

CHAPTER THREE

RISK MANAGEMENT OBJECTIVES AND RISK IDENTIFICATION

3.1 Establishment of Risk Management Objectives:

In this initial step, the organization defines its overarching risk management objectives. The goals and objectives for embarking on the risk management process should be pre-established. This is done before engaging in the real. These objectives should align with the organization's broader goals and strategic priorities. The objective-setting phase clarifies what the organization aims to achieve through the risk management process that is to be undertaken.

3.2 Objectives of Risk Management

These are classified into two:

- Pre-loss/Ex-Ante Objectives
- Post-loss objectives/Ex-post Objectives

3.2.1 Pre-loss objectives/Ex-ante Objectives

These are objectives focused on actions taken before an event or risk materializes. They aim to proactively manage and mitigate risks to prevent or reduce their impact.

- i) To prepare for potential losses in the most economical way: - This involves analysing the cost of safety programs, insurance premiums and the cost associated with the different techniques for handling losses
- ii) To reduce anxiety: - certain loss exposures can cause great worry and fear for the risk manager and key executives for example the threat of a catastrophic law suit from a defective product can cause greater anxiety than loss from a minor fire.
- iii) To meet any legal obligations: - government regulations for instance may require that the firm install safety devices to dispose hazardous waste materials properly or label products appropriately. The risk manager must ensure that these legal obligations are met

3.2.2 Post-loss/Ex-Post Objectives

These are objectives related to actions taken after an event or risk has occurred. Ex post objectives aim to address the consequences of the risk and often involve measures for recovery, compensation, and learning from the experience to improve future risk management.

- i) To ensure survival of the firm: - after the loss occurs the firm should be able to resume at least partial operations within some reasonable time frame.
- ii) To continue operating: - for some firms' ability to continue operating is of critical importance public utilities such as water companies must continue to provide service. Competitive firms such as banks must also continue operating otherwise their businesses will be lost to competitors.
- iii) To ensure stability of earnings: - earnings per share can be maintained if firms continue to operate. The firm may however incur huge expenses to achieve this goal and perfect stability may not be maintained if the firm is not cushioned from the loss
- iv) To ensure continued growth of the firm: - this may be achieved through new products and markets development or by acquiring or by merging with other companies. It is therefore imperative to consider the effect of a loss of the firm's ability to grow.
- v) To minimize the effect the loss may have on other persons and on society: - a severe loss can adversely affect employees, suppliers, creditors and the community in general. A severe loss that shuts down a plant for an extended period in a small town may cause considerable economic distress in the small town

3.3 Concept of Risk Identification

The concept of risk identification is a fundamental component of the risk management process. Risk identification is a deliberate and systematic effort to understand and document all the key risks facing the institution. It involves systematically identifying, recognizing, and documenting potential risks and threats that could affect an organization's objectives, projects, or operations. Risk identification is the crucial step in the risk management process, as it helps organizations understand the landscape of potential risks they face.

Risk identification should consider the organization's specific context and objectives. It involves considering both internal and external factors that could impact the organization's ability to achieve its goals. It starts with understanding the institutional objectives. Objectives spell out reasons for the organization existence. Risks are those things/events/outcomes that will affect the institution from achieving these objectives. The purpose of completing a risk identification exercise is to

identify, discuss and document the risks facing the institution.

3.4 Need for Risk Identification

- 1. Risk Awareness:** Risk identification raises awareness within an organization about potential threats and uncertainties that could impact its objectives, projects, or operations. It helps stakeholders understand what they are up against and what might go wrong.
- 2. Contributes to Risk analysis:** Identification of risks contributes a lot of information for the measurement of risk and for deciding how it shall be handled.
- 3. Early Prevention:** Identifying risks early allows organizations to take proactive measures to prevent or mitigate them. By recognizing risks before they materialize, organizations can minimize the likelihood of negative consequences.
- 4. Strategic Decision-Making:** Risk identification provides valuable information for strategic decision-making. Organizations can make informed choices about their goals, projects, and resource allocation by considering potential risks.
- 5. Early Warning:** Risk identification is an ongoing process due to the dynamic internal and external environment of an organization. For effectiveness it is necessary to establish an early warning system to ensure that appropriate methods are employed in handling risk.

