MBA 767

RISK AND QUALITY MANAGEMENT

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MODULE 1

UNIT 1 CONCEPT OF RISK IN AN ORGANIZATION

CONTENTS

1.0 INTRODUCTION

Risk is part of everyday life. Consequently everyone has his own view as to what risk is all about, most especially based on his own personal experiences.

Risk could range from near accident misses to catastrophic events such as the terrorist attack of the World Trade Center in United States of America in September 11th 2001 or the Ikeja Bomb blast of January 2002.

In the same vien, different people have different level of tolerance of risk. This is why the study of risk-either on individual or corporate level is very vital.

2.0 OBJECTIVES

After studying this unit, you should be able to:

- Explain the potential risk to mankind.
- Differentiate between speculative risk and operational risk.

- Describe the relevance of risk management within corporate strategies.
- Explain the regulatory and advisory pressures on management.
- Explain the fundamental steps in the process of risk management.
- Describe the role and position of the risk manager within an organization.

3.0 MAIN CONTENT

3.1 Meaning of Risk

Risk has been described as a natural ingredient to any activity. No venture, no success; this could be recorded as no risk, no success either for an individual or organization.

The question now is what do we mean by risks?

To answer this question, there is need for us to note that different authors have defined risk in various ways. Williams Jr. and Heins (1985) had posited that, no one definition is "correct". That is, the definition could be likened to the story of the seven blind men's description of the elephant – all of which are correct and at the same time incorrect. The above might not be unconnected to the fact that risks exist whenever the future is unknown. More so, that the adverse effects of risk had challenged the survival of mankind on planet earth ever since time immemorial.

In this regard, we will like to look at the different views of some of the reputable authorities on the subject, as stated below.

1. "The term risk has a variety of meaning in business and everyday life. At its most general level, risk is used to describe any situation where there is uncertainty about what outcome will occur. Life is obviously very risky, even the short-term future is often highly uncertain. In probability and statistics, financial management, and investment management, risk is often used in a more specific sense to indicate possible variability in outcomes around some expected value – Harrington, Nichaus (1999,p3)

2. Risk will be looked at from the viewpoint of whether an incident is likely to occur. It is also necessary to consider how often such an incident could happen and how damaging the incident would be if and when it occurred. - David Kaye (2001, p1/2)

3. RISK is the variation in the outcomes that could occur over a specified period in a given situation. If only one outcome is

possible, the variation and hence the risk is O. If many outcomes are possible, the risk is not O. The greater the variation, the greater the risk. - Williams, Jr and Heins (1985, P6).

4. Risk, defined as uncertainty as to loss poses a problem to individuals in nearly every walk of life. Students, householders, business people, employees, travelers' investors, and farmers all must face risk and develop ways to handle it. If a cost or loss is certain to occur, it may be planned for in advance and treated as a definite, known expense. It is when there is uncertainty about the occurrence of a loss that risk becomes important problem. Greene and Triechman (1984, 3).

The essence of the above descriptions is to assist us appreciate the importance of risk to our everyday existence. These descriptions been summed up in nutshells in the definitions below:

i Risk is variation in possible outcomes of an event based on chance. – Dorfman's Introduction to Risk Management & Insurance, 4th Edition.

ii Risk is uncertainty as to loss.
– Greene & Trieschmann's, Risk & Insurance, 7th Edition.

iii Risk equals uncertainty. Risk has principally to do with the uncertainty of a loss.
– Mehr & Cammack's Principle of Insurance 3rd Edition.

iv Risk may be defined as the possibility that loss will be greater than is normal, expected, or usual.
– Mehr & Hedges's Risks Management Concept & Application.

At this point, it is important to note that there are those who enjoy and use risk as well as those that are risk averse – they avoid risks! In between the two extremes that majority of people can be located.

3.2 Types of Risk

For the purpose of this course, we look at risk from these two types. That is, the speculative risk and operational risk.

Speculative Risk

These are risks where the outcomes could either be a loss, no loss or profit. For instance, if a company decides to invest its money in a project, the objective of using fund in the way is to make profit. But in reality, the outcome could either be a loss, a break-even or a profit. Risks with such tendencies are classified as speculative risks. Examples of speculative risks are:

- Decision as to invest in a new project, the timing of such an investment
- Whether to enter a new market place or a new country (as in the developed countries' emerging market concept of Asia, etc.)
- A car maker deciding to replace a current model, the timing and level of investment needed, etc.

Operational Risk

These are risks that any organization faces in carrying out its daily activities. This occurs when something unplanned and unpleasant hit the organization causing losses – either to men or materials – in the organization. In an operational risk, the outcome is either a loss or no loss situation. Some textbooks refer to this type of risk as Pure Risks.

As a result of the unexpected nature of this kind of risks, organizations can prepare for losses following the occurrence of such risks, through insurance, contingency planning and other funding mechanisms. There is always the challenge to organization to recognize and manage the operational risks threatening their existence.

SELF ASSESSMENT EXERCISE 1

Differentiate between speculative risk and operational risk.

3.3 Relationship Between Risk and the Objectives of an Organization

The objective of an organization is to maximize its profit. This main objective has always been made difficult as a result of the impact of risk to the organization. For instance, if an organization suffers from an industrial accident which, let say, makes it pay out the sum of N50 Million in form of various compensation to the victims of such losses. You will note that this will affect the overall result of the organization at the end of its financial year.

Apart from the objective of profit maximization, a modern organization has alongside other objectives. The objective of an organization may be informal while at times, they are formal and documented in form of strategic plan.

These objectives are shared with the organization's 'stakeholders'.

The 'stakeholders' have been defined by Kaye (2001) as people or organization, which could be affected by a risk incident occurring in the organization itself. As, he sees risk as having the potential to "threaten

the operations, assets and other responsibilities of an organization". The identified 'stakeholders' by Kaye (2001) are:

1. Employees.

- Morale and pride. This often reflects the degree of the employees' interest in the success of an organization and has a direct link into the quality of work performed.
- A need for a job to sustain personal and family life and also self-esteem.
- A safe working environment

2. Suppliers

- Suppliers to the organization will depend on its survival to be able to deliver and receive payment for the goods or services contracted.
- Sometimes the loss of one or more large customers can destroy a supplier of goods and services.
- The organization, as supplier, can destroy customers who are further up the delivery chain.

3. Customers and Other Recipients of Service

- Most business customers are free to move to other organizations. They will do so if they lose confidence in either delivery or quality.
- Other, non-commercial, service suppliers may find that their relationships with their existing recipients will become difficult and even fail should confidence be lost.
- Sales teams will find it increasingly difficult to find new customers.
- Failure to deliver the contracted services with sufficient quality can lead to litigation for damages well beyond the value of the item in dispute.

4. Distributors

- Distributors are in effect wholesale customers. All the comments about customers therefore apply.
- Some distributors depend on few or even one source of supply (e.g. a distributor of a new motor vehicles). Failure of that one source of supply could damage that distributor on many different ways. It can even cause it to fail if an adequate replacement supplier is not found soon enough.

5. Regulators

- There are various regulators who, in many different ways, will take a continuing interest in the origination.
- Failure to satisfy the statutory and other requirement of these regulators can result in them imposing fines, restricting business or closing down the business altogether.
- The losses therefore can range from financial, reputational damage and even closure.

6. The Media

- The media has many firms:

    - Local and international Newspapers
    - Television and Radio
    - Popular and Professional Magazines
    - Increasingly, the Internet.

- These can be regarded as wholesale distributors of the reputation of an organization and its officials.
- If a publication is negative about an organization much damage can be done. This is so whether the story reflects the truth, only part of the truth, or even is factually incorrect.
- The impact therefore is of significance to all other stakeholders.

7. Private Investors

- Private, monetary, investors can range from family, partners, employees, associated companies and other investors in an organization often they can be exposed to devastating loss than stock market investors who have more opportunity to spread their investments, and therefore the risk across different companies and market.
- There are also ‘investors’ who have a non-monetary stake in the organization. They stake their professional and personal reputations alongside that of the organization. They too can suffer loss alongside any damage to the organization itself. They can find it a very long and difficult process to rebuild this type of asset.

8. Banking Industry

- Banking and investor finance companies will maintain, throughout, an interest in the fortunes of those organizations to which they have provided money.
- If that money is perceived to be at greater risk due to an unexpected downturn in the strength of an organization, the cost of borrowing can increase significantly.
- If the financier believes there is sufficient cause for concern, the assets that are the security for that loan can be sold. The lender can have that power under the terms of the loan or mortgage agreement. Primarily the decision when to sell the mortgage assets will be based on the interests of the financier and not necessarily the longer-term interests of the organization and its other stakeholder.

9. Quoted Shareholders

- Quoted shareholders come to the organization through stock markets in various forms.
- Usually the investor has many choices beyond the subject organization and can switch funds away rapidly.
- Stock market sentiments however have many other influences (beyond the success of the individual quoted organization) and thus its behaviour becomes a risk in itself.
- Failing stock values can also increase the cost of borrowing capital. If leaders perceive that the relationship between total borrowings and the value of the company is narrowing they can demand higher interest rates and security.
- Single points of influence can affect shares widely. These influences include credit rating agencies such s Standard and Poor's, and investment analysts employed by the bigger brokers and merchant bankers.

10. The Environment

- Increasingly, there is public and statutory interest in the quality of the environment.
- It is a very wide subject not only covering pollution of the physical environment. Organizations may need to consider money laundering and insider dealing through to corporate manslaughter and other potential criminal acts.

And Others

- Individual organizations may have their own, different stakeholder pressure. One example would be a political organization with own dependencies to protect.
- Competitors too are a form of 'stakeholders'. If an organization is weakened by an unexpected damaging incident, there is usually a whole range of competitors who will see the incident as an opportunity for themselves.

SELF ASSESSMENT EXERCISE 2

Identify and explain organization's stakeholders

3.4 Organization Risk Exposure

The organization is exposed to risk, which could affect its people, its assets and / or other people as well as their assets.

People

The people are usually exposed to the risks of injury, sickness or death depending on the nature of activities carried out in the organization. For instance, for an employee of an asbestos manufacturing company, apart from the risk of injury, he or she could be exposed to asbestos related sickness such as lung cancer, etc.

The people exposed to organization's risk are:

- Employees
- Visitors / Customers
- Third parties

Assets

The assets of the organization are also exposed to the risk of damage. Such assets are:

- Balance Sheet assets – such as money, building, equipment, vehicles, etc.
- Off balance sheet assets – such as intellectual assets
- (Information and knowledge) reputation network of critical, suppliers, distribution system, customer base, etc.

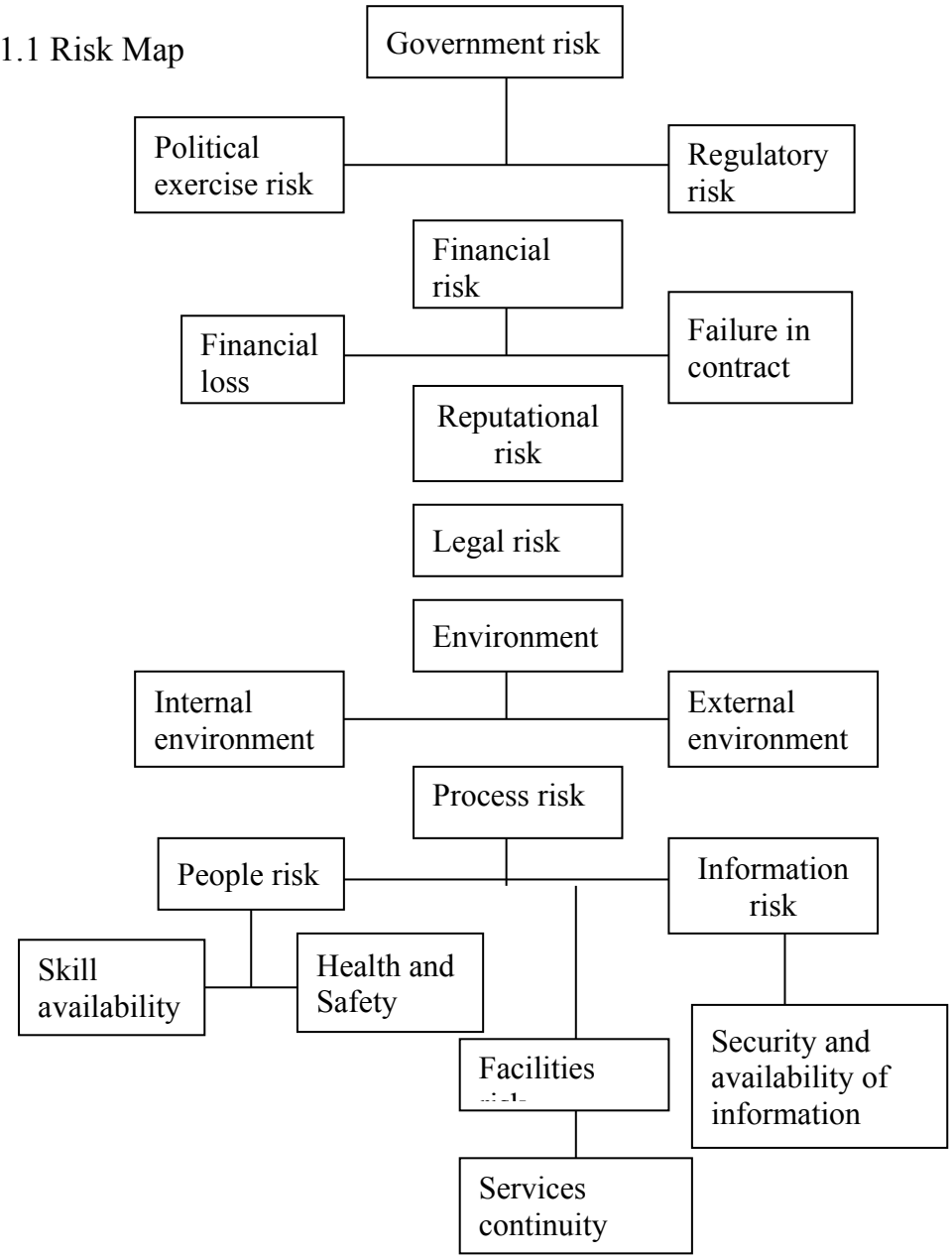
Liabilities

These are the legal liabilities, which the organization owes others as a result of wrongdoing. It could be as a result of injury to third party property.

Risk Map

The risk map describes how risks can be presented graphically. This assists the organization to have a picture of its risk exposures. An example of risk map is shown below.

