

## Chapter 3

### Introduction to Risk Management

After studying this chapter, the student has to be able to answer the following questions:

- What is the definition of risk management?
- What are the objectives of risk management?
- Describe the steps in risk management process, by application to your University's risks?
- What do you mean evaluation of the loss exposure unit?
- Why do you have to review the risk management program continuously?
- Explain, how can you manage your family's risks?

#### **3.1-Introduction**

It is known that each individual, family, firm or other organization face a lot of risks. Consequently, the risks that large organizations and firms face are so important such that a specialized management known as risk management has developed.

The risk management in any organization is managed by a person is called as "the risk manager".

Risk management is a scientific approach to problem of dealing with pure risks faced by individuals and business. Hence, large firms, particularly, in Europe countries and United States of America (U.S.A) have developed risk management in the same style as marketing management, financial management, personnel management .... etc.

The responsibility of risk management in any organization may be considered identification the exposure units in the organization that create pure risks and designing programs to handle them.

### **3.2-Definition of risk management**

It is worth while to mention that, many authors have been defined risk management. Consequently, there is no single definition of risk management. Some of these definitions are:-

REJDA: has defined risk management "a process to identify loss exposure faced by an organization and to select the most appropriate techniques for treating such exposures.

PRICHETT.S and OTHERS: have defined risk management "Risk management can be described as the decision making process, by which an organization reduces the negative consequences of risk".

AUTHERN and OTHERS: have defined risk management "Risk management is an organized method for dealing with pure risks (and sometimes speculative risks) to which an individual, family, firm or other organization is exposed)".

By contemplating the preceding definitions, we may conclude ***four*** elements besides objectives should be existed. Those elements are:

- i) A process for identifying loss exposure units (risks)
- ii) Evaluation of exposure units (risks)
- iii) Selecting the appropriate methods for handling pure risks
- iv) Executing and administration of the program

Hence, risk management may be defined from **our viewpoint** as "*A systematic handling process, by which pure risks faced by family or organization can be identified and evaluated and the choice the appropriate methods for dealing with these risks by an effective program*".

Hence, we can say, risk management ensures that an organization identifies and understands the risks to which it is exposed. Also, risk management guarantees that, the organization creates and implements an effective plan to prevent or reduce the impact if a loss occurs.

### **3.3-Objectives of risk management**

In effect, risk management is a relatively new concept. It had become very important at the beginning of 1960<sup>s</sup>. Most of its development has occurred in very large organizations and that is due to the benefits of risk management. Those benefits may be realized by **two groups of objectives**, some of them before a loss occur, and some others after occurring the loss. These objectives may be illustrated as follows.

#### **I) Objectives before the loss( PRE- LOSS Objectives )**

These objectives include:

- **Organization should prepare for probable losses** by analysis of the cost safety program in organization and how much insurance premiums are paid by organization and how much the other programs for handling losses.
- **Reduction of anxiety and fear against liability lawsuits**, in particular, if the organization is, for example, a factory for producing foods.
- **Execution of the legal governmental regulations**, for example, installing safety devices inside the organization i.e. fire alarm. Sprinkler system to reduce the loss if the risk occurs.

#### **II) Objectives after the loss( POST- LOSS Objectives )**

These objectives include:

- **Organization should be continued after the loss** that is, survival of the organization by continuing in the market at least as partial work.
- **Stability of earnings**. This objective may be realized by the first objective, That is, stability of earning can be maintained if the organization continues to operate.
- **Maintaining of growth of the organization**. This objective can be realized if the firm produced a new products or merging with other firms.
- **Maintaining of the social responsibility for organization toward the individuals or community**. This objective may be realized by the previous objectives. That is, if the firm has continued in the market, the workers and

employees will keep their jobs. Moreover, suppliers and creditors will not effect.

### **3.4 -The risk management process**

In fact, risk management is good business. It is one of the most important activities, which organization (or family, person, etc) can do to maintain of its viability and development. An effective risk management strategy provides the opportunity for ensuring a safe and stable environment for organization, workers, employees, and customers. Moreover, an effective risk management program helps the organization to understand and be prepared for the risks that it faces before losses occur.

