**CHAPTER TWO**

**RISK MANAGEMENT**

**Introduction:** In the previous sections we have identified several types of pure risks that affect individuals and businesses. In this chapter, after sources of risks are identified and measured; a decision can be made as to how the risk should be handled. The process used to systematically manage pure risk exposures is known as risk management.

**Definition of Risk Management:** “Risk Management is defined as a systematic process for the identification and evaluation of pure loss exposures faced by an organization or individual and for the selection and implementation of the most appropriate techniques for treating such exposures”. As a general rule, the risk manager is concerned with only management of pure risks, not speculative risks.

**Objectives of Risk Management:**

The objectives of risk management can be broadly classified into two;

1)   Pre-loss Objectives

2)   Post-loss Objectives

**(1) Pre-loss Objectives:**  An organization has many risk management objectives prior to the occurrence of a loss. The most important of such objectives are as follows;

(a)  The first objective is that the firm should prepare for potential losses in the most possible economical way. This involves an analysis of safety program expenses, insurance premiums and the costs associated with the different techniques of handling losses.

(b)  The second objective is the reduction of anxiety. It is more complicated. In a firm, certain loss exposures can cause greater worry and fear for the risk manager, key executives and stockholders of that firm. For example, a threat of a lawsuit {court case} from a defective product can cause greater anxiety than a possible small loss from a minor fire. However, the risk manager wants to minimize the anxiety and fear associated with such loss exposures.

(c)  The third pre-loss objective is to meet any externally imposed obligations. This means that the firm must meet certain obligations imposed on it by the outsiders. For example, government regulations may require a firm to install safety devices to protect workers from harm. Similarly, a firm’s creditors may require that property pledged as collateral for a loan must be insured. Thus, the risk manager is expected to see that these externally imposed obligations are met properly.

**(2) Post-loss Objectives:**

 Post-loss objectives are those which operate after the occurrence of a loss. They are as follows;

(a)  The first post-loss objective is ***survival of the firm***. It means that after a loss occurs, the firm can at least continue partial operation within some reasonable time period.

(b)  The second post-loss objective is ***to continue operating***. For some firms, the ability to operate after a severe loss is an extremely important objective. Especially, for public utility firms such as banks, dairies, etc, they must continue to provide service. Otherwise, they may lose their customers to competitors.

(c)  ***Stability of earnings*** is the third post-loss objective. The firm wants to maintain its earnings per share after a loss occurs. This objective is closely related to the objective of continued operations. Because, earnings per share can be maintained only if the firm continues to operate. However, there may be substantial costs involved in achieving this goal, and perfect stability of earnings may not be attained.

(d)  Another important post-loss objective is ***continued growth of the firm***. A firm may grow by developing new products and markets or by acquisitions and mergers. Here, the risk manager must consider the impact that a loss will have on the firm’s ability to grow.

(e)  The fifth and the final post-loss objective is the ***social responsibility. This is to minimize the impact that loss has on other persons and on society***. A severe loss can adversely affect the employees, customers, suppliers, creditors and the community in general. Thus, the risk manager’s role is to minimize the impact of loss on other persons.

Thus, there are the pre-loss and post-loss objectives of risk management. A prudent risk manager must keep these objectives in mind while handling and managing the risk.

**Risk Management Process**

Whether the concern is with a business or an individual situation, the same general steps should be used to analyze systematically and deal with risk. This is known as risk management process.

In order to have an effective risk management program, the risk manager must go though certain steps. There are four steps in the risk management process. These are:

I. Identification of potential losses

II. Measuring the losses

III. Selection of the risk management tools

Iv. Implementing and monitoring the decision made

**(1) Identifying the potential losses**

The first and foremost step in the risk management process is to identify all pure risk exposures. Here, it is the responsibility of the risk manager to identify several types of potential losses. These potential losses include the following:

***Property losses* =>** all losses of the firm related to its asset/properties. E.g. property damaged by different perils.

***Business income losses* =>** reduction or total losing of its income which generated through firm’s contribution. e.g. reduction in sell or market share.

***Liability losses* =>** refers to injuries caused to other people or/and damages caused on theirs property. It is also called third party liability losses. Liability losses can emerge through manufacturing and selling of defective product, company’s motor accident to others, firms or industrial waste, professional activities made by the firm to others, etc.

***Death or inability of key people* =>**

Suffering of factory’s owners, executive directors and other firm’s key persons Physical injuries or death

***Job-related injuries or disease* =>**

Suffering of factory’s employee physical injuries or death at work sites

***Fraud, criminal acts and dishonesty of employees =>*** dishonest act or character defect of firm’s employee that create loss on it.

***Employee benefits loss exposures* =>** losses to a firm regarding its employees benefit packages.

A risk manager has several sources of information that can be used to identify major and minor loss exposures. They are as follows:

(a)   ***Physical inspection of company’s plant & machineries*** can identify major loss exposures.