Figure 1.1 Risk Map



Source (Kaye) Risk Management, P. 1-2

SELF ASSESSMENT EXERCISE 3

Explain what you understand by the term speculative risk?

4.0 CONCLUSION

In this unit you have learnt important issues that relate to risk in an organization and the different stakeholders in an organization.

5.0 SUMMARY

We have dealt with the meaning of risk, types of risks, relationship between risk and the objectives of an organization, etc. The unit that follows is a continuation of the analysis. Therefore, in the next study unit, we shall treat risk and uncertainty.

6.0 TUTOR - MARKED ASSIGNMENT

Identify six stakeholders to an organization and discuss their roles.

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UNIT 2 RISK AND UNCERTAINTY

CONTENTS

1.0 INTRODUCTION

Risk and Uncertainty are critical aspects of our lives. While some events of life involve losses, others may not. Some of these losses might be common and somewhat predictable; many others are shocking, unexpected events. Each involves risk or uncertainty. While the basic element of risk has been discussed in Unit 1, in this Unit, our focus is to provide a further insight into risk and uncertainty. The discussion will additionally dwell on attitude to risk and uncertainty.

2.0 OBJECTIVES

After you have completed this unit, you should be able to:

- Explain the term uncertainty
- Distinguish between risk and uncertainty
- Differentiate between objective and subjective risks
- Discuss the different attitudes to risk

3.0 MAIN CONTENT

3.1 Risk and Uncertainty Distinguished

Even though no statistical treatment of risk is envisaged in this study, some basic facts from that approach seem necessary for proper understanding of the concepts under discussion. Indeed, it is true that the future cannot be known precisely by man. However, there are events or development of events that can be known up to a given point in time, past or present and which can be analyzed statistically in order to forecast what the future hold for the event(s).

Under condition of risk, a person or a decision maker is faced with a situation in which results of an action or decision are not totally known, but will probably fall within a possible range of outcomes. Here there could be more than one possible outcomes resulting from the selection of an option. The decision maker is assumed to know the probability of occurrence of each outcome. The decision maker's problem is to estimate, the mathematical probabilities of occurrence. Basically, some errors of estimate, forecast or prediction are bound to occur, this error being termed risk, implying the error of being wrong- in one's prediction. Happily enough, statisticians have a way of determining such errors and measuring them. Indeed, the decision maker can determine from past experience the objective probability and relative frequency of the occurrence of various outcomes. Thus, measurements could be possible with the aid of past experience and record kept. Examples of measurable events are births, vehicular traffic, death, population structure, schools and school attendance, number of buildings in a town, etc. (Oluoma, 1999:10).

Under uncertainty condition, the decision maker has difficulty assigning probabilities to outcomes either because there is a lack of information or an absence of knowledge concerning what outcome can be expected. In other words, there are either two main possible outcomes or too many known facts or both. In this case, the decision maker cannot predict the outcome with any degree of confidence. In fact since the possible outcomes of the event under consideration and/or their probabilities are unknown, it is difficult to measure or forecast accurately. This situation is faced frequently by mangers when entirely new products or services are being introduced. Other examples of non-measurable events are salvation in religion, state of mind, etc. In addition, unlike risk, uncertainty is a subjective phenomenon. The implication is that two or more individuals are unlikely to have identical views of the outcome of decisions taken under condition of uncertainty. Consequently, it is very difficult to develop universally acceptable techniques for dealing with uncertainty. In practice, a decision maker faced with uncertainty would attempt to generate a probability distribution of possible outcomes on the basis of his personal judgment of the situation. For instance, any predication as to which of two teams, hitherto unknown, will win a match is bound to be subject. People are bound to give their opinions according to their fancies of the team.

Risk concerns variations in possible outcomes in a situation. Uncertainty is often used as a synonym for risk, although when so used it usually refers to objective (measurable or quantified) uncertainty. Economists and Statisticians use this concept when they measure variation in occurrences. On such measure of variation is called the standard deviation which helps predict expected variations from a norm.

Predictability of an expected probability actually occurring is increased as the number of events is increased as evident in the principle of large numbers. (Bickelhaupt, 1974:5).

Still within the realm of uncertainty, there is a dividing line between objective and subjective uncertainty. According to Bickelhaupt, subjective uncertainty which involves a feeling or state of mind as to expected results, differs from the above concept of objective uncertainty. Lack of knowledge as to the real facts, prejudices, unwarranted high hopes, or other factors can cause different predictions. Therefore, different subjective risks occur, and these often deviate from the underlying objective risk. This kind of uncertainty is not readily measurable and is not usually what is meant when the term risk is used.

In summary, risk is associated with measurability while uncertainty with non-measurability of the event(s) or the error(s) of forecast about future situation(s).

Measurability here should be addressed from two important angles:

- Knowledge of the possible outcomes of an event and their probabilities of occurrence; and
- Objectiveness of measurement

SELF ASSESSMENT EXERCISE 1

State the differences between risk and uncertainty

3.2 Subjective Versus Objective Risk

Trieschmann, Gustavson and Hoyt (2001: 5) draw a distinction between subjective and objective risks. According to them, subjective risk refers to the mental state of an individual who experiences doubt or worry as to the outcome of a given event. In addition to being subjective, a particular risk may also be either pure or speculative and either static or dynamic. Subjective risk is essentially the psychological uncertainty that arises from an individual's mental attitude of state of mind.

Objective risk differs from subjective risk primarily in the sense that it is more precisely observable and therefore measurable. In general, objective risk is the probable variation of actual from expected experience. This term is most often used in connection with pure static risks, although it can also be applied to the other types of uncertainties.

The concept of subjective risk is especially important because it provides a way to interpret the behaviour of individuals faced with

seemingly identical situations yet arriving at different decision. For example, one person may be ultraconservative and tend always to take the "safe way" out, even in cases that may seem quite risk – free to other decision makers. Objective risk may actually be the same in two cases but may be viewed very differently by those examining this risk from their own perspectives. Thus, it is not enough to know only the degree of objective risk; the attitude towards risk of the person who will act on the basis of this knowledge must also be known.

SELF ASSESSMENT EXERCISE 2

State the differences between subjective and objective risk.

3.3 Subjective Risk and Attitude to Risk

Before going further into the intricate aspects of risk management it will be necessary to briefly highlight some basic features of risk and individual's reaction to risks situations which are fundamental ingredients in decision taking toward effective handling of risks.

It should be noted that although a particular type of event may be of such a nature that in principle it ought to be possible to calculate both the probability and the potential variation in particular outcomes, often defects in the quality of the data available to risk managers prevent the calculation of reliable objective estimates of future loss probabilities.

Two common problems are:

- insufficiently large samples (that is, the available details of past experience are based on only a small number of exposure units), and
- changes in risk factors that cast doubts on the usefulness of past experience as a guide to the future.

In such circumstances there is no alternative but to draw on one's experience and judgment to interpret loss trends to arrive at subjective probability estimates. Such estimates may differ markedly from the underlying true probabilities, not least because the estimator's judgment may be coloured by his own attitude to uncertainty.

When risk cannot be measured objectively with a high degree of accuracy, so that individual judgment and attitudes enter into the process, then subjective risk will be present. Subjective risk has been defined as "the uncertainty of an event as seen or perceived by an individual".

Attitude to risk could be approached from three angles:

a) risk averter,
b) risk optimist/risk seeker
c) risk neutral

To be risk averse implies that a person is willing to pay in excess of the expected return in exchange for some certainty about the future. To pay an insurance premium, for example, is to forgo wealth in exchange for the insurer's promise that covered losses will be paid. Some people refer to this as an exchange of a certain loss (the premium) for an uncertain loss. An important aspect of the exchange is that the premium is larger that the average or expected loss because insurer expenses and profit are included. A person willing only to pay the average loss as a premium would be considered risk neutral. Someone who accepts risk at less than the average loss, perhaps even paying to add risk such as through gambling is a risk seeker. (Pritchett, schmit et al, 1996. p. 4, 7)

One person may be very cautious and averse to taking chances, whereas another may be highly optimistic regarding uncertain outcomes: the former (risk averter) is likely to arrive at higher loss probability estimates than the latter (risk optimist). Someone who is strongly averse to accepting even the smallest variation in outcomes from the expected may choose to insure, whereas a less risk averse individual may be prepared to carry the risk himself. In fact, attitude to risk influences not only subjective estimates of probability but also risk handling decisions.

What causes one person to be more risk averse than another? This is a question best answered by psychologists, sociologists, or anthropologists. However, it is safe to say that family and societal influences, genetics, and religious / philosophical beliefs all play an important role. Some what less clear is the relationship between a person's risk aversion and his or her uncertainty; a problem that is influenced by the imprecise way the terms "aversion" and "uncertainty" commonly are used. In some respects, uncertainty could be affected by aversion. For example, an individual might be so wary of risk in general that he/she would tend to discount his / her own judgment regarding a particular risk. In that respect, her/his own level of uncertainty regarding a particular risk might be driven higher by her / his aversion to risk. In other situations, it is possible to say that uncertainty influences aversion, in that a person consistently exposed to an environment of seemingly random and unpredictable events (say, a citizen of Sarajevo) might eventually develop a high level of aversion to risk. (Williams, Smith and Young, 1995: 7)

Some scholars have taken a different approach in relating to risk, risk aversion, and uncertainty to one another. For instance, William and

Heins (1989) discuss risk as consisting of objective and subjective components. Objective risk refers to the measurable component of risk, while subjective risk reflects an individual reaction to (attitude towards) risk. In this approach, uncertainty becomes an aspect of subjective risk. Other views are possible and perhaps the best that can be said is that risk aversion and uncertainty are distinct concepts that are not fully independent of one another. (Williams, Smith and Young, 1995: 7)

SELF ASSESSMENT EXERCISE 3

Distinguish between a risk averter and a risk optimist.

4.0 CONCLUSION

Risk and uncertainty are two concepts that occupy the center stage of human and business activities. They can make or man the future of any entity. What ever degree or level they assume at any circumstance and the response or attitude of the individual or business will determine the extent to which they can be taken to play negative or respectful role.

5.0 SUMMARY

You have learnt in this unit that risk and uncertainty are central in measuring organizational performance. We have equally discovered that attitude to risk is vital to determining the best part to take in resolving organizational problems. It is thus, trite to assert that a conscious effort in handling organizational risks must start with a proper synergy of risk and uncertainty and the adaptability of organizations to such business dynamics.

In the next unit, we shall discuss the impact of risk and uncertainty

6.0 TUTOR - MARKED ASSIGNMENT

Distinguish between risk and uncertainty.

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UNIT 3 THE IMPACT OF RISK AND UNCERTAINTY

CONTENTS

1.0 INTRODUCTION

Risk and uncertainty have an important impact on organizations. They exact a cost – cost of risk and at the same time bestow some benefit. In fact, life is more interesting when risk and uncertainty are present. Organizations have a motivation to address risk and uncertainty since the consequences are so important. This motivation gives rise to "risk management" At its most basic level, risk management is practiced because the negative and positive possibilities of risk (as well as moral considerations) provide incentives for an organization to take steps to minimize the costs of risk in all their forms – and to maximize the benefits of risk.

2.0 OBJECTIVES

By the end of this unit, you should be able to:

- Explain the various costs of risk and uncertainty
- Discuss the differences between the terms peril, hazards and losses

3.0 MAIN CONTENT

3.1 The Cost of Risks

The cost of risks could be broadly divided into two categories:

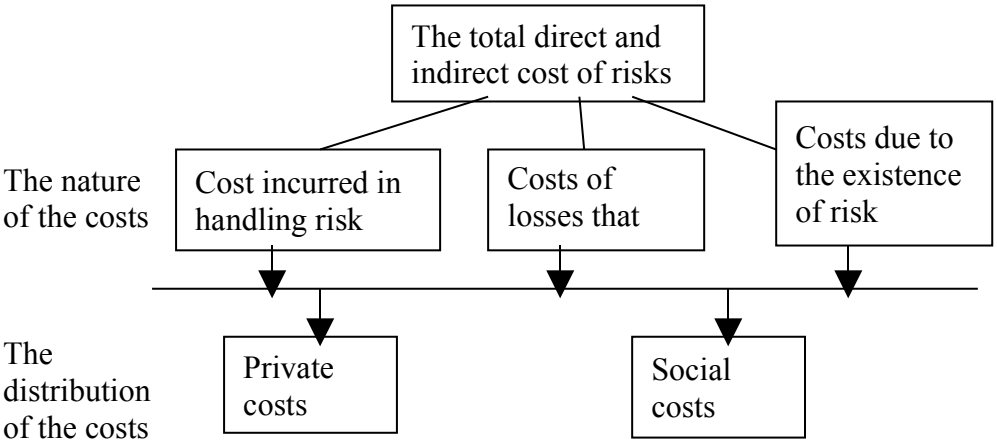
(a) The nature of the costs in areas of:
    i) Risk handling costs
    ii) Costs of losses that occur (loss costs)

iii) Costs due to the existence of risk

(b) The distribution of the costs (between the individuals and groups in a society) such as:
i) Private costs
ii) Social costs

Figure 3.1 below is a diagrammatic representation of the cost of risks.

Fig. 3.1: **Cost of Risks**



Risk Handling Costs:

- Costs involved in identifying, evaluating and treating risks
- Insurance premiums
- Charges for loss prevention devices
- Fees for consultancy services
- Opportunity costs: management and staff time spent on dealing with risks cannot devoted to other activities
- The cost of avoiding a risk may be a loss of revenue derived from the particular activity involved.

Loss Costs

(a) Direct costs to a firm (of industrial accidents)

- Compensation payable to injured employees
- Damage to machinery, equipment and work in progress
- Loss of production
- Accident investigation expenses

(b) Indirect costs

- Other employees may either stop work for a short time or their work rate may slow down.
- Decreased morale of workers
- Consequent drop in productivity and increase in spoilt materials
- Loss of future earnings.

Costs Attributable to the Existence of the Risk

- For the risk averter mere exposure to risk involves a welfare loss.
- Besides the loss of welfare suffered by those directly exposed to risk, there may be indirect costs for the rest of the society. If the potential losses are so severe that firms are reluctant to produce a particular commodity, potential consumers will be deprived of the satisfaction they would have derived from its consumption.

Private and Social Costs

Private costs are those costs necessarily incurred by the individual or firm engaging in a particular activity.

Also flowing from that activity may be other costs which fall upon the community at large; economists refer to such costs as social costs.