Hence, the following questions may be raised about risk management process:

*Do you think that the risk management process is a decision-Making process?*

*What are the steps of risk management process?*

**The answer** of the preceding two questions may be summarized as follows:-

Really, the risk management process is a decision- making process because, it consists of some of steps and for every step the risk manager should take a decision at the end of step. Consequently, the risk management is considered a decision-making process. But, the answer of the second question is:

The steps of risk management process whether for the individual, or family or organization are similar with diversity in risks. Therefore, the person (i.e. risk manager) who is responsible for protecting himself (i.e. individual) or his family (i.e. Head of family) or organization (i.e. risk manager of the firm) use the process of risk management which involves the following steps: (see figure 2.1)

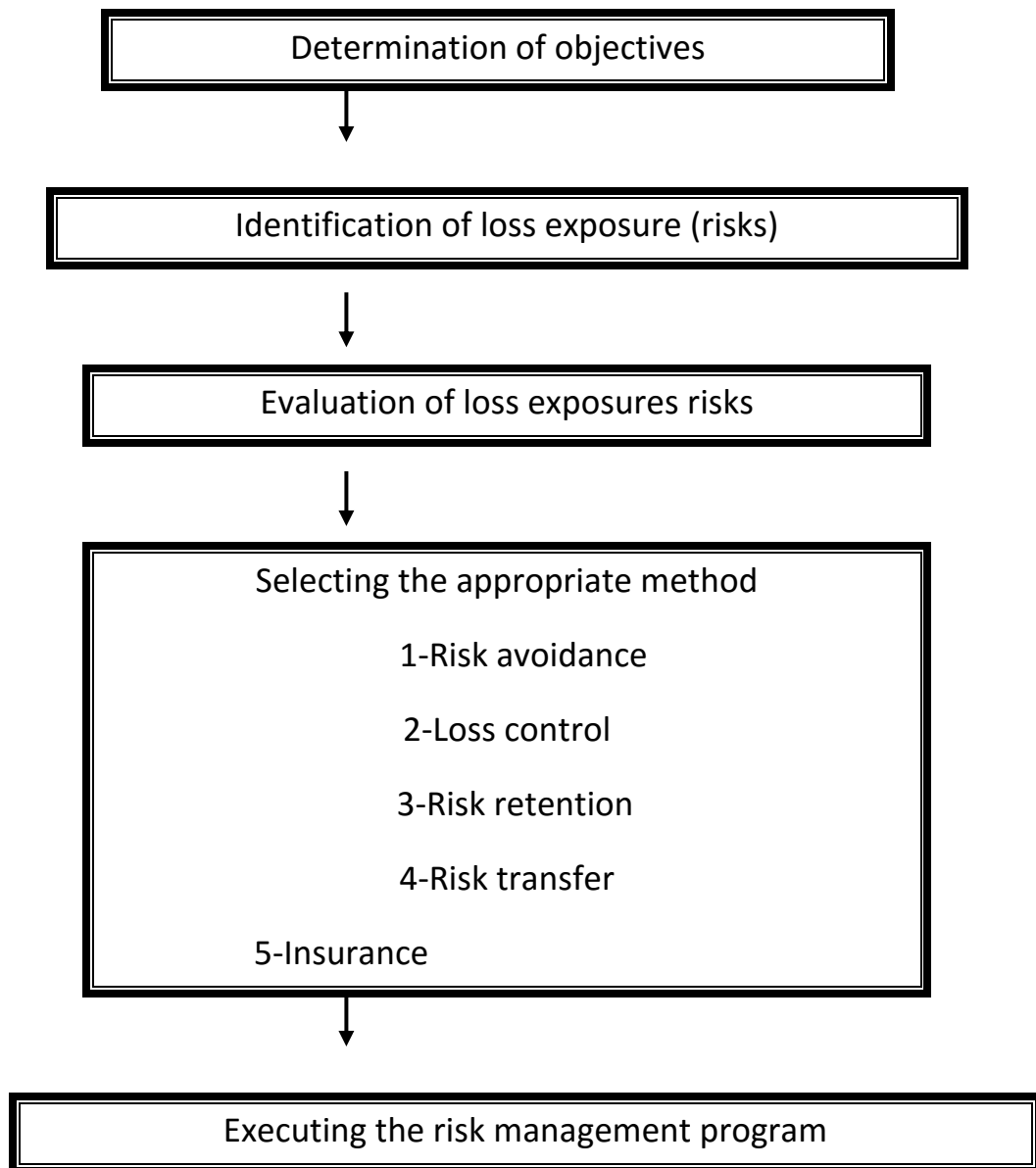
- 1- Determination of objectives
- 2- Identification of loss exposure units (the risks)
- 3- Evaluations of loss exposure units (the risks)