3.5 Techniques and Tools for Risk Identification

1. Physical inspection
2. Checklists
3. Information-gathering techniques
 - a) Brainstorming
 - b) Delphi technique
 - c) Interviewing
 - d) Strengths, weaknesses, opportunities and threats (SWOT) analysis
4. Hazard and Operability Study
5. Diagramming techniques
 - a) System or process flow charts
 - b) Influence Diagrams
6. Documentation reviews
7. Combination Approach

1. Physical Inspection

This involves the physical examination (concerning things that can be experienced through the five senses) to detect risks facing the organization

Forms of inspection

An inspection program should be flexible. There are no hard and fast rules about it. It should be a combination of routine and non-routine inspection and includes:

- a) routine inspection of all risks
- b) routine inspection of a particular area of risk
- c) specific inspections resulting from recommendations, complaints, reports or advice from staff, users, stakeholders and others -This includes investigations and/or inspections recommended by the risk management or health and safety committee inspections as a result of incidents or accidents

How often should inspections be undertaken?

Routine inspections should be carried out on a regular basis. The regularity depends on the nature of the risks and the circumstances affecting it. It could be monthly or quarterly. It should be more regular if circumstances warrant it. For example, if there is a high risk of injury through slips and falls, it is necessary to carry out more regular and diligent inspections to identify the causes of these slips and falls.

All risks should be reported even if you consider the source to be dubious. The risks should be treated seriously and inspected. Only then can you be confident about discounting them as possible risks.

What to inspect

Make a list of all possible areas of risk including physical and non-physical risks. There may be records of previous incidents and accidents logged in a database somewhere. Injury and incident reports are also valuable sources of information.

The following example relates to the inspection of physical risks:

1. To identify physical risks, you should obtain plans of the premises
2. Keep the outdoor areas separate from the indoor
3. For a big facility, divide it into distinct and manageable portions
4. Prepare a standard checklist that can be used for the inspection. For example, it

Covers any or all of the following:

Physical condition of facilities	lighting
Emergency management procedures	Noise emission
Storage of goods especially dangerous chemicals	Safety devices
Location and adequacy of first aid facilities	Ventilation
Conformity with current standards	Gas and electrical supply

Who should conduct the inspection?

In large organizations either a risk management and/or health and safety committee for small organizations it may be carried by one person responsible for risk management. The committee should coordinate the process

Inspections should be carried out by those responsible for the management of the different work areas from which the risk emanates. The committee is responsible for conducting regular audits to gauge the adequacy of the inspection programs. In the event of specialist or expert advice is required, the assistance of relevant experts should be sought.

How to conduct an inspection

Procedures should be developed for all the different types of inspections these procedures should be made known to all relevant parties. The inspection team should have properly clarified all procedures and developed a checklist before any inspection begins

Develop standard reporting documents that correspond with the checklist so that the results of inspections and remedial actions (both immediate and future) to be taken are properly documented Documentation is a key issue, as it would assist with any future audit or legal process. The ability to provide documentary evidence is of paramount importance when defending a claim of negligence. Any dangerous risks should be treated immediately

2. Checklists

Organizations may develop checklists of risks based on information collected from past activities. The checklist is a quick way to identify risks. A checklist should not be considered as complete and the possibility of other risks should be addressed.

3. Information-Gathering Techniques

Several methods of information gathering can be used in risk identification. These may include:

a) Brainstorming

Probably the most frequently used risk identification technique. The goal is to compile a comprehensive list of risks that can be addressed later in the risk analysis processes.

How Brainstorming Works?

A meeting is organized with a multidisciplinary set of experts. Under the leadership of a facilitator, these people generate ideas about enterprise risks. The brainstorming meeting proceeds without interruption, without expressing judgment or criticism of others' ideas and without regard to individuals' status in the organization. Sources of risk are identified in broad scope and posted for all to examine during the meeting. Risks are then categorized by type of risk and their definitions are sharpened. Brainstorming can be more effective if participants prepare in advance, the facilitator develops some risks in advance, and the meeting is structured by business segment and risk category

b) The Delphi technique

The Delphi technique is a method by which a consensus of experts can be reached on a subject such as project risk. Project risk experts are identified but participate anonymously. The Delphi technique helps reduce bias and minimizes the influence of any one person on the outcome.

How the Delphi Technique Works?