So for example, a manufacturing company will have to meet the costs of raw materials, labour, and other inputs which will appear in its accounts, but if during the production process, it discharges untreated effluents into adjacent water courses or smoke into the air, the ensuing loss of amenities, additional cleaning costs and so forth will fall upon the surrounding community. Whether any of the latter costs will also figure in the company's accounts as a part of its private costs will depend upon the law. There may be government regulations/legislation requiring that firms be financially responsible for all of the consequences of their actions (Chartered Insurance Institute of London, 1985).

There are both private and social costs associated with many pure risks. For example, a serious fire may close down a factory with a consequent loss of employment not only for those who worked there but also amongst its suppliers and local tradesmen. Likewise an explosion such as the Ikeja bomb blast may cause extensive damage to surrounding properties and injuries to members of the public. In both cases the companies or institutions concerned may have to bear at least some part of those social costs: redundancy payments would have to be made to dismissed employees, and third parties suffering personal injury or damage to their property would probably be entitled to compensation. Even if there is no legal obligation to compensate injured third parties, a

company may feel that it has a moral obligation to offer some recompense or that to fail to do so would be bad for public relations.

SELF ASSESSMENT EXERCISE 1

Identify and explain various forms of cost abbreviated with risks

3.2 Risk and Allied Terminologies

According to Bickelhaupt, (1974: 6), terminology becomes important in the serious study of any subject. It is the basis for communication and understanding. Thus, an understanding of the following terms is very necessary:

a) Perils
b) Hazards
c) Losses

3.2.1 Perils

In contrast to risk which is the uncertainty of loss (or results or happenings), the word peril should be used to identify the cause of risk. Examples of perils are commonplace and include fire, automobile accidents, thefts, earthquakes, windstorms, forgeries, water, illness, and hundreds of other causes of uncertainty.

The law has coined the term “acts of God” to describe perils operating without human agency or intervention and not preventable by human foresight or care. Fires caused by lightening are often so considered, as are storms, extraordinary floods and other forces of nature.

3.2.2 Hazards

The various contributing factors to the perils are termed hazards. Ordinarily, there are many separate hazards that attach to any particular object or person. The sum total of the hazards constitutes the perils which cause the risk.

A practice of the insurance business divides hazards into two major classifications namely:

a) Physical Hazards
b) Moral Hazards

a) Physical Hazards

Physical hazards are the tangible conditions / characteristics of the risk that affects the frequency and / or severity of loss. Such tangible / physical conditions include: Location, Structure / Construction, Occupancy, Security Protection, Exposure, etc. Specifically, physical hazards will include conditions such as these: waste paper piled under a staircase, gasoline stored on the premises, weak construction which may fail in a heavy wind, unsafe brakes on a car, holes in a sidewalk, inadequate inventory checks in a store, improper water drainage systems and many others. These examples each would increase the chance of a loss occurring in regard to a specific peril such as fire, wind, water, theft.

b) Moral Hazards

The term moral hazard is applied to those factors that have their inception in mental attitudes as they concern the human aspects that may influence the outcome. This includes hazards created by dishonesty, insanity, carelessness, indifference, and other causes Psychological in nature.

A distinction is sometimes made between “Moral” and “Morale” hazards. Drawing such distinction Pritchett, Schmit, et al (1996:13) observed as follows:

Moral hazards involve dishonesty on the part of insureds. In the context of insurance, moral hazards are conditions that encourage insureds to cause losses intentionally. Generally, moral hazards exist when a person can gain from the occurrence of a loss. For example, an insured who will be reimbursed for the cost of a new stereo system due to the loss of an old one has an incentive to cause loss. Such an incentive increases the probability of loss.

Morale hazards, in contrast, do not involve dishonesty. Rather, morale hazards are attitudes of carelessness and lack of concern that increase the chance a loss will occur or increase the size of losses that do occur. Poor housekeeping (for example, allowing trash to accumulate in the attic or basement) and careless cigarette smoking are examples of morale hazards that increase the probability of loss by fire. Often such lack of concern occurs because an insurer is available to pay for losses.

Although Pritchett et al later pointed out that the distinction between moral and morale hazards is fussy, and generally their existence may lead to physical hazards, they remarked that hazards are critical characteristics to analyze because our ability to reduce their effect will reduce both overall costs and variability. Hazards management, therefore, can be a highly effective risk management tool.

3.2.3 Losses

An economic loss is the undesirable end result of risk. It is the decrease or disappearance of value, usually in an unexpected or at least relatively unpredictable manner. In general terms, not all losses have to be related to risk; some losses are the result of foreseeable actions, as for example, the giving of a birthday gift. Other losses may be expected because they are known always to occur, such as depreciation of physical properties which can be expected as well as predicted fairly accurately. Many losses, however, cannot be predicted and become the result of risks. Illustrations include loss of property due to fire, or theft, or other perils, losses of income due to property destruction or personal perils of death or disability, increased expenses such as medical costs, and loss of assets due to legal liability for losses affecting other persons (Bickelhaupt, 1974: 8-9).

SELF ASSESSMENT EXERCISE 2

Differentiate between private and social costs of risk.

4.0 CONCLUSION

We have shown in this unit that risk and uncertainty exert certain costs. Our analysis also depict that some of the costs are desirable and predictable while others are undesirable and may be inevitable. A conscious effort was also made by clearly drawing a line between perils, hazards and losses.

5.0 SUMMARY

In this unit, we have dealt with the issue of impact / costs of risk as a factor in determining the risk appetite of an organization. The point was made that important as the risk costs is in estimating the extent of resources to commit, the effective and efficient handling of risk remains underlying factor. In the next unit, we shall discuss the scope and essence of risk management.

6.0 TUTOR - MARKED ASSIGNMENT

Distinguish between physical and moral hazards.

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UNIT 4 RISK MANAGEMENT: SCOPE AND ESSENCE

CONTENTS

1.0 INTRODUCTION

Risk management pervades the life of every organization, nay every individual. Every organization has a mission statement or organizational objectives. Most mission statements or goals of organization revolve around; profit maximization, maintenance of large share of markets, or survival and to remain in business. Others are set up as amenity, social and non-profit making organizations. The success of an organization, individual or corporate is measured at the end of the accounting period by the extent of the attainment of its set objectives (Adekunle, 1995).

Events of life are, however, full of uncertainties, there exist such odds which may hinder or prevent an organization from achieving its set objectives. It is these variable unforeseen events which are not predictable with absolute certainty termed as risk or uncertainties that are the concern of risk managers.

Thus, risk management embraces all the techniques involved in reducing or minimizing the impact of uncertain loss events towards the sustenance and achievement of organizational corporate goals or objectives. It is therefore important that where risks exist, they should be properly handled to the best economic advantage of an organization or individual.

2.0 OBJECTIVES

After you have completed this unit, you should be able to:

- Explain the scope of risk management
- Define risk management
- Explain the changing face of risk management
- Discuss the objectives of business entity
- Explain the importance of risk management
- Discuss the benefits of risk management

3.0 MAIN CONTENT

3.1 The Scope of Risk Management

The scope of risk management has been the subject of debate by author. Two schools of thought have emerged in relation to the scope of risk management. The first school of thought holds the view that risk management applies only to pure risks, while the second school argues that risk management goes beyond pure risk, encompassing both pure risks and business risks (speculative risks).

Some text writers and practitioners take a far narrower perspective of the role of risk management. In its most restricted form their views embrace little more than the formulation and administration of insurance programmes for dealing with pure risks. Then the only thing that can distinguish a firm's 'insurance manager' from a 'risk manager' is that whereas both may be responsible for executing the insurance programmes decided by top management, including the buying of insurance and handling of claims, a risk manager would be responsible for identifying and analyzing risks and advising management on the appropriate insurance programmes (Chattered Insurance Institute, 1985).

The view held by most authorities is that risk management is wider than just pure risk management and includes business (speculative) risks. The difficulty in defining the scope of risk management is partly caused by the fact that, in practice, the role ascribed to the risk manager is limited to handling certain aspects of the risk management process. Apart from the issue of whether risk management encompasses business (speculative) risks and pure risks, it should be noted that the management of pure risks involves two broad areas: physical and financial controls and most organizations confine the authority of the risk manager to the area of financial control. Moreover, it should be borne in mind that what may be plausible in theory may not in practice be feasible.

According to the Chartered Insurance Institute (1985), there is little room for argument about the applicability of risk management concepts and principles to all types of risk: marketing, production, financial, and other business risks need to identified, quantified, and controlled in just the same way as pure risks can be managed. However, in practice, each type of business risk calls for very different areas of knowledge and skills, and every large organization employs expert staff to deal with those risks as part of their specialist management functions. So, for example, part of the job of a marketing manager is to undertake market research. It is unrealistic to expect any one individual to possess the breadth of knowledge and skill to be capable of assuming responsibility for controlling and advising top management on every type of risk. Nevertheless, divisions of responsibility should not mean that risk handling decisions are taken on different bases in the various parts of an organization: an agreed risk policy dealing with such questions as loss tolerance limits should form part of the overall corporate plan.

SELF ASSESSMENT EXERCISE 1

Discuss the scope of risk

3.2 The Changing Face of Risk Management

Risk management is multi-disciplinary and everyone is at one point or the other involved, from the house wife going about her normal chores, to the corporate manager in an office consciously putting a risk management process in place. A safety conscious mother dissuading her restless toddler from continuing in a potentially harmful pastime is unconsciously managing risk. Also traditional methods of managing risk such as staying at home after dark, using well lit streets at night instead of passing through a dark alley are acknowledged fact of everyday existence. (Wilcox, 1996: 29)

In recent times, approaches to risk are apparently changing across organizations, many business leaders are recognizing that risks are no longer merely hazards to be avoided but in many cases opportunities to be embraced. (Soludo, 2006: 4). He quoted the chief risk officer, Royal Bank of Canada, who observed that, “Risk itself is not bad. What is bad is risk that is mismanaged, misunderstood, mis-priced, or unintended”

Risk management is moving well beyond the tradition of risk mitigation (using controls to limit exposure problems) towards risk portfolio optimization (determining the organization’s risk appetite and capacity among a group of risk across the enterprise, seizing opportunities within those defined parameters, and capitalizing on the rewards that result). As a consequence, risk management is beginning to be perceived as a

means of strategic business management, linking business strategy to day to day risks. Many of the traditional risks, such as credit, market and operations risks, are relatively well understood and managed, however, it is the more dynamic and newer risks, such as information and reputation risks, that are causing organizations greatest difficulty. (Soludo, 2006: 4-5).

SELF ASSESSMENT EXERCISE 2

Discuss the changing face of risk management

3.3 Definitions of Risk Management

For a meaningful understanding of what risk management is all about, it is essential we first isolate and define the word "risk" and "management" after which we can fuse them together to derive a combined single definition. We have earlier defined risk in unit 1, what we need to do here is to briefly provide the meaning of management and then logically define risk management.

Management is concerned with taking risks, tackling problems and utilizing resources with minimum friction to achieve optimal results. The relationship between the key words/phrase, 'taking risk', tackling problems, 'utilizing resources', 'minimum friction', and 'optimal result' are interactions of human and material resources on the one hand and on the other hand, the interaction between the combined resources and external forces which are, the general economic situation, local competition and the international environment. These two interactions generate friction, create problems and involve taking risks. The ability to overcome the effects of the resulting friction, tackling the problems and combating the identified risks, makes all the difference in the result achieved by an enterprise (Ogunlana, 1995: 17).

Then, risk management has been given as many definitions as possible depending on the leanings, knowledge and experience of managers. Some are narrow, some are broad, while others may be too wide.

To the insurance manager, it may be the practice of examining the cost – effectiveness of insurance protection; to the production manager, it may represent a technique for coping with effects of changes; the cost accountant may regard it as a method of arranging self insurance; the loss control and accident prevention officer within an organization will have different views. But the truth of the matter is that risk management is not safety audit; it is not self insurance; it is not accident prevention; it is not loss control. It is a combination of all these factors and many more. It also encompasses the political, technical, marketing and labour

aspects of risk. Risk management is a bundle of common sense. It can be defined as "the identification, measurement, and economic control of risks that threaten the assets and earning of a business or enterprise". (Ogunlana, 1995: 20).

Risk Management can equally be seen as a management process aimed at "the effective reduction of the adverse effects of risk" (Bickelhaupt, 1974: 41). It can also be described as "the process by which any unexpected loss contingency is managed" (Harold, 1987).

Generally, risk management can be seen as a mechanism of planning, organizing, evaluating and controlling resources and activities for the effective reduction or elimination, where possible, of risk or the adverse effects of risks.

Risk management can apply to the life of an individual – a personal affair, or to the life of a business organization – a business affair. The ensuing discussion is mainly restricted to risk management in business organization. (Note however that the principle remains the same whether it is personal affair or a business organization. The main difference lies in the complexity, records and accountability of a business organization unlike a one man's personal affair).

SELF ASSESSMENT EXERCISE 3

Define risk management, drawing on the array of definition given in this section

3.4 Business Entity Objectives

Before we consider the techniques or methods of risk management, it may be pertinent to look at some of the objectives of business units, both commercial and industrial, and the role which risk management can play in assisting the achievement of these objectives. Kpodo (1989:39) articulates such objectives as follows:

(i) A company must survive: The organization must take steps to ensure that whatever risk may operate, it will have the assets and earning capacity to survive financially.

(ii) A company must maximize its project. It is trite knowledge that profits arise where the earnings from providing sales and services exceed the costs of producing them. Costs and selling prices are usually influenced by external conditions of supply and demand, wage levels generally, government policies and many others, and

the individual firm may only be able to change these within rather narrow margins.

(iii) Sometimes for prestige reasons an objective may be to obtain as large a share of the market as possible. In otherwords, there is the desire to maximize sales.

(iv) A company must provide some earnings for its shareholders. Most commercial and industrial organisations seek to increase dividends and share values because:

(a) The shareholders are the owners of the business, and
(b) When they wish to raise extra capital their share performance will be a major factor in the availability of capital.

(v) An organization may also have public, legal and social objectives. Most firms are anxious to create good public relations and have a good image. To this end, they will wish to comply with the complexities of company, industrial and safety law and may go far beyond legal requirements.

3.5 Importance of Risk Management

According to Kpodo (1989), risk management is crucial in a developing economy; firstly, on purely economic grounds. The financial waste caused by risk is substantial. There is the fire waste, employer's and public liability losses, motor accidents and host of loss producing incidents. It is relatively simple to calculate how much is spent on each of these incidents by way of claim payments or losses financed by companies directly. What is more difficult to gauge is the total economic waste to the economy as a whole. At the risk of repetition when we think of an employer's liability claim there is the financial cost of the loss in terms of the damages awarded to the claimant. In addition, however, there is the lost production time, the possible need for retraining, lowering of morale, possibility of other staff losing time to attend to inquests or hearings. The total "waste" will be substantially higher than the simple claim figure.