4- Consideration of alternatives and selecting the appropriate method (or methods) for dealing with risks

- Risk Avoidance
- Loss control
- Risk Retention
- Risk transfer to non-insurance companies
- insurance

5- Executing the risk management program

6- Reviewing the risk management program continuously





Reviewing the risk management program continuously

**Figure (3.1) steps of risk management process**

By scrutiny of all the preceding steps of risk management we may say these six steps may consider logical order series of steps. But, as a result of new risks frequently arise; risk management is a continuous process.

As we have already mentioned that the steps of risk management for individual, or family or organization are similar steps with diversity in risks (loss exposures units). So the author will try to explain the risk management process by **an applied case** as indicated below:-

*An Applied Case*  
Basic steps of risk management process  
By application to JEDDAH Spinning Factory **(An Organization)**

Given that you have appointed as risk manager of risk management of JEDDAH Spinning Factory. Explain how you can manage the risks of the factory, by following the scientific approach to basic steps of risk management process.

**Answer:**

The risk manager might say the basic steps of risk management process in JEDDAH Spinning factory may be summarized as follows:



The risk manager should establish objectives of his risk management that may include the following:

- *The first objective* is to protect the factory's earnings and all assets and properties against financial losses. Moreover, to preserve the operating effectiveness of the factory.
- *The second objective* is to protect workers and employees against personnel risks (i.e. disability – sickness – serious injuries – premature death – old age .... etc)
- *The third objective* is to protect the factory against legal liability lawsuits.
- *The fourth objective* is to determine the factory's financial ability to bear uninsured losses
- *The fifth objective* is to determine which risk can be avoided in particular risk that could result in bankruptcy
- *The sixth objective* is to determine the regulations that should follow inside factory to reduce the losses (i.e. smoking is forbidden – installing sprinkler system, fire alarms .... etc).
- *The seventh objective* is to determine the risks that may be retained and the risks that may be insured ... etc.



The second step in risk management process is to identify all major and minor loss exposure units (risks) in the factory. But, before anything can be done about the loss exposure units (risks), the factory faces, the risk manager must dig into the operations of the factory and discover the risks to which, it is exposed because differences in operations from organization to another give rise to different risks.

Hence, the risk manager should use more important tools to identify the major and minor loss exposure units (risks in factory). These tools include several sources of

information that helps him to discover all risk of the factory. These tools include the following:

- I) *Exposure checklists*: The risk manager has to look at a list of common exposures that is called an exposure checklist to know all possible exposures in the factory.
- II) *Risk analysis questionnaires*: Risk analysis questionnaires are designed to lead the risk manager to the discovery of risks (exposure units) through a series of detailed questions about the factory.
- III) *physical inspection*: It is known that "One picture is worth a thousand words", So one physical inspection of factory parts by risk manager can identify major risks (major loss exposure units)
- IV) *Flowcharts*: Analysis of a flowchart of the factory's operations may show the flow of production and delivery of products in factory and to lead the risk manager to discover the risks within these two stages (production and delivery).
- V) *Analysis financial statements*: Analysis financial statements (i.e. balance sheet) by risk manager can also to identify the major assets that must be protected. Also analysis of the income statement indicates area of operation in the factory, of which the risk manager was unaware.
- VI) *Insurance policy checklists*: Analysis of policy checklists by the risk manager is very important. By which, he can pick out these policies applicable to the factory, in particular, insurable risks.
- VII) *Other internal records*: In addition to the previous sources of information, there are a variety of other records and documents that are useful in the risk identification. These includes, annual reports of the factory – factory charts – records of past losses, purchase orders, and construction contracts. All of these records can be of considerable assistance to the risk manager.

