the same place.
- You can **use email** to facilitate the Delphi technique easily.
- Experts from both **inside** and **outside** the company are invited.
- Ask them via a **questionnaire** to identify potential risks.

DELPHI TECHNIQUE

- All the responses are organized by content and sent back to the Delphi members for further input, additions, or comments.
- The participants then send their comments back again. The facilitator compiles a final list of risks.
- This prevents one person from influencing others in the group and thus prevents bias in the outcome.

EXPERT INTERVIEWING

- Interviews are question-and-answer sessions held with project managers, stakeholders, customers, the management team, team members, and users.
- Ask them to tell you about any risks that they've experienced or that they think might happen on your project.

ROOT CAUSE IDENTIFICATION

- Root cause identification involves digging deeper than the risk itself and looking at what the cause of the risk is.
- This helps define the risk more clearly, and it also helps you later when it's time to develop the response plan for the risk.

CHECKLIST ANALYSIS

- Checklists used during the Risk Identification process are usually developed based on historical information and previous project team experience.
- If you typically work on projects that are similar in nature, begin to compile a list of risks.
- You can then convert this to a checklist that will allow you to identify risks on future projects easily.

ASSUMPTIONS ANALYSIS

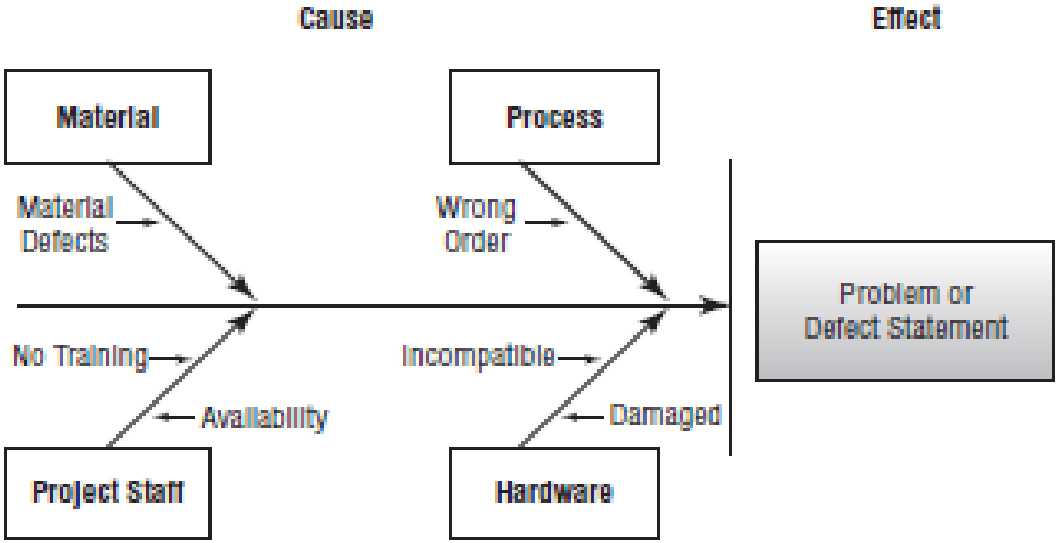
- Assumptions analysis is validating the assumptions that identified during the project Planning processes.
- All assumptions are tested against two factors:
  - The strength and validity of the assumption
  - The consequences on the project if the assumption fails
- All false assumptions should be evaluated and scored just as risks.

DIAGRAMMING TECHNIQUES

- Three types of diagramming techniques are used in Risk Identification:
  - Cause-and-effect
  - System or process flowcharts
  - Influence diagrams.

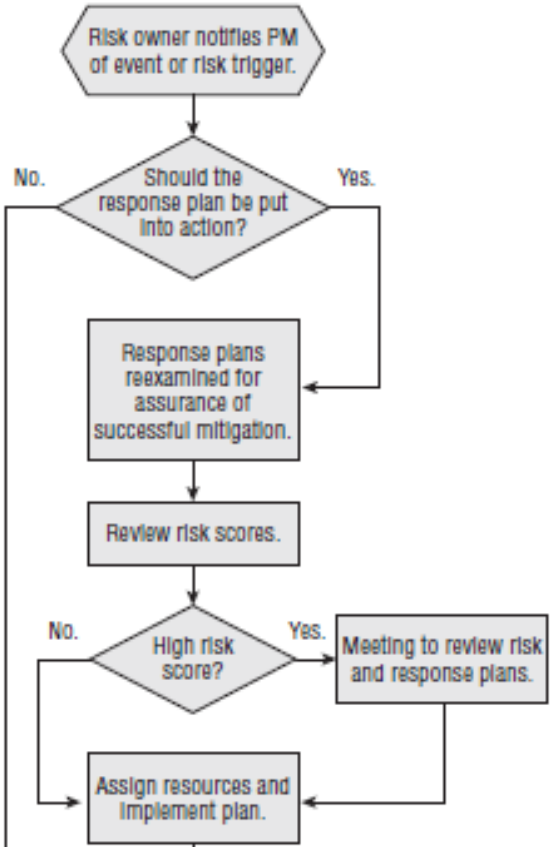
CAUSE-AND-EFFECT DIAGRAM

- Cause-and-effect (fishbone) diagrams show the relationship between the effects of problems and their causes.
- This diagram shows every potential cause and of a problem and the effect that each proposed solution will have on the problem.