Secondly, risk management is crucial on social grounds. It has a human face and has an important part to play in minimizing the social consequences of risk. The untold hardships that families go through when the breadwinner dies or is disabled through an accident make it imperative for us to adopt risk management. Such difficulties that arise on the demise of the main income earner lead to the breakdown of the family which is the basic unit of society.

SELF ASSESSMENT EXERCISE 4

Discuss the strategic importance of risk management.

3.6 Benefits of Risk Management

The benefits of risk management to the developing countries can be discussed under three headings: (Kpodo (1989)).

A) Business concern:
An effective risk management strategy would help improve the effective use of capital, by reducing long term production cost and improving the price competitiveness of one company's products and/or services. Additional benefits to business concerns include:

- reduction in the cost of insurance
- improved credit status of the business
- reducing the effect of disasters, e.g. fire, storm etc. that would be potentially crippling to the enterprise.

B) National Economy

The benefits accruing to the various business concerns contribute to the positive development of the national economy. By improving the competitiveness of domestic product vis-à-vis those of industrialized countries, it is expected that the nation would be in a positive balance of payment position as it would now earn foreign exchange from its exports, and reduce its dependence on imported goods.

An efficient risk management practice would reduce wastage especially in relation to damage and destruction of plants and equipment, the replacement of which would cause avoidable depletion of limited foreign exchange. In addition to the national economy, the domestic insurance industry will be able to redirect its capacity to potentially large losses as against paying for smaller losses.

C) The Individual

By imposing safety regulation that reduce industrial and work related injuries and illnesses, higher productivity of the work force is attained. This is because of the reduction of industrial tension, and the provision of a happy working environment. Higher productivity of the work force will in turn increase the gross national product of the economy.

To the extent that pains, sickness, injury and property loss are reduced to bearable limits, the individual is guaranteed a tranquility of mind and

unqualified confidence to undertake events of life for the satisfaction of his needs, wants and aspirations.

SELF ASSESSMENT EXERCISE 5

Discuss the benefits of risk management.

4.0 CONCLUSION

In conclusion, risk management embraces all the techniques involved in reducing or minimizing the impact of uncertain loss events towards the sustenance and achievement of organizational corporate goals or objectives. It is therefore important that where risks exist they should be properly handled to the best economic advantage of an organization or individual

5.0 SUMMARY

In this unit we have been able to explain the scope and essence of risk management. What we have grasped in this discuss can best be summed below:

- that risk management covers not only pure risk but also speculative or business risks;
- that approaches to risk change overtime in relation to changing circumstances;
- that the essence of risk management is to eliminate or reduce the impact of risk to ensure the realization of individual or corporate goals; and.
- that risk management is of immense benefit to the entire society for socio – economic growth and development.

In the next unit, we shall discuss risk management process

6.0 TUTOR - MARKED ASSIGNMENTS

What are the benefits of risk management?

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MODULE 2

UNIT 1 RISK MANAGEMENT PROCESS I

CONTENTS

1.0 INTRODUCTION

Management of risk presupposes that steps are taken in logical manner to understand and unravel the nature, intricacies and complexities of risk to ensure that effective actions are taken as appropriate. Such logical steps have overtime translated into an enduring process that have proved adequate and efficient in handling risks and uncertainty situations in personal and business affairs. In this unit therefore, an overview of risk management process in the handling of the risk of an individual or business organization will be looked into

2.0 OBJECTIVES

After studying this unit, you should be able to:

- Describe the basic components of risk management process;
- Identify the differences in the use of terminologies
- Identify and explain the ideas incorporated in the meanings of risk analysis, risk control and risk financing in consonance with identification, measurement and treatment of risks;

3.0 MAIN CONTENT

3.1 Risk Management Process

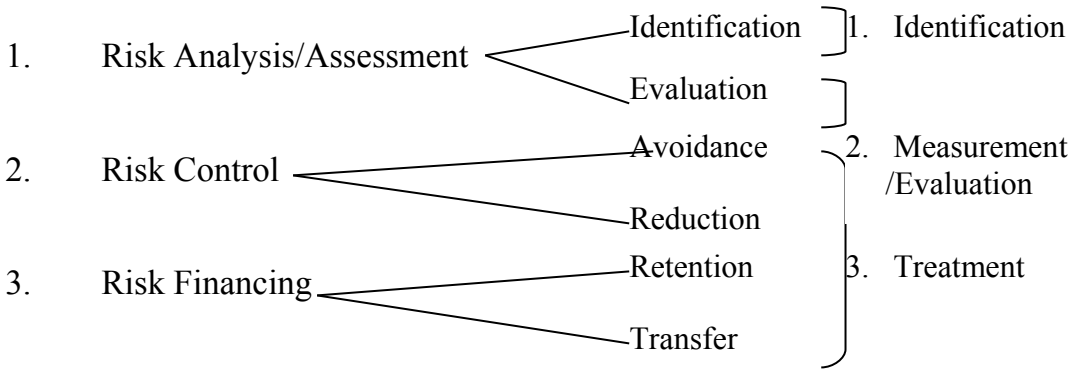
Risk management requires that the threats to expectations are identified, analyzed or evaluated and a policy developed by physical and financial means so that the expectations will be fulfilled in the most efficient manner by reducing or removing these threats (Kpodo, 1989).

The risk management process indeed refers to the methods (steps) of handling risk situations which involves the following:

1. Identification
2. Evaluation/Measurement and
3. Treatment
4. Administration of risk management process
5. Monitoring and reviewing of the process

The last two are not necessarily steps/methods as they pervade the entire methods of risk management.

Sometimes the first two methods are grouped together as “risk assessment” or “risk analysis”. Some authorities also use the term risk evaluation to describe the second method – measurement/analysis. There is no conflict actually as some authorities use the terms differently in insurance and risk management literature. The difference lies in the choice of words or nomenclature. For a better understanding of these terms, a summary of their relationship and meaning in the context of risk management process is presented below:



A brief explanation of these terms or process of risk management will be undertaken here, while detailed discussions will be handled in subsequent units.

3.1.1 Risk Identification

Risk identification is the process by which an organization systematically and continuously identifies risks and uncertainties. Identification activities are intended to develop information on sources of risk, hazards, risk factors, perils and exposures to loss. (Williams, Smith and Young, 1995:40)

Identification of the risks of an organization requires a knowledge of the organization, the market in which it operates, the legal, social, economic, political and climatic environment in which it does its business, its financial strengths and weaknesses, its vulnerability to unplanned losses, the manufacturing processes, and the management systems and business mechanism by which it operates. Risk identification provides the foundation for risk management. (CII, 1985)

3.1.2 Risk Evaluation / Measurement

The second stage in the risk management process is the evaluation of risk or the measurement of its impact on the firm. This involves compiling very accurate records of past events in order that decisions taken in the future are taken on the basis of sound statistics. One very important reason for carrying out careful evaluation is to ensure that the company does not spend too much money on controlling a risk that is not likely to cost a great deal should it materialize. (Kpodo,1989).

To be systematic about the evaluation of risk we must consider the aspects of the risk as regards:

a. The probability of a loss occurring or the frequency of loss;
b. The severity of the loss; and possibly
c. The maximum possible (probable) loss.

SELF ASSESSMENT EXERCISE 1

Differentiate between risk identification and risk evaluation.

3.1.3 Treatment of Risk

It should be noted that the identification of risk and its evaluation may be termed as risk analysis. As in medicine, risk identification and evaluation are diagnostic. The next logical step therefore is prescription and treatment. This is what risk treatment is all about. (Kpodo, 1989)
Four basic methods of treating risk are:

a.) Avoidance
b.) Reduction
c.) Retention and
d.) Transfer

Avoidance: Here one tries to avoid as many risks as conceivable. This could involve ceasing to undertake the activity which creates the risk or to shun the responsibilities or costs that the risk impacts. An obvious disadvantage here is that most cases in an attempt to avoid a particular risk, a new risk is created. It is apparent that some risks could be avoided while the majority cannot, as we have to live with some risks. It is impossible therefore to avoid risk completely in life. Risk avoidance therefore, may not be the practical solution to the many risks which are involved in normal activities as it carries with it some lost opportunities. (Oluoma, 2004: 6-7).

Risk Reduction: Risk reduction or loss prevention involves actions aimed at reducing, if not eliminating, the chances of loss. The activities could be taken prior to, during, or after the occurrence of loss. This would involve the adoption of loss prevention / control measures or techniques to minimize the cost, frequency and/ or severity of losses which could happen in an organization. Internal Control is part of such control measures.

Risk Retention: Where risk cannot be avoided or reduced, it can be consciously or unconsciously retained. Unconsciously (unplanned) risks can be retained through ignorance, lack of knowledge or inability to reach the right decision, laziness, indifference or lack of thought. Risks could be consciously (planned) retained either by the fact that the risk is too minor or inexpensive to deserve special treatment or that the risk is a major risk involving huge financial cost requiring special treatment.

Risk Transfer: Two main ways of transferring risks are by: non-insurance and insurance transfer. By non-insurance transfer, the purpose is to transfer part or whole of liability for loss or damage to another person or unit / agency that is not an insurance institution. On the other hand, by form of insurance contract, the insured transfers' part or whole of his risks to the insurer who undertakes to indemnify the insured at the happening of the event insured against, subject to the terms and conditions of the contract. Insurance is a modern and more reliable scientific management tool of treating risk.

SELF ASSESSMENT EXERCISE 2

Identify and explain the basic methods of treating risk.

3.2 Alternative Approach to Risk Management Process

The foregoing methods, as earlier highlighted could be categorized into another three methods namely:

i) Risk Assessment / Analysis
ii) Risk Control
iii) Risk Financing

3.2.1 Risk Assessment / Analysis

Risk assessment / analysis consists of those activities that enable the risk manager to identify, evaluate, and measure risk and uncertainty and their potential impact on the organization. Risk assessment is the most fundamental activity undertaken by the risk manger. It involves the identification of risks, the analysis of hazards and outcomes, and the measurement of risk. (Williams, Smith and Young, 1995:39)

The underlying objectives of risk analysis according to Kaye (2001:3-4), are to identify and quantify the treats that may bring damage or loss to an organization, its responsibilities and its objectives. He reasoned that it will be useful, however, when beginning to analyze what risk there are, to keep the broad objectives continually in mind. These are to:

a) Identify risk;
b) Measure risks carried against the risk levels that are acceptable to the organization
c) Assist in presenting risk concepts clearly and in a consistent style;
d) Support decision taking about spending and other actions that may be needed to reduce the risk to the acceptable level;

e) Assess both the operational, and the cost effectiveness, of any existing risk management measures that are in place;
f) Encourage good decisions about any contingency planning that may be needed;
g) Raise management awareness and the depth of understanding of the exposures that are being carried. This is both to assist managers in routine good management of the organization and also to enable managers to illustrate to stakeholders that they are in control.

3.2.2 Risk Control

Risk control covers all those measures aimed at avoiding, eliminating or reducing the chance of loss producing events occurring, or limiting the severity of the losses that do happen. Here one is seeking to change the conditions that bring about loss producing events or increase their severity.

In effect, risk control involves two methods of treating risks viz:

a) Avoidance
b) Reduction

Some authorities sub-sum these two methods into: risk avoidance, risk reduction, loss prevention and loss minimization. However, the dividing line here is fuzzy and may only be a matter of semantics or use of nomenclature.

3.2.3 Risk Financing

Risk financing is concerned with the manner in which the risks remaining after the risk control measures have been implemented shall be financed. The main object of risk financing is to spread the cost of risks more evenly over time so as to reduce the financing burden and possible insolvency that may be caused by random occurrence of large losses. It is also possible to minimize risk costs through effective risk financing method. Thus risk financing involves two main processes namely risk retention and risk transfer.

Risk Financing may be achieved in any of the following ways:

i) Charging losses as they occur against current operating costs;
ii) Prior (ex ante) provision for losses arranged either through the purchase of insurance or through the creation of a contingency fund to which losses can be charged;

iii) Financing losses as they occur by obtaining loans from financial houses which may be repaid over some months or years.

The choice as to the method of risk financing strategy to adopt would largely depend on management's perception of the probability and severity of a potential loss-producing event, as well as the financial strength of the organization.

3.2.4 Administration of Risk Management Process

In order to make for an efficient and sustained risk management programme, a consistent administrative system has to be installed as opposed to an ad-hoc management. (Kpodo, 1989). The emergence of risk management as a separate specialist area of management has led to the appearance of risk managers in the management structure of an increasing number of companies. Broadly, every risk manager is charged with the task of administering his organization's risk management programme.