After study and examination of all the preceding tools, the risk manager in the factory would be wise to organize the factory's exposures units by creating a list such as the indicated one in the following.



## Loss Exposures for GEDDAH Spinning Factory

<i>Type of risk</i>	<i>Loss exposure units (risks)</i>	<i>Peril</i>	<i>Possible loss</i>
<i>Personal</i>	General manager of factory Board of Directors Employees Workers	Death, Disability, old age sickness – injures – unemployment	income, service and extra expense
<i>property</i>	Buildings, plants, Furniture inventory raw material (cotton – wool) products cars machines computers systems other property equipments	Damage – destruction – theft – fire destruction Theft - fire  damage – theft – fire breakdown – fire damage – destruction – theft – fire – destructions destructions	asset and extra expense  income
<i>Liability</i>	related to cars related to property related to manager & workers related to defective products related to environment pollution	lawsuit lawsuit lawsuit	asset & extra expense  asset & extra expense asset & extra expense



Once the loss exposure units (the risks) have been identified the risk manager should evaluate them. This means measuring the severity of loss and frequency of loss. In other words, the loss exposure units (risks) should be evaluated on the basis of the severity and frequency of the losses associated with them. Severity of loss means the probable size of losses that may occur. Frequency of loss refers to the probable number of loss that may occur.

The evaluation of loss exposure units (risks) requires from the risk manager, some ranking according to their relative importance. That is, estimations of severity of loss and frequency of loss, relate to the questions. How much? (What is the size of loss) and how many? (What is the number of loss)? From answer these two questions, the risk manager should put in his mind, severity of loss is much more important on the factory because a very large loss could be a financial catastrophe if it did occur.

**Moreover**, the risk manager has to classify the loss exposure units (risks) into general classifications, according to some considerations, such as:

- I) **Critical risks**: These risks include all loss exposure units in which the probable losses are of magnitude (i.e. losses so large) and they result in bankruptcy. Consequently, if the factory financed these risks, it exposes to bankruptcy, so these risks are unbearable, for example, fire risks of raw material in the spinning factory (cotton – wool – industrial fibers)
- II) **Important risks**: These risks include loss exposure units in which the probable losses would not lead to bankruptcy. So, they are difficult to bear by factory. Consequently, if the factory financed these risks it needs to borrow in order to continue operation. So these risks are difficult to bear. For example, risks of machines breakdown in the factory.
- III) **Unimportant Risks**: These risks include loss exposure units in which the probable losses could be met out of the current income of the factory. Consequently, these risks would not affect the factory's activities. These risks are relatively unimportant such as dishonesty or fraud in factory because these losses are relatively small.

**Hence**, the risk manager may assign each individual exposure units (risk) to one of the preceding categories according to:

- a- the size of loss
- b- The ability of the factory to absorb such loss

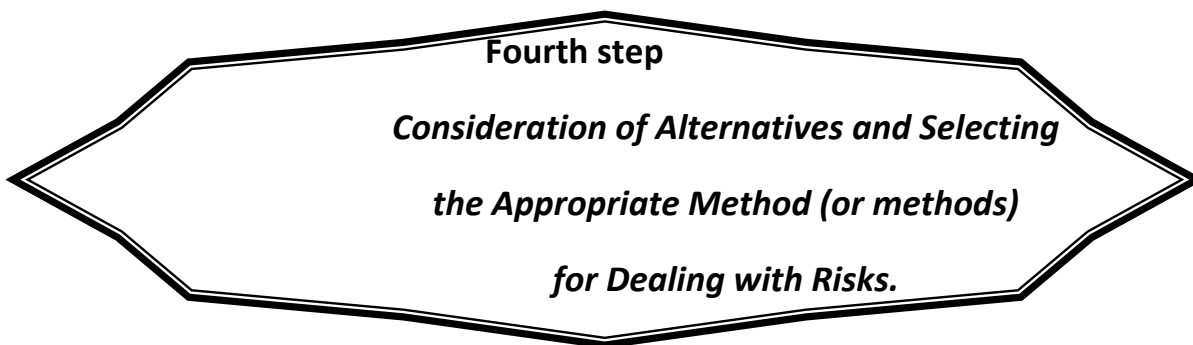
***In conclusion*** In addition to, estimation of frequency and severity of each loss exposure unit (risk), the risk manager in factory, will construct a ***matrix*** for the risks as indicated in table (3.2).