A facilitator uses a questionnaire to solicit ideas about the important project risks. The responses are submitted and put into risk categories by the facilitator. These risks are then circulated to the experts for further comment. Consensus on the main project risks may be reached after a few rounds of this process.

c) Interviewing

Risks can be identified by interviews with experienced project managers or with experts in the field. The appropriate individuals are selected and briefed on the project. The interviewees identify risks on the project based on their experience, the project information, and any other sources that they find useful.

d) Strengths, weaknesses, opportunities and threats (SWOT) analysis

Ensures examination of the organization from each of the SWOT perspectives to increase the breadth of the risks considered

4. Hazard and Operability (HAZOP)

A HAZOP study identifies hazards and operability problems. The concept involves investigating how the plant might deviate from the design intent. If, in the process of identifying problems during

a HAZOP study, a solution becomes apparent, it is recorded as part of the HAZOP result; however, care must be taken to avoid trying to find solutions which are not so apparent, because the prime objective for the HAZOP is problem identification. HAZOP is based on the principle that several experts with different backgrounds can interact and identify more problems when working together than when working separately and combining their results.

Terms used in HAZOP study

- a) *Study Nodes* - The locations or specific points (on piping and Instrumentationdrawings and procedures) at which the process parameters are investigated for deviations.
- b) *Intention* - The intention defines how the plant is expected to operate in theabsence of deviations at the study nodes. This can take a number of forms and can either be descriptive or diagrammatic; e.g., flow sheets, line diagrams.
- c) *Deviations* - These are departures from the intention which are discovered bysystematically applying the guide words (e.g., "more pressure").
- d) *Causes* - These are the reasons why deviations might occur. Once a deviation hasbeen shown to have a credible cause, it can be treated as a meaningful deviation.
- e) *Consequences* - These are the results of the deviations (e.g., release of toxicmaterials). Trivial consequences, relative to the study objective, are dropped.
- f) *Guide Words* - These are simple words which are used to qualify or quantify theintention in order to guide and stimulate the brainstorming process and so discover deviations. Parameters include temperatures, reaction rates, composition, or pressure etc

Steps in conducting a HAZOP

- a) Define the purpose, objectives, and scope of the study
- b) Select the team
- c) Prepare for the study
- d) Carry out the team review
- e) Record the results.

It is important to recognize that some of these steps can take place at the same time. For example, the team reviews the design, records the findings, and follows up on the findings continuously. Each step is discussed below as a separate item.

Examples of HAZOP Guide Words and Meanings

Guide Words	Meaning
No	Negation of the Design Intent
Less	Quantitative Decrease
More	Quantitative Increase
Reverse	Logical Opposite of the Intent
Other Than	Complete Substitution

The Concept

The HAZOP concept is to review the plant in a series of meetings, during which a multidisciplinary team methodically "brainstorms" the plant design, following the structure provided by the guide words and the team leader's experience.

The team focuses on specific points of the design (called "study nodes"), one at a time. At each of these study nodes, deviations in the process parameters are examined using the guide words. The

guide words are used to ensure that the design is explored in every conceivable way. Thus the team must identify a fairly large number of deviations, each of which must then be considered so that their potential causes and consequences can be identified.

The best time to conduct a HAZOP is when the design is fairly firm. There is a natural relationship between the HAZOP deviation approach and the usual control system design philosophy of driving deviations to zero; thus it is very effective to examine a plant as soon as the control system redesign is firm.

The success or failure of the HAZOP depends on several factors:

- a) The completeness and accuracy of drawings and other data used as a basis for the study
- b) The technical skills and insights of the team
- c) The ability of the team to use the approach as an aid to their imagination in visualizing deviations, causes, and consequences
- d) The ability of the team to concentrate on the more serious hazards which are identified.

5. Diagramming techniques

- i. *Cause-and-effect diagrams*: - useful for identifying causes of risks
- ii. *System or process flowcharts*: - show how various elements of a system interrelate and the mechanism of causation
- iii. *Influence diagrams*: - a graphical representation of a problem showing causal influences, time ordering of events and other relationships among variables and outcomes

6. Documentation Reviews/Document Analysis

Documents can aid in the process of risk identification. The assets listing on the balance sheet may alert the risk manager of assets that might otherwise be overlooked. The income /expenses classification in the income statement may likewise indicate areas of operation of which risk manager was unaware.

7. Combination Approach

This is a preferred approach to risk identification. This is where all the tools listed above are used in risk identification. Each of these tools can provide a part of the puzzle and together can be of considerable assistance to the risk manager.

No individual method or a combination of methods can replace the imagination and diligence of a

risk manager in discovering the risks that an organization is exposed to Since many risks appear in many sources, risk managers need wide reaching information systems designed to provide a continuous flow of information about changes in operation, acquisition of new assets, new constructions and changing relationships in and outside the organization.