3.2.5 Monitoring and Review of Risk Management Process

Regardless of the techniques that may be employed at each stage, or the eventual form of the risk handling arrangements, every risk management programme must proceed according to the following logical sequence of events if it is to stand any chance of success:

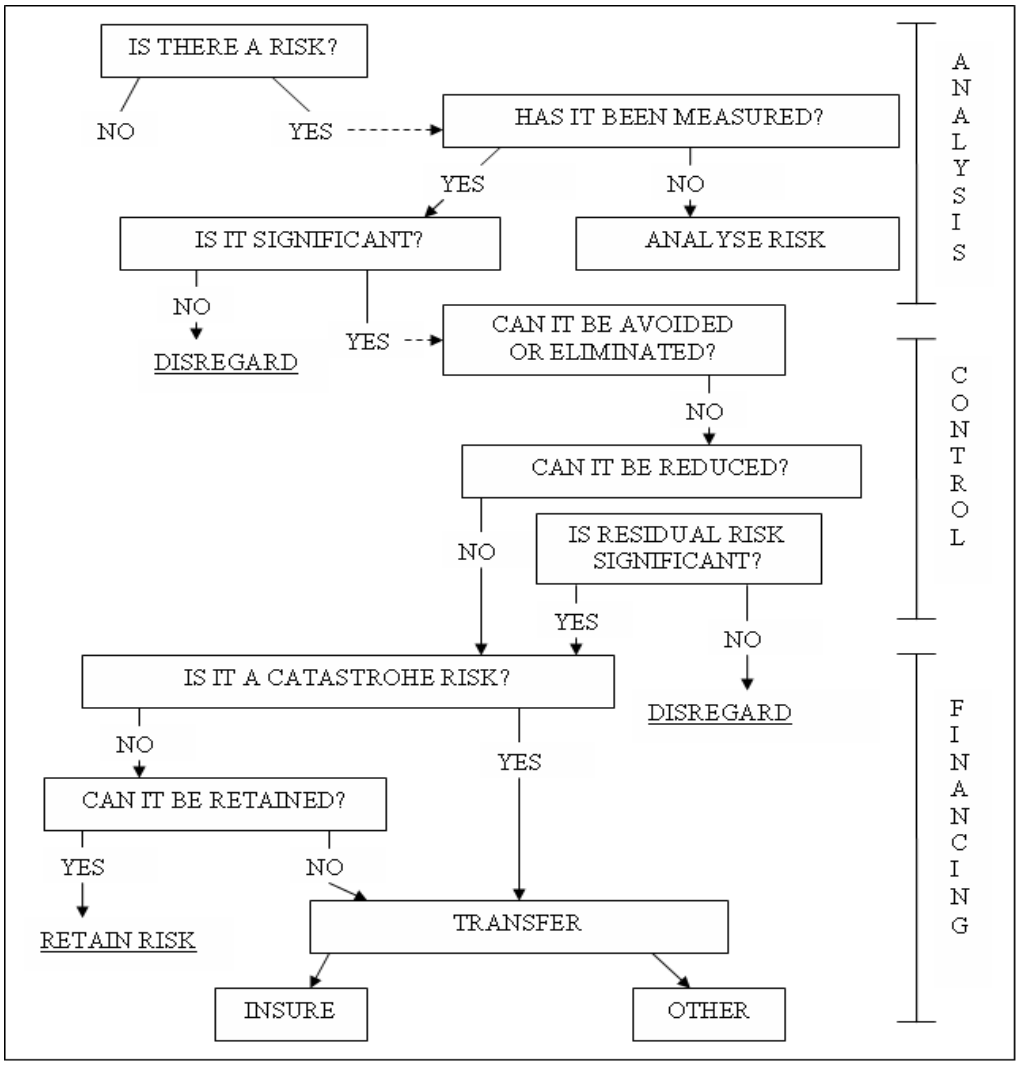
- all exposures to risk must be identified;
- all exposures need to be evaluated according to (a) cause, and (b) effect, the aim being to quantify probabilities and severities;
- the possibility of avoiding or eliminating any of the risks should be investigated, and if feasible the appropriate steps should be taken;
- in the case of other risks, risk reduction measures need to be explored and implemented;
- the residual risks need to be evaluated so that decisions can be taken about the best methods of financing them; and finally
- the results of the whole programme need to be monitored and regularly reviewed in the light of changing conditions.

SELF ASSESSMENT EXERCISE 3

Identify and explain the alternative methods of managing risk as discussed in this subsection.

Fig. 1 (the interrelationship of Risk Analysis, Risk Control and Risk Financing)

THE INTERRELATIONSHIP OF RISK ANALYSIS, RISK CONTROL AND RISK FINANCING



Source: Chartered Insurance Institute. Risk Management Tuition Book

SELF ASSESSMENT EXERCISE 3

Explain why risk identification is described as the foundation of risk management process?

4.0 CONCLUSION

We have learnt in this unit that risk is effectively managed by adopting some universally accepted process. Such processes logically follow in sequence. A proper application of these processes will invariably result to a smooth and orderly management of risk of organization.

5.0 SUMMARY

In this unit we have dealt with risk management process in a corporate entity. The processes are collapsed in three steps: Identification, Evaluation, Treatment, Administration of Risk; and Monitoring and Reviewing of the process. In the next study unit, we shall discuss further the risk management process.

6.0 TUTOR - MARKED ASSIGNMENTS

Differentiate between risk reduction and risk retention.

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UNIT 2 RISK MANAGEMENT PROCESS II

CONTENTS

1.0 INTRODUCTION

Many of the techniques of risk management are more easily applied to large organizations than to small firms, not the least reason being because the former control more exposure units and they usually have recourse to more sources of finance as well as financial and technical expertise. At the other end of the scale to the large multinational corporations are sole traders and individual persons, yet they too can apply risk management principles to the management of their risks. To see what is possible, it will be pertinent to examine briefly the principles of personal risk management. This is provided in this unit.

2.0 OBJECTIVES

After studying this unit, you should be able to:

- Explain Personal risk management.
- Discuss the methods of managing personal risks.
- Differentiate between personal and corporate risk management.
- Outline the problems in planning future personal financing.

3.0 MAIN CONTENT

3.1 Personal Risk Management

An individual is exposed to many types of risk that may adversely affect his own or his dependant's welfare, notably risks of:

a) Death, sickness, and injury;
b) Loss of or damage to property he may own or for which he is responsible;
c) Incurring liability to compensate others for personal injury or damage to their property or infringement of intangible property rights arising from acts committed by him or by others for whom he is responsible.

Basically the occurrence of property damage and liability risks will result in a reduction in the individual's wealth. Other risks may cause a loss of income for example, the loss of earnings during periods of incapacity caused by sickness or accident. Sometimes additional expense may be incurred to minimize such losses (for example, expenditure on medical treatment to hasten recovery from injury or sickness). The cost of many losses may be measured with varying degrees of accuracy in monetary terms.

However, it is difficult, if not impossible to place a monetary value on pain, suffering, and loss of amenities caused by personal injury or loss of the sentimental value associated with certain articles.

In fact, no matter how one lives it is impossible to avoid all risks, and indeed even to try to minimize the total risk to which one is exposed would involve forgoing the pleasures and other benefits associated with many activities such as sports, travel, and the higher risk occupations (including habitual pastimes). It is a matter of balancing costs and benefits. The ordering of those costs and benefits will depend, however, on an individual's attitude to risk, and even individual attitudes are likely to vary according to the size of the potential adverse consequences.

SELF ASSESSMENT EXERCISE 1

List the potential sources of risk to an individual

3.2 Methods of Managing Personal Risks

(i) Risk Identification

Whatever an individual's attitude towards risk may be, if he is to maximize his welfare, the first step must be to identify the risk to which he is or may become exposed. He may approach this by compiling an exposure list embracing the following:

(a) All those events which may bring about deterioration in one's present welfare in regard to:

(i) Physical and mental well-being
(ii) Current income;
(iii) The value of one's assets.

b) Any other events that may frustrate the fulfillment of future welfare plans.

Personal circumstances inevitably change over time. An individual's view of his own welfare normally will embrace the welfare of dependants, so that as his situation changes so too will the above lists. For example, a married man will be concerned not only about his own health and current and future standards of living, but those of his wife and children and possibly the in-laws and extended family burden.

One benefit of the periodic analysis of personal risk exposures is that it will highlight actual needs, and given limited resources for dealing with those needs, it will help in the ordering of priorities. An obvious example is the protection of income. Loss of income may occur due to unemployment, sickness, injury or death. There may also be the possibility or risk of one spending above his income or means planlessly as a result of ostentatious living or life of debauchery. This would be forestalled by adequate planning and re-odering of priorities and attitude to life. Social security in most countries offers some protection against all four risks – unemployment, sickness, injury or death and in addition private insurance is available for the last three. But in a country like Nigeria where unemployment benefits for instance is non existence, the burden entirely rests on the individuals.

(ii) Risk Evaluation

Just like corporate risk management, risk evaluation here would involve the following elements:

(a) The probabilities of loss producing events occurring (frequency of loss);
(b) The potential losses (severity of loss);
(c) Maximum possible (probable) loss.

A major problem for the individual is that even if he knows the probabilities of any of the risks to which he (or members of his family) are exposed, such knowledge is of severely limited value when it comes to planning how to handle the risks. In effect, probabilities are mean values conveying useful information when the decision taker controls a large number of exposure units, but the smaller the number of units the larger will be the variations in outcomes from that expected on the basis of the probability.

The same problem arises when considering the sizes of potential losses. Apart from death, if a loss-producing event does occur usually the outcome will be a partial loss - for example damage to a car, house, or other property, rather than total loss. But total losses do happen and must be planned for even if their probabilities are small. Therefore, a part of a risk evaluation exercise must be to itemise and value assets exposed to loss, and the size of potential income and liability losses, allowing for the potential impact of inflation on future income and replacement costs of assets.

(iii) Risk Handling (Risk Treatment)

The same range of options available to firms are also available to individuals viz:

(a) Avoidance
(b) Reduction
(c) Retention
(d) Transfer (Oluoma, 1999:22-25)

It may be pertinent however, to add, that most people have some choice in the occupations they follow and all are free to choose their leisure activities, so that is usually possible to avoid particularly hazardous activities if so desired.

Moreover, steps can be taken to reduce risks to property and person. For example, protective clothing, helmets and footwear can be worn in vehicles, though in all cases the individual may weigh the monetary and other costs against the benefits as he perceives them.

Furthermore, the scope for risk retention is generally far more limited for individuals than for corporate bodies. Essentially, insurance is a device for dealing with those risks which may cause severe financial difficulties. However when dealing with losses that are either small relative to one's income and/or financial savings, or occur with high frequency, it is more economical for a potential policyholder to carry the risk himself.

Lastly, one of the paradoxes is that generally the individuals who most need insurance are those least able to afford it. A poor man with little or no savings can least afford the loss of either any of the few possessions he may own or of any of his incomes, but at the same time for him insurance may rank as a luxury. If there is any income to spare for premiums, then the first priority should be to insure against loss of income.

SELF ASSESSMENT EXERCISE 2

List and explain the four ways of handling risk.

3.3 Differences between Personal and Corporate Risk Management

(1) Corporations, although composed of individuals, are not themselves capable of suffering the pain, loss of amenity, and possible death caused by personal injury and sickness. Although corporate decision-takers may feel a sense of responsibility towards employees and others, largely the consequences of such risks will be felt as financial losses.

An individual, on the other hand, may seek to ameliorate the financial effects of personal injury or death, but financial compensation can never be completely satisfactory substitute for life and health, so that there is a direct personal interest in avoiding or reducing risks.

(2) The scope for risk retention is generally far more limited for individuals than for corporate bodies, which usually control several and possibly many exposure units so that they can take advantage of risk combination. The only way in which an individual can participate in the benefits of risk combination is by insuring.

(3) Corporate risk management are more complex, involving extensive records, accountability and more technical approach than that of a one man's personal affair.

SELF ASSESSMENT EXERCISE 3

Outline the differences between personal and corporate risk management.

3.4 Problems in Planning Future Personal Financing

(a) However certain may be one's knowledge of levels of earnings at different ages, unemployment, incapacity, or death may upset one's plans.

(b) Although death is certain, its timing is uncertain so that besides the possibility of premature death there is also the possibility of living beyond one's life expectancy. If that happens, savings accumulated to provide an income after retirement may prove inadequate.

(c) Fluctuations in price levels - and notably inflation are hard to predict, and even harder to plan for over long periods.

SELF ASSESSMENT EXERCISES 4

What are the major problems involved in planning for future personal financing?

4.0 CONCLUSION

In this unit we have learnt that management of personal risks follow almost similar pattern as corporate risk management. However, the scope for risk retention is generally far more restricted for individuals than for corporate entities.

5.0 SUMMARY

Our understanding of the unit could be summed as follows:

- that individuals are exposed to various risks including life, health, property and liability;
- that methods of managing personal risks are almost similar with that of corporate risk management, except in terms of scope, data and complexity, etc.
- planning future personal risk financing may pose some problem outside the control of the individual.

In the next study unit, we shall discuss the administration of the risk management process.

6.0 TUTOR - MARKED ASSIGNMENT

Differentiate between personal risk management and corporate risk management.

7.0 REFERENCES/FURTHER READINGS

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UNIT 3 ADMINISTRATION OF THE RISK MANAGEMENT PROCESS

CONTENTS

1.0 INTRODUCTION

The emergence of risk management as a separate area of management has led to the appearance of risk managers in the management structure of an increasing number of companies and other organizations. Broadly, every risk manager is charged with the task of administering his organization's risk management programme, but precisely what role risk managers play and where they are placed in the management structure varies from organization to organization. Therefore, the following comments are intended merely as a guide to current practice. (CII, 1985)

2.0 OBJECTIVES

After studying this unit you should be able to:

- Describe the place of a risk manager in an organization
- Discuss the role of the risk manager
- Evaluate the need for outside Brokers and consultants
- Explain the essence of monitoring and reviewing of the risk management process.

3.0 MAIN CONTENT

3.1 The Place of the Risk Manager

There is no right answer to the question of where a risk manager should be located within an organizational structure, even when the job warrants a full-time appointment. Studies show that while a few risk

managers (or insurance managers, as most in the UK are still called) report directly to the Managing Director or another member of the board of directors, the majority are located either within the organization's finance division or the company secretary's department. There are strong cases to be made for each, bearing in mind both the financial and legal aspects of risk control. Where the risk manager is heavily involved in handling employee benefit schemes, including pensions, he sometimes form part of the personnel division. Precisely where a risk manager is fitted into an organization's management structure may partly be the result of:

- Historic accident, that is, whether the position has developed out of the management of the organization's insurances, for example, or from the risk control side;
- The nature of the organization and its activities; and
- The range of duties assigned to the risk manager. (Chartered Insurance Institute, 1985).

What matters is the degree of authority the risk manager possesses either personally or through his superior, and how he is viewed by colleagues throughout the organization whose cooperation and help he requires in order to perform his task efficiently. Authority and willing co-operation do not always go hand in hand; for example, a risk manager who reports directly to the managing director of a large diversified group may posses considerable authority but may encounter distrust and resentment amongst managers of operating units who may see him as a head office spy. The sort of personality that enables a risk manager to gain the confidence and co-operation of others is probably more important than formal authority. (CII, 1985).

For the efficient management of their risks, some companies employ a full-time specialist risk manager, while others use the services of consultants. Whether a business enterprise should employ a full-time manager or not would depend on the size of the business, and the scope of its operation. For a small or medium sized enterprise operating in one of the third world countries, there is probably no need for a full-time risk manager. But most large business enterprises would find it desirable to employ a full-time risk manager with the primary responsibility of managing the company's risk exposures. (Irukwu (1991). However, the growing trend in recent times in sophistication and magnitude of risk would require the employment of a full-time specialist risk manager by organizations whether small, medium or large in size although he might need to cooperate with independent experts in some cases.

There is no uniformity in most third word countries on the qualification of risk managers. This is primarily due to the fact that risk management

is still very must an infant discipline in these developing countries. A risk manager to be effective should be a highly qualified expert not only in the management or risks, but also in general businesses management. He should have a broad general education. (Irukwu (1991). In fact, the qualifications for a good risk manager are determined by the extent of his important and usually broad responsibilities. He usually has a college education, as well as insurance and other business experience of many years, and often technical background in accounting, engineering or law. Personal characteristics which enhances his effectiveness are leadership abilities, initiative, tact in working with others, and sound-decision making judgment. (Bickelhaupt (1974).