For any particular risk, in factory, the possible combinations of severity and frequency may be listed as in table (3.2).

From table (3.2) the risk manager can evaluate every risk, by saying this risk is bearable or unbearable or relatively important as indicated in table (3.2) below.

**Table (3.2) Risk Evaluation**

<i>Type of risk</i>	<i>Frequency of loss</i>	<i>Severity of loss</i>	<i>Evaluation of risk</i>
property (cotton)	High	High	Unbearable
property (car)	High	Low	Bearable
disability of key employees	Low	High	Unbearable
dishonesty, fraud	Low	Low	relatively Unbearable



After, the risk manager of factory has identified and evaluated loss exposure units (risks) confronting the factory, *the next step* is consideration of alternative approaches that may be used to deal with loss exposure units (risks) and selecting the appropriate method that should be used for each risk. The decision of risk

manager depends upon the factory's objectives, the frequency and severity of loss, and the factory's attitude toward the risk as follow:

- I) *Consideration of alternatives*: In fact, risk manager should recognize two broad approaches to dealing with risks (loss exposure units) facing the factory. They are:
  - a) *Risk control*: refers to methods that reduce the frequency and severity of probable losses. Major risk control (\*) include avoidance – loss control.
  - b) *Risk financing*: refers to methods that provide for funding of losses after they occur. Major risk financing(\*\*) include (retention –non insurance transfer – insurance)

It is worthwhile to mention that, *risk control* and *risk financing* are alternatives, but they are also complementary approaches to dealing with risk. Therefore, the risk manager in the factory (organization) may combine them for dealing with risks.

The alternative methods to manage risks whether risk control (avoidance – loss control) or risk financing (retention – non insurance transfer – insurance) were discussed in chapter one and is given attention throughout the text.

- II) *Choice or selection the appropriate method (or methods) for dealing with risks*. This stage is very important in risk management process. It is deciding which of the methods available should be used in dealing with risk. Therefore, the risk manager has to be a wise in his decisions for selecting the appropriate methods for dealing with loss exposure units (risks). Hence, the following question may be raised about this selection of the appropriate method.

*How can the risk manager in factory of spinning select the appropriate method for dealing with risks?*

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\* Please review chapter one to remember.

\*\* Please review chapter one to remember.

In other word, *how can the risk manager make choice between insurance and other risk handling methods?*

**Answer:** In order to, the risk manager decide which of the methods available should be selected to deal with a given risk (an exposure unit, **a matrix** can used that classifies the different risks (loss exposure units) according to frequency of loss and severity of loss as indicated in figure (3.3) below:

**Risk management matrix**

Type of risk	Example	Loss frequency	Loss severity	Appropriate risk management
1	theft of general manager's pen	Low	Low	Retention
2	Workers compensation claims	High	Low	Loss control and retention
3	Firm liability lawsuits, explosion	Low	High	Insurance
4	a truck driver with several convictions for drunk driving	High	High	Avoidance

**Figure (3.3) Risk characteristics**

By contemplating figure (3.3) we may notice, the following:

- I) Risks of the first type have both low loss frequency and low loss severity. That is meaning, that losses seldom occur and when they do happen, they are small. For example, the probable theft of a general manager's pen. Insurance of this risk is neither necessary nor economical, so *the risk retention* is the appropriate method (i.e. preferable).
- II) Risk with high loss frequency and low severity. For example, workers compensation claims, *Loss control* should be used as appropriate method because it reduces the frequency of loss. Also ,retention can be used because losses occur regularly and are predictable.

