GEPM-375

Project Planning and Construction Management

Project Risks

What we are going to learn today?

- **What is project risk?**
- How the risks to be analyzed**?**
- **Risk management plan.**
- Stages of risk management**.**
- Processes/methods of risk identification**.**
- Risk owners**.**

Project Risk

- A **risk is an event** that **may or may not happen**, if it happens, could have a **significant effect** on the **outcome** of a project.

Example:

- There may be a **50% chance** of a **significant change** in **sponsorship** in the next few months.
- CASE Project.

Analysis of Risks in Projects

•**Determination of both** the **probability** that a specific event may occur and if it does, assessing its **impact**.

•**Quantification** of both the probability and impact will lead to determining which are the **highest risks that need attention.**

•**Risk management** includes **not just assessing the risk**, but **developing risk management plans** to understand and communicate how the team will respond to the **high-risk events**.

Risk Management Plan:

- **Document produced at the start of project**, **sets out requirements of risk assessment** and **risk management procedures**.

- **Document also produced at the time of estimating** or **contract tender stage** so that **provisions can be made in the cost build-up** of the tender document.

Main Contents of a risk management plan

- **General/Introduction**: Explaining the **needs** for the risk management process.

- **Project Description**: Only required, if not part of PMP.

- **Type of risks**: Political, technical, financial, environmental, security, safety etc.

- **Tools and techniques**: Risk identification methods ie computer analysis etc.

- **Risk reports**: Updating of risk register, exception reports, change reports etc.

- **Attachments**: Important project requirements, dangers, exceptional problems etc.

Stages of Risk Management Procedures:

- Stage-1: Risk Awareness
- Stage-2: Risk Identification.
- Stage-3: Risk Assessment
- Stage-4: Risk Evaluation
- Stage-5: Risk Management

Stage-1: Risk Awareness

- Project team **begins to appreciate** that **there are risks** to be considered.

- Risks may be **pointed out** by **an out sider, or the team** may be able to draw on their **collective experience**.

- Once this **attitude of mind has been achieved**, ie **projects are at risk**, then go for next stage.

Stage-2: Risk Identification

Risk

A long list of activities which **may be affected** by **one or a number of adverse situations** or unexpected occurrences.

Process of Risk identification:

- Essentially a **team effort**, at which the **scope of the project is examined and each aspect is investigated** for a possible risks.

- Team may have **brain storming** for investigation and use a **prompt list or check list** compiled from risk issues from similar previous projects.

- **Obtain expert opinion** or **carry out interviews** with outside parties.

Risk Identification Methods/Processes:

- Brain storming
- Prompt lists
- Check lists
- WBS
- Delphi methods.
- Asking experts

Risks to be Considered:

- **Technical Risks:** New technology or materials - **Test failure**;

- **Environmental Risks**: Unforeseen weather condition - **Traffic restrictions**;

- **Operational Risks**: New systems and procedures - **Training needs**;

- **Cultural Risks**: Established customs and believes.

- **Financial Risks**: Freeze on capital, Bankruptcy of stakeholders. Currency fluctuation.

Risks to be considered (cont..)

- **Legal Risks:** Local laws - **Lack of clarity** of contract;
- **Commercial Risks**: Change in market conditions or customers;
- **Resource Risks**: Shortage of staffs, operatives or materials;
- **Economic Risks**: Slow-down in economy, change in commodity prices;
- **Political Risks**: Change in government or government policy;
- **Security Risks**: Safety, Theft, Vandalism.

Risk identification process/methods:

Brain Storming:

Advantages:

- Wide range of possible risks suggested for consideration.
- Involves a number of stakeholders.

Disadvantages:

- Time consuming,
- Requires firm control by facilitator.

Prompt List (from list of previous project):

Advantages:

- Gives benefit of past problems.
- Saves time by focusing on real possibilities.
- Easy to discuss

Disadvantages:

- **Restricts suggestions** to past experience.
- Past problems may **not be applicable**.

Checklist:

Advantages:– Similar to prompt list; company standards.

Disadvantages: Similar to prompt list.

Work breakdown structure:

Advantages:

- Focused on specific project risks.
- Quick and economical.

Disadvantages: May limit scope of possible risks.

Delphi Technique:

- **Delphi Technique** refers to the **systematic forecasting method** used to **gather opinions of the panel of experts** on the problem being encountered, through the **questionnaires**, often sent through mail.

- A **set of opinions pertaining to a specific problem**, obtained in writing usually through questionnaires from several experts in the specific field.

Advantages:

- Offers wide experience experts
- Can be wide ranging.

Disadvantages:

- Time consuming if experts are far away.
- Expensive if experts have to be paid.
- Advice may not be specific enough.

Asking Experts:

- Advantages: As Delphi
- Disadvantages: As Delphi

Who is risk owner:

- Person who is **the best to manage** each risk.
- He is **in charge of monitoring and managing risk** during the life of the project.

Thank You