(b)   ***Extensive risk analysis questionnaire*** can be used to discover hidden loss exposures that are common to many firms.

(c)   ***Flow charts*** that show production and delivery processes can reveal production bottlenecks where a loss can have severe financial consequences to the firm.

(d)   ***Financial statements*** can be used to identify the major assets that must be protected.

(e)   ***Departmental & historical claims data*** can be invaluable in identifying major loss exposures.

Risk managers must also be aware of new loss exposures that may be emerging. More recently misuse of the internet and e-mail transmissions by employees have exposed employers to potential legal liability because of transmission of pornographic material and theft of confidential information.

**(2) Evaluating Potential Losses**

 The second step in the risk management process is to evaluate or measure the impact of losses on the firm. This involves an estimation of the potential frequency and severity of loss.

***Loss frequency*** refers to the probable number of losses that may occur during some given period of time. ***Loss severity*** refers to the probable size of the losses that may occur. Once the risk manager estimates the frequency and severity of loss for each type of loss exposure, the *various loss exposures can be ranked* according to their relative importance to manage. For example, a loss exposure with the potential for bankrupting the firm is much more important than a exposure with a small loss potential. Although the risk manager must consider both loss frequency and loss severity, severity is more important. Therefore, the risk manager must also consider all losses that can result from a single event. Both the maximum possible loss and maximum probable loss must be estimated.

The *maximum possible loss* is the *worst loss that could possibly happen to the firm during its lifetime*. The *maximum probable loss* is the *worst loss that is likely to happen*. For example, if  a plant is totally destroyed by flood, the risk manager may estimate that replacement cost, removal costs and other costs will total Birr10 million. Thus, the *maximum possible loss* is 10million Birr. The risk manager may choose to ignore events that occur so infrequently. The risk manager also estimates that flood causing more than 8 million Birr of damage to the plant is so unlikely that *such a flood would not occur more than once in 30 years*. Thus, for this risk manager, the *maximum probable loss* is 8 million Birr.

Catastrophic losses are difficult to predict because they occur infrequently. *E.g. earth quake for Ethiopians.* However, their potential impact on the firm must be given high priority. In contrast, certain losses such as physical damage losses to automobiles and trucks, occur with greater frequency, but are usually relatively small. This can be predicted with greater accuracy.

**(3) Selection of Risk Management Tools:**

          The third step is to identify the available tools of risk management. The major tools of risk management are the following:

I)             Avoidance *risk control techniques*

II)           Loss control

III)         Retention

IV)         Non-insurance transfers *risk financing techniques*

V)           Insurance

Avoidance and Loss control are called **risk control techniques**, because *they attempt to reduce the frequency and severity of accidental losses to the firm.*

Retention, non-insurance transfers and insurance are called **risk financing techniques,** because *they provide for the funding of accidental losses after they occur*.

**I) Avoidance:** Avoidance **means that a certain loss exposure is never acquired, or an existing loss exposure is abandoned {discarded**}. For example, a firm can avoid earthquake loss by not building a plant in an earthquake prone area. An existing loss exposure may also be abandoned. For example, a pharmaceutical firm that produces a drug with dangerous side effects may stop manufacturing that drug.

The major advantage of avoidance is that the *chance of loss is reduced to zero*, if the loss exposure is not acquired. In addition, if an existing loss exposure is abandoned, the possibility of loss is either eliminated or reduced because the activity that could produce a loss has been abandoned.

However, avoidance has two disadvantages. First, *it may not be possible to avoid all losses*. For example, a company cannot avoid the pre-mature death of a key executive. Second, it *may not be practical or feasible to avoid certain loss exposure*. In the above said example, the pharmaceutical company can avoid losses arising from the production of a particular drug.. However, without any drug production, the firm will not be in business.

**(II) Loss Control:**

It is another method of handling loss in a risk management program. Loss control activities are designed to reduce both the frequency and severity of losses. *Loss control deals with an exposure that the firm does not want to abandon.* The purpose of loss control activities is *to change the characteristics of the exposure that is more acceptable to the firm*. Thus, the firm wishes to keep the exposure but wants to reduce the frequency and severity of losses.

The following are the examples that illustrate how loss control measures reduce the frequency and severity of losses.

Measures that reduce loss frequency are *quality control checks*, *driver examination*, strict *enforcement of safety rules* and *improvement in product design*.

Measures that reduce loss severity are the installation of an automatic sprinkler or burglar alarm system, early treatment of injuries and rehabilitation of injured workers.

**(III) Retention:**

Retention means that the firm retains part or all of the losses that result from a given loss exposure. It can be effectively used when three conditions exist.