SELF ASSESSMENT EXERCISE 1

Discuss on the location of a risk manager in the modern day organizations.

3.2 The Role of the Risk Manager

The responsibilities and authority of the risk manager are quite extensive, cutting across many spheres of the activities of an organization. He may have responsibilities for dealing with the risk exposures of the organization which may be confined to pure risks only or may include speculative risks too. Whatever his responsibilities may be, it is likely that his role will be both executive and advisory.

Amongst the various roles of the risk manager, the following could be mentioned:

a) Identification and evaluation of risks
b) Communication and cooperation
c) Advising top management on techniques of risk management to be used.
d) Encourage and help management in formulating risk management policy.
e) Administering of insurance programmes
f) Loss prevention
g) Developing education and training programmes for risk management
h) Record keeping
i) Reporting.

(a) Identification and Evaluation of Risks:

It is the role of the risk manager to identify all the risk exposures of the organization and ensure they are properly evaluated for effective

handling. Such risks may include loss of material and human resources, liabilities to third parties for accidents caused by negligent employees, or agents, or defects in the products, production risk, marketing and distribution risks, financial risks, personnel risks, and environmental risks, etc. In fact the risk manager should pay adequate regard to the structure and operational characteristics of the company, the personalities and nuances and the operating environment. He may also wish to develop his own risk-exposure list, or other systems for identifying and classifying risks. The idea here is to obtain further information as regards possible risk occurrence areas with a view to evaluating and controlling them. In fact he has the task of identifying potential loss exposures and the size of the potential loss. In the area of risk financing he would determine whether to insure or to retain the exposure and guides the company appropriately in all matters relating to insurance and other risk management methods.

(b) Communication and Co-operation

From the risks identified, it would appear that the risks cut across all the departments of the organization. But it is impossible for one man to acquire all of the knowledge and skill brought together in an organization for risk management purposes. Therefore, the risk manager will have to communicate and co-operate effectively with colleagues in all departments of the organization whose assistance he will invariably need in performing the task of co-ordinating the risk management function throughout the entire organization.

Any department of the organization may influence the risk manager's work in some aspects but there would be a more frequent, direct relationship with legal, finance and accounts, production and personnel departments. For instance, the legal department will be involved in the preparation and vetting of sales and purchasing contracts, the leasing of buildings and plants and dealing with claims from dissatisfied and possibly injured customers and members of the public. The terms of the contracts, may involve the shifting of legal liabilities for damage or injury, or provisions regarding insurance, all matters on which the risk manager, will need to be informed and consulted. In turn, he may want assistance from the legal department in the drafting of new insurance contracts or in setting up a captive insurance company.

The Finance and Accounting departments control the financial records and budgets of the organization and are, therefore, in a position to furnish the risk manager with details of the properties and other assets of the organization and their values as well as other valuable information including the records of insurance policies and insurance costs generally. This department will also assist the risk manager in designing

appropriate insurance cover to protect the assets of the company especially fidelity guarantee insurance cover against possible falsification of accounts and embezzlement of the organization's funds as a result of employee's dishonesty. (Irukwu (1991).

Production and works managers are directly involved in many of the activities that create risks and may be given responsibility for safety and security. Likewise, personnel departments through their responsibility for the welfare of employees will be involved in programmes to reduce industrial accidents, and the risk manager may be responsible for arranging and operating insurance schemes that form part of the package of employee benefits negotiated by the personnel department. (Chartered Insurance Institute, 1985).

(c) Advising Top Management

The risk manager's role may largely consist of advising top management, including, in a decentralsied organization, the top management of the various operating divisions, on the techniques to be used for the evaluation, control and financing of risks. In that role, in conjunction with engineering, production, financial and other specialist colleagues, he may be drawn into the task of helping to establish for the organization standards of feasible and sensible risk control compatible with the corporate objectives. He will also be expected to advice on the financing of residual risks. (Chartered Insurance Institute, 1985)

(d) Encourage and Help Management in Formulating Risk Management Policy

One other important role of the risk manager is to encourage and help management to formulate a policy statement in regard to the objectives and responsibilities of risk management. Having such a written policy statement approved by the President (Chairman) and board of directors can aid the risk manager greatly in defining the scope and limitations of his job. The objectives, responsibilities, authority and general policies of his department should be clearly stated. Setting broad guidelines in this way improves the risk manager's relationships with other executives and departments, and enables him to obtain the cooperation of many persons within the organization who are crucial to a risk manager for information and supervision of risk management in the firm. (Bickelhaupt (1974).
A typical risk management policy formulated by a medium-sized Nigerian business enterprise for example, might read in part as follows:

"It is the policy of this company to assume the risks of property damage, legal liability and all other pure risks where the exposure is so small that

a loss would not significantly affect our operations or our financial position. It is also the policy of this company to purchase insurance cover for all risks not assumed.

Furthermore, we, as a corporate body are fully committed to a policy aimed at eliminating or improving all conditions and circumstances likely to cause losses and every member of staff must participate actively in our loss prevention prorgammes and activities. The risk management department is charged with the full responsibility for enforcing this policy and for carrying out risk management processes and all managers and employees must co-operate with the risk management department in this regard"(Irukwu (1991).

(e) Administering of Insurance Programmes

For the effective administration of the insurance prorgamme of the organization, the risk manager must be sufficiently knowledgeable and experienced in insurance, its operations, benefits and technicalities to be able to articulate and implement a sound insurance progrmame.

In fact, the risk manager should understand the particular insurance needs of his organizations, because of his day-to-day contact and experience in his own firm. As risk manager, he should be familiar with and well trained in analyzing insurance coverage, rates and markets. He is not, however, a substitute for a good insurance agent or broker. The agent should be able to supplement the work of the risk manager and to provide many essential services in aiding him in locating insurance markets, loss prevention services, and obtaining fair loss settlements. Other advisors often may be used by or in conjunction with the insurance agent. Examples include safety engineers, accountants, attorneys and trust experts. (Bickelhaupt (1974).

Moreover, often risk reduction measures have a bearing on insurance arrangements and may even stem from a request that certain things be done, when the risk manager will need to involve responsible colleagues in the discussions with the insurers. (Chartered Insurance Institute, 1985)

(f) Loss Prevention

An integral part of the risk manager's role is loss prevention or accident prevention. It has been stressed earlier that the risk manager should maintain a close working relationship with all the other departments of the organization for the proper identification and evaluation of risk exposures of the organization, this relationship becomes ever more important for the purposes of loss prevention. He can develop and

administer loss prevention programmes to achieve structural, operational, defensive and consequential damage protection of human and material resources of the organization. Such protective measures could involve: impeccable building/ plant design from safety point of view, means of escape, disentanglement of safe and hazardous processes, prevention of risk spread, installation of loss reduction equipment (structural); safe design of production flows , storage, training of staff in safety matters, safe technical installation/operation, organization of watch service, safety engineer, safety officers (operational), securing water supply for cooling and extinguishment, organization of fire alarm or emergency calls, saving people and property, training personnel in using extinguishers and other defensive equipment (Defensive); organization of salvage groups, prevention of consequential damage by removing water, dust, corrosive, gases, rehabilitation of damages (consequential damage protection). Since he cannot perform these tasks alone, the risk manager assigns or delegates responsibilities to other managers in various departments for effective loss prevention and control. For instance, the prevention of product defects is usually the responsibility of design and production department. Likewise, responsibilities for employee safety may be shared between works engineers, production managers and personnel managers.

(g) Developing Educational and Training Programmes

The risk manager should develop an educational programmes aimed at informing and enlightening the management and the entire organization of the intricacies and benefits of a sound risk management programme. This will also tend to change the attitude of management which hitherto may have indifferent attitudes towards risk. In fact, the effective control of risk is only likely to occur if the measures taken have the full support of the top management. Part of the educational process could be done through the preparation of risk management and insurance manuals, issuing periodical reports on situation of risks in the organization and steps in handling them.

Furthermore, the risk manager will also train employees on risk prevention and reduction measures like fire prevention courses, use of fire extinguishers, escape devices, crisis management (including crowd control and evasive driving), etc. Some of the training programmes can be organized in-house, while some can done outside the organization. Such training programmes should embrace both management and staff. Thus it is the responsibility of risk manager to prepare a master plan of such trainings from time to time and identify the relevant sections or individuals due for such trainings and the need, objectives of such training exercises as the case may be.

(h) Record Keeping

Record keeping is another important role of the risk manager. Thus, to facilitate the work of his department, the risk manager should maintain appropriate official records which would include:

- record of fixed and movable assets of the organization like buildings, plant, machinery, stock, motor vehicles, etc including their purchase dates, current value, etc;
- insurance records, including register of policies, premium payments, date of cover and expiry, loss or claims data, inspection reports, etc.
- records of all loss, dates and amount of interim payments and of final settlement, nature of loss, cause of loss, steps taken to prevent any repetition;
- risk analysis reports, recommendations made for the handling of risks, and decisions taken.

(i) Reporting

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The risk manager should prepare, for both top management and departmental heads, annual reports on the activities of his department.
The reports for top management could include such matters as:

- Changes in the cost, arrangement and scope of insurance coverage, lighlighting changes in the level of retained risk;
- An analysis of claims and their relationship to premiums paid, and data on insured values and other measures of exposure to risk;
- An Analysis of the cost of operating the risk management department, with estimates of the benefits it provides.

Reports for other departmental heads dealing with matters under their control could include:

- an analysis of vehicle accidents and costs may be prepared for the transport manager,
- Analysis of industrial injuries may be prepared for personnel and production departments, etc.

SELF ASSESSMENT EXERCISE 2

Outline and explain responsibilities of the risk manager

3.3 The Use of Outside Brokers and Consultants

Sometimes it may be necessary to use the specialized services offered by outside consultants in risk management to supplement the services offered by the risk management department of a business organization.

For example, the use of the services of independent appraisers, loss adjusters, solicitors, chartered accountants and sometimes, medical specialists (including brokers). The use of outside consultants is desirable and therefore recommended whenever it will help to improve on the quality of the risk management service available to an organization. (Irukwu (1991).

Outside consultants can offer various advantages, such as:

- the resources to tackle an urgent problem quickly, free from difficulties that internal managers have of attending to their normal duties, at the same time;
- specialist skills and knowledge which may not be available in the same depth inside the organization;
- access to information which either may not be available to internal management or could involve very high search costs;
- a breadth of knowledge and experience in dealing with similar problems not possessed by internal management;
- impartiality when dealing with and advising on issues that involve the interests of individual managers;
- an ability to provide certain specialist services in a regular basis more cheaply than an individual client could provide them for itself.

On the other hand, the services of brokers and consultants have to be paid for, either in the form of a fee or in the forgoing of some part of the insurance commissions that otherwise could be deducted from an organization's premiums. Therefore, as with other risk management decisions, the questions of whether to employ outside brokers and consultants to assist on any part of the risk management process is a matter of comparing the relevant costs and benefits.

SELF ASSESSMENT EXERCISE 3

Mention the advantages of using outsider for management of risk by a company

3.4 Monitoring and Reviewing the Risk Management Process

Since we live in a dynamic world and new risks are constantly introduced into our lives daily, whichever risk management method or approach chosen by an organization should constantly be monitored, reviewed and necessary adjustments made to meet new challenges. To this end a risk manager must continually re-identify exposures to loss, be concerned with the control of losses, constantly re-evaluate the

financial capacity of the organization to retain risks and select the most advantageous method of funding losses (Wilcox (1996).

In fact, the risk management process is a continuing process calling for action on two fronts; results of policies adopted need to be monitored. Risk handling decisions are always concerned with the future, and one of the difficulties confronting risk managers is that decisions usually have to be taken on the basis of information which falls far short of perfect, and so policies may need to be reviewed in the light of fresh information; policies need to be reviewed at regular intervals in the light of changing conditions. (Chartered Insurance Institute, 1985)

SELF ASSESSMENT EXERCISE 4

Where should a risk manager be placed in the organizational structure?

4.0 CONCLUSION

The administration of the risks of an organization is an important task of the risk manager. The risk manager plays a central and perverse role in the realization of corporate goals of the organization by preventing or minimizing losses – human and material.

5.0 SUMMARY

The task of administrating the risks of an organization is a multidisciplinary team work. The risk manager is the co-ordinator of the team. There has to be harmony amongst all the segments / sections of the organization for a fruitful result to be achieved.

In the next study unit, we shall discuss risk identification.

6.0 TUTOR - MARKED ASSIGNMENT

Outline the advantages of using outside consultants in managing risks by an organization

7.0 REFERENCES/FURTHER READINGS

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UNIT 4 RISK IDENTIFICATION

CONTENTS

1.0 INTRODUCTION

The first challenge to an organization in risk management is the identification of its risks' exposure. It is when risks are identified that decision could be taken on how to treat them.

Risk cannot be managed by any organization except it is properly identified by such organization. To identify risk, it must be cost effective in doing so and in line with the organization's risk management philosophy.

The risk manager in any organization should be fully involved in the activities in such organization to fully appreciate the organization's risk exposure and also identify such organization.

This exposure of risk should be expected to come from interaction with the organization's different stakeholders. In this regard, the risk manager has the challenge of gathering relevant information that will be useful to him.

2.0 OBJECTIVES

After studying this unit, you should be able to:

- Explain the meaning of risk identification.
- Discuss why the risk manager needs to structure the gathering of information.
- Explain what information is available and how best it can be accessed.
- Outline and discuss the methods and sources available to the risk manager in setting out to understand what risks there are.

3.0 MAIN CONTENT

3.1 Sources of Internal Information

There are different sources of internal information available to the risk manager and we will try to examine some of them here.

1. Existing Officials within the Organization

The risk manager, especially a newly employed one, should visit all the departments so as to see how activities are carried out in the organization personally.

This visit must include 'shop floor' – that is where the actual production takes place. During the visit, he should interview key managers so as to get first hand information on the operations of the organization as well as the associated risks exposures of the organization.

2. Existing Documents

These are documents generated in the course of business activities by the organization.
The documents include:

- Proposal papers – on new projects with the view of assessing the risk exposure of such projects.
- Auditors' reports – issued by both the internal and external auditors so as to ensure that funds are transferred as approved by the Board.
- Insurance documents – showing the extent of risk coverage of the organization's risks. This should also include the insurance risk survey, warranties and exclusions, etc.
- Material produced within the risk management department, for example, the risk and impact analysis prepared by the risk manager.

These materials will include reports of risk incidents and information prepared for the company's insurers.

SELF ASSESSMENT EXERCISE 1

Identify and explain the various sources of internal information to the risk manager.

3.2 Sources of External Information

These are information normally gathered from outside the organization. They are sometimes referred to as "risk intelligence" and they could be both formal and informal.