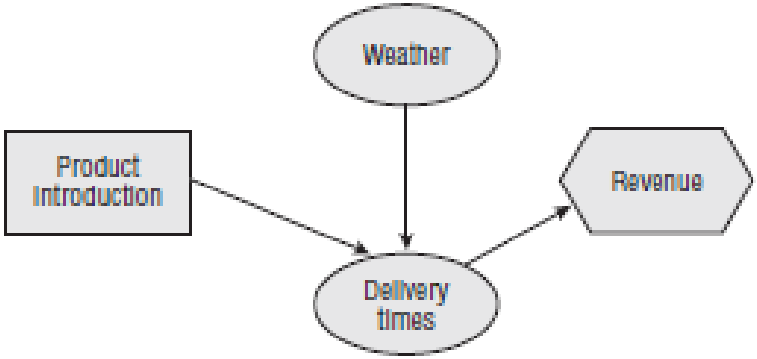


SYSTEM OR PROCESS FLOWCHART

- The system or process flowchart shows the logical steps needed to accomplish an objective, how the elements of a system relate to each other, and what actions cause what responses.

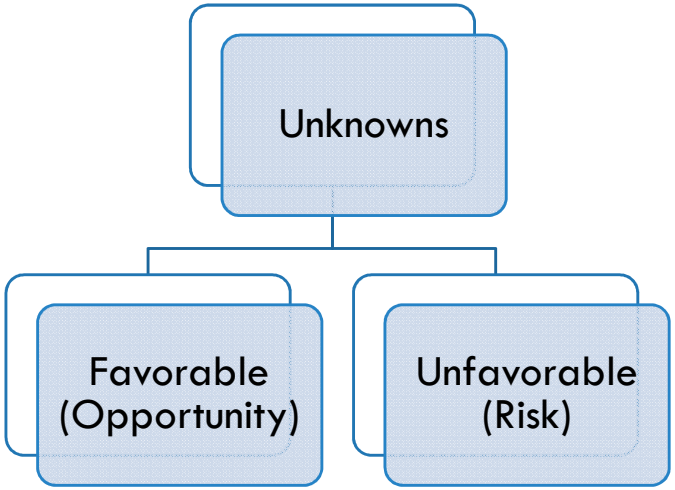


INFLUENCE DIAGRAMMING



- Influence diagrams show the casual influences among project variables, the timing or time ordering of events, and the relationships among other project variables and their outcomes.
- Simply put, they visually show risks, uncertainties or impacts, and how they influence each other.

TYPES OF RISKS



Known-Known

- Known source and known impact

Known-unknowns

- Known source but unknown impact

Unknown-unknowns

- Unknown source and unknown impact

TYPES OF RISKS

- **Controllable** risk VS **Uncontrollable** risk
- **Dependent** risk VS **Independent** risk
- **Dynamic** risk VS **Static** risk

MAIN RISK CATEGORIES

- Administrative
- Logistical
- Construction
- Physical
- Design
- Financial
- Management
- Contractual
- Political
- Disasters

RISK CATEGORIES

- **Administrative**
  - Delay in possesses of site
  - Limited working hours
  - Troubles with public services
- **Logistical**
  - Shortage or late supply of resources
  - Site remoteness problems
  - Communications

RISK CATEGORIES

- **Construction**
  - Ground problems
  - Limited work space
  - Equipment breakdown

- **Physical**
  - Placing fill in dry season
  - High tides, temperature, etc.
  - River diversion in time of low flow.

RISK CATEGORIES

- **Design**
  - Incompleteness
  - Design changes
  - Design errors
- **Financial**
  - Inflation
  - Exchange rate fluctuation
  - Availability of funds
  - Delay payments by client

RISK CATEGORIES

- **Management**
  - Space congestion
  - Scheduling errors
  - Estimating based on standards
- **Contractual**
  - Contract type
  - Liability to others
  - Co-ordination of work

RISK CATEGORIES

- **Political**
  - Change in local laws
  - Import restrictions
  - Use of local resources
- **Disasters**
  - Floods
  - Fire
  - Landslip
  - Earthquakes

THANK YOU