First, *no other method of treatment is available*. Insurers may be unwilling to write certain type of coverage. Non-insurance transfers may not be available. In addition, although loss control can reduce the frequency of loss, all losses cannot be eliminated. In these cases, retention is a residual method. If the loss exposure cannot be insured or transferred, then it must be retained. Second, *the worst possible loss is not serious*. For example, physical damage losses to automobiles in a large firm’s fleet will not bankrupt the firm.

Finally, *losses are highly predictable*. Retention can be effectively used for workers compensation claims, physical damage losses to automobiles, etc. Based on past experience, the risk manager can estimate a probable range of frequency and severity of actual losses.

***Determining Retention Levels:***

If retention is used, the risk manager must determine the firm’s retention level, which is the Dollar / Birr amount of losses that the firm will retain. A financially strong firm can have a higher retention level than one whose financial position is weak.

Though there are many methods of determining retention level, the following two methods are very important.

First, a *Corporation can determine the maximum uninsured loss it can absorb without adversely affecting the company’s earnings and dividend policy*. One rough rule is that the maximum retention can be set at *5% of the company’s annual earnings before taxes* from current operations.

Second approach is to determine the maximum retention as *a percentage of the firm’s net working capital*, such as between 1% and 5%. Although this method does not reflect the firm’s overall financial position for absorbing a loss, it measures the firm’s ability to fund a loss.

***Paying losses:***

If retention is used, the risk manager must have some method for paying losses. Normally, a firm can pay losses by one of the following three methods:

(a)    The firm can pay losses *out of its current net income, with the losses treated as expenses for that year.* However, a large number of losses could exceed current net income. Then, other assets may have to be liquidated to pay losses.

(b)    Another method is to borrow the necessary funds from a bank. A line of credit is established and used to pay losses as they occur. However, interest must be paid on the loan and loan repayments can aggravate cash flow problems the firm may have.

(c)     Another method for paying losses is from firm’s own reserve.

**Advantages of Retention:**

          The advantages are as follows;

(a)  The firm can save money in the long run if its actual losses are less than the loss allowance in the insurer’s premium.

(b)  The services provided by the insurer may be provided by the firm at a lower cost. Some expenses may be reduced, including loss-adjustment expenses, general administrative expenses, commissions and brokerage, etc.

(c)  Since the risk exposure is retained, there may be greater care for loss prevention.

(d)  Cash flow may be increased since the firm can use the funds that normally would be held by the insurer.

**Disadvantages of Retention:**

          The following are the disadvantages:

(a)   The losses retained by the firm may be greater than the loss allowance

(b)  Actually, expenses may be higher as the firm may have to hire outside experts such as safety engineers. Thus, insurers may be able to provide loss control services less expensively.

(c)   Income taxes may also be higher. The premiums paid to an insurer are income-tax deductible. However, if retention is used, only the amounts actually paid out for losses are deductible. Contributions to a funded reserve are not income-tax deductible.

**(IV) Non-Insurance Transfers:**

Non-insurance Transfers is another method of handling losses. Non-insurance transfers are methods other than insurance by which a pure risk and its potential financial consequences are transferred to another party. Examples of non-insurance transfers include contracts, leases and hold-harmless agreements.

**For example**, a company’s contract with a construction firm to build a new plant can specify that the construction firm is responsible for any damage to the plant which it is being built.

A firm’s computer lease can specify that maintenance, repairs and any physical damage loss to the computer are the responsibility of the computer firm. Otherwise, a firm may insert a hold-harmless clause in a contract, by which one party assumes legal liability on behalf of another party. Thus, a publishing firm may insert a hold-harmless clause in a contract, by which the author and not the publisher is held legally liable if anybody sued the publisher.

**Advantages of Non-Insurance Transfers:**

(a)   The risk manager can transfer some potential losses that are not commercially insurable.

(b)  Non-Insurance transfers often cost less than insurance.

(c)   The potential loss may be shifted to someone who is in a better position to exercise loss control.

Disadvantages of Non-Insurance Transfers:

(a)  The transfer of potential loss would become impossible, if the contract language is ambiguous.

(b)  If the party to whom the potential loss is transferred is unable to pay the loss, the firm is still responsible for the loss.

(c)  Non-Insurance Transfers may not always reduce insurance costs since an insurer may not give credit for the transfers.

**(V) Insurance:**  Insurance is also used in a risk management program. Insurance is appropriate tool for loss exposures that have a low frequency of loss but the severity of loss is high. If the risk manager uses insurance to treat certain loss exposures, five key areas must be emphasized. They are as follows;

(i) Selection of insurance coverage’s

(ii) Selection of an insurer

(iii) Negotiation of terms

(iv) Dissemination of information concerning insurance coverage

(v)  Periodic review of the insurance program

(i) *Selection of insurance coverage’s:* The risk manager must select the insurance coverage’s needed. Since there may not be enough money in the risk management budget to insure all possible losses, the need for insurance can be divided into three categories;

(a)  Essential Insurance

(b)  Desirable Insurance

(c)  Available Insurance

***Essential Insurance*** includes that coverage’s required by law or by contract, such as workers compensation insurance. It also includes that coverage’s that will protect the firm against a loss that threatens the firm’s survival.