Formal Sources of External Information

These information are gathered from the following sources:

- Emergency services from the police, fire services, etc.
- Government departments like the ministry of Trade and Commerce, Ministry of Foreign Affairs, Ministry of Labour, etc.
- Insurers and Reinsurers' publication such as Swiss Re, Munich Re and Winterthur.
- Business or Trade and professional bodies.
- Consultants – who could provide the organization with current and needed information

Informal Sources of External Information

These sources include inter alia:

- Newspapers and magazines.
- Other companies' reports.
- Associations and Institutes – such as Nigerian Insurers Association (NIA), Risk Management Society of Nigeria (RIMSON), Institute of Directors (IOD) – information from meetings, conferences and workshops organized by these bodies.
- Internet – provide useful sources of information.

SELF ASSESSMENT EXERCISE 2

Mention all the sources of external sources of information to the risk manager.

3.3 Techniques for Risk Identification

The technique to be used will be based on the survey answering the following questions:

- Where are those risks?
- What are those risks?
- How can we clearly shape risk information for decision making

1. Where Are Those Risks?

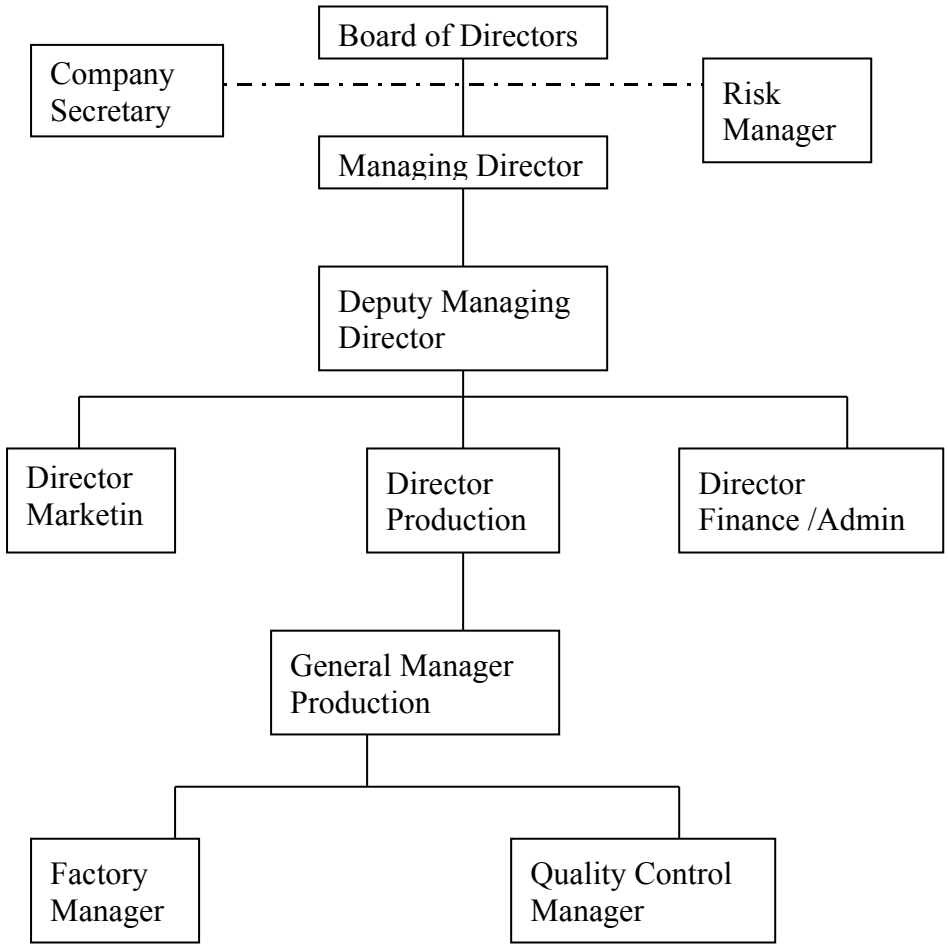
These techniques moved under this consideration tend to help with identifying risks by showing us where such risks actually lie. The techniques employed here are the organization Chart and flow Chart.

(a) Organization Chart

This shows in a pictographical form the different positions in an organization and lines of communication both vertically and horizontally. It is useful as it demonstrates the organizational structure.

An organization chart can be illustrated as below:

Figure 3: Organizational Charts



Advantages of Using Organizational Charts:

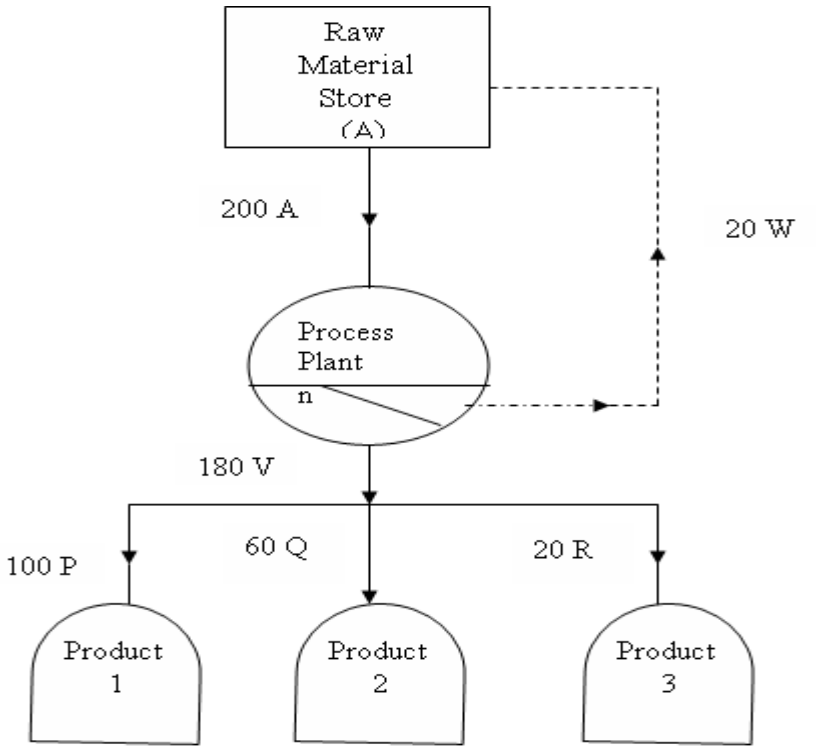
- It is used to highlighting areas of particular concentration of risk
- It shows the structure of the organization and makes a risk surveyor to be familiar with such.
- It gives a broad view of the positions in the organization and how they are occupied by different individuals.
- It encourages the constructor of the chart to think about risk in the context of the whole organization.

Disadvantages of Using Organizational Charts:

- It is usually too broad and does not enable specified solution to specific risks in the organization.
- It is usually very simplistic in nature and as such should not be over relied upon.

(B) Flow Chart

This show in a picture forms the production activities within an organization. In order words, it shows the route taken by all of the crucial ingredients of the final product, through to completion and final delivery. These processes could be for a factory or a service-providing organization. This could be illustrated below.



Source: Chilekezi, 2002 p 53

The above flow chart shows that Raw materials A are processed into three products, that is 200A converted after being processed into 100P, 60Q and 20 as waste.

Advantages of Using This Chart

- It brings the complicated plant and process into a smaller and manageable design that allows risk identification.
- It tends to be more detailed than the previous technique that we have studied.
- It is qualitative and not quantitative as such could easily be appreciated by a lay person.

Disadvantages of Using This Chart

- It could be time consuming.
- Such breakdown could be too simplistic form of the complex process involved in production of plant.
- Risk identification through this process is not specific but general.
- The technique does not allow the measure of probability of a loss occurring.

(2) What Are These Risks?

Here, the risk manager goes beyond the risks themselves to find out what they actually are. The methods employed are:

a. Checklists and Questionnaires
b. Physical Inspection

(a) Checklists and Questionnaires

This is like normal questionnaire prepared by the risk manager who use same to collect risk data from the occupants of different positions in an organization. The checklists and questionnaires could serve as “aide memoir” as they help the risk manager to remember the state of risk in the organization through going through the previously completed ones.

Advantages of Using Checklists and Questionnaires:

- Fast to use in identifying risks.
- Cheaper to administer and use

- It makes it easier for the comparison of new one and previous ones.
- Could be adopted for different organization.

- Every worker is involved in the risk identification process.

Disadvantages of Using Checklists and Questionnaires

- The risk manager relies on second hand information, as he is not the one that had completed the checklists.
- Responses are usually not encouraging
- It could be misleading ambiguities.

(b) Physical Inspection

This involves the physical inspection of the plants, processes and premises so as to identify the likely causes of loss to the organization. The surveyor has to visit the risk personally and note any abnormality he has seen. He will compare the present state of the risks with those of the previous exercise and make recommendations as to his observations.

Advantages of Physical Inspection

- The inspector relies on his own judgment.
- Cordial relationships exist between the risk surveyors and the operators in the organization.
- Can be carried out within a short notice.

Disadvantages of Physical Inspection

- It is time consuming to carry out.
- Operators leave the task of risk management solely to the risk manager or risks surveyor.

(3) How Can We Clearly Shape Risk Information for Decision Making

These are techniques that help us shape our concept of risk so as to take decision on our organizational risks exposure.

(a) Fault Trees

The fault trees method looked at a chain of events and tries to identify the likely sources of possible loss to the organization. It looks at what could cause the organization not to produce and the likelihood of that occurring.

As Kaye (2001) rightly posited, the fault tree, therefore, can achieve two things.

- It can look at the flow chart from the point of view of risk and begin to assess the chance of the supply chain being broken,
- It can also look at risk within a process or piece of machinery, and take a view on the potential for damage.

Advantages of Fault Tree

- It is an excellent way to reduce complicated events into their component parts.
- It gives some structure to the identification of all the possible risky events in a problem.
- It allows for the calculation of likelihood.

Disadvantages of Fault Tree

- It could be very numerical and can frighten a number of people to use it.
- The advantages of probabilities are not there so it can not be used to predict a risk incident.

(b) Hazard and Operability Study

This gives thorough examination of an organization. It involves detailed examination of a plant or process with a view of identifying the likely cause of loss. HAZOP, as it is commonly called is used in risk identification for very complex risk such as a chemical company or breweries.

Advantages of Hazard and Operability Study

- It is very detailed in the examination of the risk so that comprehensive analysis of risk could be carried out.
- A team of risk analysts is normally used for the exercise.

Disadvantages of Hazard and Operability Study

It is very time consuming and expensive to carry out.
At times, complicated plants are simplified so as to carry out the exercise and this could lead to a misrepresentation of the actual state of the risk exposure of the organization.

SELF ASSESSMENT EXERCISE 3

Identify and explain the various techniques that can be used to identify risks

3.4 Common Features of Risk Identification

- Risk identification is usually given priority in whichever form it is carried out.
- No one technique is better than the other. All depend on the type of risk exposure of the factory.
- It should be a continuous process.
- There is need for documentation of all the activities carried out.
- People are encouraged to be involved during the risk identification exercise and at all other times.
- A prominent consideration of the techniques to be used is the cost of the exercise. It will be unreasonable to use the sum of N100.00 to carry out a risk identification exercise of N60.00

SELF ASSESSMENT EXERCISE 4

What is the difference between a flow chart and fault tree?

4.0 CONCLUSION

Risk cannot be effectively managed except that they are properly identified.

5.0 SUMMARY

- Risk manager should be fully involved in the management of the organization's risk exposure.
- The risk manager should be aware of the likely sources of useful information to him.
- The techniques for risk identification should be based on:

    - Where are the risks?
    - What are the risks?
    - How can we clearly shape risk information for decision-making?

In the next study unit, we shall discuss assessment and prioritization of risk

6.0 TUTOR MARKED ASSIGNMENTS

List and discuss sources of external information

7.0 REFERENCES/FURTHER READINGS

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MODULE 3

UNIT 1 ASSESSMENT AND PRIORITISATION OF RISKS

CONTENTS

1.0 INTRODUCTION

The attitude to risk by organization varies. As we had said earlier, while some people have high level of tolerance of risk, others do not. This in a way affects their relationship to risk acceptance or transfer.

In some organizations, some directors, take risk by avoiding the decision that would help manage their organizations risk exposures. In this group, they are ‘positive thinkers’, thereby putting to danger the organization’s entire asset.

2.0 OBJECTIVES

After studying this unit, you should be able to:

- Explain how corporate philosophy and other factors may affect an organization’s attitude to risk.

- Describe the importance of risk acceptance and how that can vary significantly by organization.
- Evaluate the value and cost effectiveness of risk control measures.

3.0 MAIN CONTENT

3.1 Financial Strength and Size of the Organization

One major factor that determines the level of risk, which an organization could retain in its portfolio, is its financial strength. For instance, a multi-billion-naira organization can easily go to sleep if it suffers a N1million loss, same cannot be said of a ten million naira firm.

If an organization decides to accommodate its risks internally instead of insuring same, it will be left with the following advantages:

- Savings in risk management expenditure, which may not have been economic.
- Savings as to the cost of insurance, which could have included the insurer's profit and administrative cost.
- Interest accruing from investment goes to him.
- Industry's claims experience does not increase his cost of risk transfer.
- Direct incentive to reduce and control the risk of loss.
- Disputes do not arise as would have been the case between an insurer and insured in the event of loss.
- Have good qualified personnel to man its risk and insurance department.

The disadvantages, on the other hand of self insurance as follows:

- A catastrophic loss usually wipe off all the fund provided by the organization for insurance purpose and in some cases this could lead to the liquidation of such organization.
- An aggregate of losses could have the same effect as a catastrophic loss above.
- It could lead to the firm tying up investable fund for purpose of risk financing.
- Normally lead to the incursion of extra cost through the employment of additional staff to oversee the insurance unit.
- Insurer's technical advice on risk management and control are lost by the organization.
- Contribution to the fund is not exempted in tax matters.

SELF ASSESSMENT EXERCISE 1

What are the advantages and his disadvantages of self insurance?

3.2 Estimated Levels Of Risk Against Risk Appetite.

The level of risk is usually measured in two ways, that is, the likelihood (or frequency) and severity (or impact). In estimating levels of risk against risk appetite, one is trying to measure the extent to which an organization could be able to accommodate a percentage of its risk exposure.

Likelihood

This measures whether the risk could occur and if it is occurring how frequently? It is important to restate that small losses occur more frequently than very large losses. However, small losses occurring very frequently could have the same impact as a large loss. This should be a source of concern to the risk manager. More so, the frequent occurrence of small losses could be a sign that a big loss is on its way to occur.