III) Risk with low frequency and high severity is the one for which *insurance* is ideally suited i.e. the appropriate method. For example, liability lawsuits, fire, explosion .... etc. Because loss severity is high the risk is very important, the consequences of an uninsured loss could be severe. But, because loss frequency is low, the cost of insuring this risk is not too great. Hence, risks with low loss frequency and high severity can be financed economically by transferring them to insurance company.

IV) Risk with high frequency and high severity is a serious type of risk. The appropriate method for this type of risk is *avoidance* for example, a truck driver with several convictions for drunk driving. For this risk *private insurance* is extremely expensive and perhaps not available. Because, if the driver is hired in a company and injured a person while under the influence of alcohol. The company would be faced with a catastrophic, because it will pay too much money as a result of liability lawsuit.

**In conclusion** the risk manager in spinning factory should inspect every risk (each exposure unit) in order to know its loss frequency and its loss severity. Then he can decide the appropriate method for dealing this risk, according to the matrix in figure (2.2).



Executing the risk management program means activating all risk management decisions that have already discussed. Identifying loss exposure units evaluating their risk, deciding which the appropriate method for handling them represent stage of planning by risk manager. This step represents stage of implementing by which the risk manager has to implement the risk management program. *Implementation* requires knowledge and skill. That is, if the decision in the spinning factory is:

- I) **Insurance** is the appropriate method (the chosen option) for some risks. That is the risks (exposure units) are to be transferred to an insurance company, and implementation by risk manager means the purchase of insurance to cover them after negotiations. Moreover, the risk manager has to take into consideration, that insurance policy provides the intended coverage, that insurance company is solvent, that the premium is appropriate .... etc.
- II) **The loss prevention** is the appropriate method to deal with a particular risk; the proper loss prevention program must be designed and implemented.
- III) **The retention with reserve** is the appropriate method to deal with a particular risk, a proper administrative procedure must be set up to implement this decision by risk manager



In this step, the risk manager in the factory should engage always in continuous review to keep the risk management program up to date to make the program effective. Review is essential to the program for two reasons:

First: Properties owned by the factory change in nature, amount and value almost continuously. New risks arise and old ones disappear.

Second: Mistakes sometimes occur.

**Hence**, Review of the risk management program permits the risk manager to review decisions and discover mistakes. Moreover, Review of the Program is always hoped, before the mistakes become costly. Review of the program can determine whether the objectives of program are being attained. In particular, risk management costs, safety programs and loss prevention programs .... etc.

## Notices

The risk management programs for any organization (firm – university – institution .... etc) have many benefits that can be summarized in the following benefits:

- The cost of the risk in the organization is reduced. Consequently ,the profits in the organization may increase.
- Since both direct and indirect losses in the organization are reduced, as a result of the risk management program. Consequently, pain and suffering in the community are reduced. So, the community benefits.
- Risk management program objectives (Before the loss – after the loss) are more easily attainable.

### **3-5- Benefits of Risk Management**

- A formal risk management enables firm to attain its pre-loss and post-loss objectives more easily
- A risk management program can reduce a firm's cost of risk
- Reduction in pure loss exposures allows a firm to enact an enterprise risk management program to treat both pure and speculative loss exposures
- Society benefits because both direct and indirect losses are reduced

**In conclusion** the risk manager is extremely important to the financial success of business firms in today`s economy.

Notice salary of the risk manager 1n 2011 in U.S.A was \$ 138100

### **3-6-Personal Risk Management**

- Personal risk management refers to the identification of pure risks faced by an individual or family, and to the selection of the most appropriate technique for treating such risks



- The same principles applied to corporate risk management apply to personal risk management



Given that, you are the risk manager of your family. After your study for the risk management process in an organization (JEDDAH Spinning Factory), write an essay indicating in, how you can manage your family's risks.

**Important concepts and terminologies to remember:**

Consideration of alternatives

Critical risks

Exposure checklists

Flowcharts

Frequency of loss

Identification of loss exposure units

Important risks

Insurance policy checklists

Retention

Risk control

Risk financing

Risk management

Risk management process

Risk manager

Severity of loss

Unimportant risks