***Desirable insurance*** is protection against losses that may cause the firm financial difficulty, but not bankruptcy.

***Available insurance*** is coverage for slight losses that would simply creates an inconvenience for the firm.

***(ii) Selection of an Insurer:***

The next step is that the risk manager must select an insurer or several insurers. Here, several important factors are to be considered by the risk manager. *These include the financial strength of the insurer, risk management services provided by the insurer and the cost and terms of protection*.

The insurer’s financial strength is determined by the size of policy owner’s surplus, underwriting & investment results, adequacy of reserves for outstanding liabilities, etc. The risk manager can identify the financial strength of the insurer by referring the rating given to that insurance company.

Besides the financial strength, the risk manager must also consider the risk management services by the insurer and the cost & terms of protection.

**(*iii) Negotiation of terms:*** After the insurer is selected, the terms of the insurance contract must be negotiated. If printed policies, endorsements and forms all used, the risk manager and insurer must agree on the documents that will form the basis of the contract. If a specially tailored manuscript policy is written for the firm, the language and meaning of the contractual provisions must be clear to both parties. If the firm is large, the premiums are negotiable between the firm and insurer.

*(iv****) Dissemination of information concerning insurance coverage’s:***

Information concerning insurance coverage’s must be given to other people in the firm. The firm’s employees must be informed about the insurance coverage’s, the records that must be kept, the risk management services that the insurer will provide, etc.

*(v****) Periodic review of the insurance program:***

The entire process of obtaining insurance must be evaluated periodically. This involves an analysis of agent and broker relationships, coverage needed, cost of insurance, quality of loss-control services provided, whether claims are paid promptly, etc.

***Advantages of Insurance*:**

(a)  The firm will be indemnified after a loss occurs. Thus, the firm can continue to operate.

(b)  Uncertainty is reduced. Thus, worry and fear are reduced for the managers and employees, which should improve their productivity.

(c)   Insurers can provide valuable risk management services, such as loss-control services, claims adjusting, etc.

(d)  Insurance premiums are income-tax deductible as a business expense.

***Disadvantages of Insurance:***

(a)   The payment of premiums is a major cost. Under the retention technique, the premiums could be invested in the business until needed to pay claims, but if insurance is used, premiums must be paid in advance.

(b)  Considerable time and effort must be spent in negotiating the insurance coverage’s.

(c)   The risk manager may take less care to loss-control program since he has insured. But, such a careless attitude toward loss control could increase the number of non-insured losses as well.

# *Risk Management Tools Matrix*:

|  |  |  |  |
| --- | --- | --- | --- |
| Type of Loss | Loss Frequency | Loss Severity | Appropriate Risk Management Technique |
| 1 | Low | Low | Retention |
| 2 | High | Low | Loss Control & Retention |
| 3 | Low | High | Insurance |
| 4 | High | High | Avoidance |

 In determining the appropriate method or methods of handling losses, the above matrix can be used.

It classifies the various loss exposures according to frequency and severity.

**The first** loss exposure is characterized by both low frequency and low severity of loss. One example of this type of exposure would be the potential theft of a secretary’s Note pad. This type of exposure can be best handled by retention, since the loss occurs infrequently and when it occurs it does not cause financial harm.

The **second** type of exposure is more serious. Losses occur frequently, but severity is relatively low. Examples of this type of exposure include physical damage losses to automobiles, shoplifting and food spoilage. Loss control should be used here to reduce the frequency of losses. In addition, since losses occur regularly and are predictable, the retention technique can also be used.

The t**hird** type of exposure can be met by insurance. Insurance is best suited for low frequency, high severity losses. High severity means that a catastrophic potential is present, while a low probability of loss indicates that the purchase of insurance is economically feasible. Examples include fires, explosion and other natural disasters. Here, the risk manager could also use a combination of retention and insurance to deal with these exposures.

The **fourth** and most serious type of exposure is characterized by both high frequency and high severity. This type of risk exposure is best handled by avoidance. For example, if a person has drunken and if he attempts to drive home in that drunken stage, the chance of meeting with an accident is more. This loss exposure can be avoided by not driving at the drunken stage or by having a driver to drive a car.

**IV} Implementation of the decision made**

Implementation follows all of the planned methods for mitigating the effect of the risks. Purchase insurance policies for the risks that have been decided to be transferred to an insurer, avoid all risks that can be avoided without sacrificing the entity's goals, reduce others, and retain the rest.