Severity

This measures the amount of loss as against the frequency. That is how severe is the value of the loss to the organization – or rather the quantum of the loss that had occurred.

SELF ASSESSMENT EXERCISE 2

Differentiate between likelihood and severity in relation to level of risk

3.3 Adoption of Risk Tolerance Policy

The organization's risk manager, having measured the likelihood and severity of its loss exposure, could decide on the level of risk to be retained internally and those to be transferred to others.

It is important to illustrate this graphically – this is the likelihood and severity of risk below.

Figure 9. 1 **Frequency of Risk**

1	Frequency lower than in ten years
2	One in ten years
3	Once in five years
4	Annually
5	More than five times a year

Figure 9.2 **Severity of Loss**

Level	Definition
1	Negligible • All problems can be restored with no impact beyond the unit. • Financiallosses - Optional: below N10,000 - Revenue impact on local unit's figures only
2	Marginal • It takes up to one day to reinstate customer – facing servie • Financial losses: - Capital below N100,000 - Revenue10% local units targets 3% of group targets
3	Critical • Fines by regulatory authorities • Losses of confidence within the client base and other stakeholders • Losses of confidence within the work force • Credit rating fall one sub level or more • Financial loss of - Capital below N1,000,000 - Revenue 25% local unit targets, 10% group targets • Health or accidental injury risk • Health and safety approvals for a building withdrawn.
4	Catastrophic • Loss of regulatory or licence approval • Loss of confidence in the brand name by the general public • Loss of confidence in the brand name by shareholders • Financial loss of: - Capital above N1,000,000 - Revenue 50% targets • Credit rating fall one full level • Risk of life

What is done is both tables are the assignment of weights to both the likelihood and severity. For instance, if a risk occurs and it takes one day to reinstate and the customer is faced with a loss of N10,000, we can say that the weight of the likelihood is 4 and severity is 1. This helps us to build a risk matrix for the organization as below.

Figure 9.3 Risk Matrix

Frequency

		1 Negligible	2 Marginal	3 Critica	4 Catastrophic
5	› 5 times per year				
4	Annually				
3	1 to 5 years				
2	5 to10 years				
1	‹ 10 years				

Severity

The risks that fall within the coloured (Shaded) areas in the matrix are the ones that are acceptable by the organization. In this case, the organization could give such risks little or no considerations.

SELF ASSESSMENT EXERCISE 3

Enumerate and discuss the elements of severity of loss.

3.3 Rating Risks In Terms Of Statutory and Management Priorities

Organizations are exposed to different types and levels of risks. The way an organization treats its risk exposures is determined by its exposure, its culture and its appetite for risks.

However, the legal restrictions could equally determine how an organization reacts to risks. For instance, an organization – as a good corporate citizen will always want to operate within the confines of the law. It will not like to be associated with illegal acts that could lead to its being prosecuted in the law court.

In the same vein, the organization will put in place structures that will enable it manage its risk exposure effectively thereby increasing the shareholders value.

3.5 Risk Controls

It is a certainty that operational risks could occur thereby leading to loss. What is not certain is when and how such could occur. It is as a result of this that organizations are always on their toes on how to manage their organizational risk exposures. In this regard, the risk manager is concerned with the following:

- A reduction in the frequency of the organizational risk
- Reduction of the impact of the risk that had occurred.
- Putting in place a contingent plan to help in mitigating the losses.

It is important to state here that the risk manager cannot stop all risk of an incident happening. He can only control such incidents or their occurrence, thus reducing the risk and exposures down to a level that is considered acceptable.

Risk management, as Kaye (2001) rightly observed, is at the very least managing the expectations of stakeholders who are looking for security for the organization's assets and for the trouble – free achievement of its objectives. The key objective for the risk manager is not to allow any unpleasant surprises to damage the stakeholder.

Adding, Kaye (2001) posited that risk management cannot do the impossible and this is why a good risk environment is often a combination of risk acceptance, risk reduction, impact reduction and contingency planning.

3.6 Reducing the Chances of the Risk Occurring

There is need for the organization to put in place measures that will reduce the risk of the damaging incident happening. In doing this, the organization should ensure that there is an effective and realistic balance between the cost of risk and cost of reducing the likelihood of the risk occurring.

This must be based on the individual circumstance surrounding each risk. And this must be fundamental to the organization and its operational strategies.

In similar vein, the organization should work towards eliminating the impact of the risk incident occurring to the organization. Although measures could be put in place to reduce the impact, it is important to note that such measures could not be guaranteed to eliminate such risks.

The above notwithstanding, the organization should put in place tools that will help it respond to an incident. Here, fire extinguishers and evacuation procedures are useful as a starting point; so also are staff training, emergency succession planning and contingency planning.

An important aspect of risk control is the identification of the "killer risk" of the organization.
The "killer risks" are those risks with the potentials of destroying the organization in its entirety.

The likely killer risks that could lead to operational failures are:

- Loss of the regulatory approval of licence
- Destruction of "brands" or name of organization and its product.
- Problem of failure of dependences on a facility – e.g. software
- Manpower associated problem – flight of capable hands.
- Financial solvency
- Competitors strengthening and behaviour.
- Loss of business or financial control over the organization.

SELF ASSESSMENT EXERCISE 4

What are the financial risks that impact on the organization's operations?

3.7 Continuity or Contingency Planning

A risk incident may occur at anytime. It is as a result of this believe that organizations put in place continuity or contingency plan. That is the plan that allows them to operate, although in partial operations, pending when the organization is reinstated fully. Such plans are briefly discussed below.

- Contingency planning – This is the plan put in place to enable the organization to continue to operate after a risk incident had occurred while the problem that occurred would be ratified. A kind of emergency managing plan to solve an emergency.
- Continuity planning – This is the plan put in place by organization to enable it to continue to operate after a disaster had occurred. It is like the contingency plan except that it is not just for an emergency situation as the case with contingency planning.
- Disaster planning – This is the plan to enable an organization manage a disaster situation, that is, a catastrophic risk event occurring.

- Crisis planning – This is put in place to manage any crisis situation ranging from strikes to disaster.

All these are similar except for some minor differences. The kind of plan to be adopted by an organization will depend on its risk exposure and the severity of a loss occurring. The organization should equally consider the nature of its operations

As Kaye (2001) observed, there is need for organizations to anticipate incidents that have the potential to destroy the organization and ensure that:

- There is a fast, authorized and visible control of the incident and its aftermath,
- Damage is contained as far as is possible;
- Security and safety is restrained;
- Damage assessments are received with confidence and acted upon;
- The brand value is protected;
- Immediate responsibilities are met; and
- The return to 'business as usual' is accelerated.

SELF ASSESSMENT EXERCISE 5

List and discuss the various types of plan necessary for managing risk.

4.0 CONCLUSION

The essence of risk assessment is to enable organization to incorporate its corporate philosophy in its risk management programme. Organizations should also incorporate risk control methods in their activities.

5.0 SUMMARY

- Financial strength of an organization helps in determining the level of its risk retention.
- There is need for savings of risk management expenditures, which may not have been economic.
- Likelihood and severity is the mostly used method in risk measurement.

In the next study unit, we shall discuss risk control.

6.0 TUTOR - MARKED ASSIGNMENT

Critically appraise the decision of an organization to accommodate its risk instead of insuring it.

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UNIT 2 RISK CONTROL

CONTENTS

1.0 INTRODUCTION

In the last unit, we assessed the way risk control could be approached by an organization. In this unit, we will continue the discussion on risk, but bringing it down to specifics.

All organization's assets are exposed to one risk or the other. These assets are:

- Human assets
- Material assets include money, and
- Intellectual assets

It is important to note that the last – the intellectual assets are getting prominence with each passing day. These assets include important information, brand names, copyrights, etc.

We will discuss the kind of exposure, which these assets are exposed.

2.0 OBJECTIVES

After studying this unit, you should be able to:

- Explain how risks to the employees and visitors are managed and controlled.
- Explain how risks to the business operations around the premises are managed.

- Explain how risks, other than those around the workplace itself, can be controlled.
- Explain the way that risks around product quality can be controlled.

3.0 MAIN CONTENT

3.1 Fire and Other Perils Risks

These risks could cause total destruction of the organization. They are usually covered by insurance under Fire and other Perils insurance.

The risks could come from any of the following:

- Fire
- Lightning
- Explosion
- Riot and strike
- Malicious damage
- Impact damage
- Earthquake
- Storm, tempest and flood, and
- Bursting and overflowing of water pipes, tanks and apparatus.

The risk manager normally insists that these risks are transferred through insurance to an insurer, as the cost of replacing a damage material could be enormous. Such losses could equally lead to the stoppage of production and outright litigation against the organization for not meeting up with already paid for supply.

Also for instance, small fire damage to the organizations communication equipment could lead to stoppage of production – thus a loss which is far higher than the cost of the equipment.

In this regard, to handle the risk of fire in the organization, the risk manager, Kaye (2001) noted, should consider:

- Ignition of fire;
- Proximity of fire service
- Heat transfer to neighbouring structures and materials.
- The behaviour of those materials and structure in a fire;
- Similar movement;
- Detection;
- Active fire safety features;
- The way humans behave and how they will exit the premises;

- Toxicity and
- Waste and run off

The risks manager could develop a fire modeling. The fire modeling could help him predict the development of a fire and the damaging side effect.

3.2 Theft

This means the stealing of a physical or intellectual asset of the organization. It could be in form of an attack by armed robbers on a place where cash is kept. Fraud, could be considered here as theft, as it denies the organization of its physical assets.

Theft could be by outsiders or through collusion between outsiders and staff of the organization.

Where there is insider collusion, the organization's insurer may not pay for such loss under its theft insurance. The policy, which could pay for such dishonesty, is called Fidelity Guaranty Insurance policy.

There is equally a growing theft of intellectual property. For now, except in well-advanced countries, the insurance industry is trying to avoid cover to such losses.

In this regard, whether it is theft of physical assets or intellectual assets, organizations should put in place machineries that will make it difficult for thieves to steal any of their assets.

To this effect, there should be protective fences and controls on points of entry, simple locks with a number of keys, sophisticated electronic pass card Closed Circuit Television (CCTV), etc.

3.3 Security of the Individual

This comes in form of health and safety at the workplace. In this regard, the risk manager should keep himself abreast of human presence in the organization – either an employee or visitor could be injured at the premises of the organization and come out on how to prevent this from happening.

The employer should ensure that he implements to the later the provisions of the Health and Safety at Work Act or Factory Act as the case may be. There should be provision for First Aids for any emergency happening.

This is important especially with the novel hijacking of foreign workers in the Nigerian Delta area. Nothing could stop same being extended to Nigerians – whether oil workers or not for a ransom. This should be of concern to the risk manager.

3.4 Security of Information

This is very important as most organization is IT driven. The products of most organization are linked to the exclusive software they have – which they alone use. Following which, if it is copied the organization could be destroyed by competition by the other users.

It is in this regard, that organizations should protect their information/Intellectual assets as much as possible from being stolen. They should equally have back ups against loss of these assets following an IT failures – otherwise known as virus.
The physical security around computers could be a less important issue than that of information security.

SELF ASSESSMENT EXERCISE 3

Differentiate between security of information and security of individual in the organization.

3.5 Product Risk

These are risks associated with the consumption of a product, it could be a soft drink, a safety pin and what have you. However, the principle is that whoever produces a product should ensure that such products do not cause harm to others.

In other words, he should ensure that the product meets the required quality level. This is what organizations such as Standards Organization of Nigeria, NAFDAC are set up to ensure.

Poor products could lead to problems such as Kaye (2001) highlighted below:

- An impaired product may need to be recalled to the factory for alterations or destruction. The process of receiving a large number of widely distributed products is in itself expensive and damaging to customer relationships.
- Such public recall can cause long-term damage to the confidence the public holds in the products and in the brand name.
- A poor quality product may also cause damage and loss in a way that could result in litigation against the manufacturer.

3.6 For Risk Control Plans to Work

The organizations have always considered the effectiveness of risk control plan. But for this to work effectively, the risk manager must do the following:

(i) Choose the best solution.
(ii) Implement the chosen solution.
(iii) Carry the people along in implementing the solution.
(iv) Exercise the contingency plan by:

- Improving staff awareness and training
- Critical assessment of staff role in this
- Improve on the plan regularly

(v) Monitor and respond to change

SELF ASSESSMENT EXERCISE 4

What is Material Risk Control?

4.0 CONCLUSION

Risk around an organization is a volatile thing. This, the risk manager should bear in mind and be ready to respond to any change in his organization's risk exposure so as to respond to same, accordingly.

5.0 SUMMARY

- The assets of an organization should be protected against risk.
- Risk manager should insist that those risks that could destroy the organization should be transferred out using insurance.
- Organizations should ensure that their products are of high standards so as to avoid litigation from consumers of such products

In the next study unit, we shall discuss risk financing

6.0 TUTOR - MARKED ASSIGNMENT

What will the risk manager do to make the risk control plan of this organization work well?

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UNIT 3 RISK FINANCING

CONTENTS

1.0 INTRODUCTION

One way through which risk is handled is risk financing. That is the organization spreads its risks through its process of risks financing.

2.0 OBJECTIVES

After studying this unit, you should be able to:

- Explain the need to finance risks and the different options available to the risks manager.
- Explain how the retention of risk is a method of risk financing.

3.0 MAIN CONTENT

3.1 Cost of Risk Incidents

Understanding the cost of risk will help us to appreciate how to finance such incidents. Any financial loss that cannot be categorized into a monetary value, for instance, safety, business survival, is not financed through risk financing.

Every organization should have an idea, if not, know exactly the initial monetary cost of an incident, such costs include: court awards, litigation costs, fines and cost of replacing damaged or lost assets

Apart from the above costs, the organization could equally incur consequential loss which may involve costs- such increased costs of the organization that affect the organization to be in the market place after it has suffered a material damage loss for instance; if the factory is burnt

down, and the organization decided to continue with their production irrespective of such loss, it may incur an increased cost in producing its products elsewhere.

Also, there could be standing charges to pay. These are costs, which the organization incurs whether it is producing, or not. Although such charges diminishes as production increases. These charges are cost of capital, wages and of the reducing costs of employees, rent, etc.

An important aspect of the cost of risk is the timing of projects. The timing of payments for the damaged organization could affect the cost of risk. For liability claims that went to the court apart from paying the awards the organization will be expected to pay interest on it if payments are delayed, etc.

The organization should also look at the administrative cost of reinstating a loss, so as to find out the option on how to finance a risk event.

An organization could choose to retain risk internally through the creation of the infrastructure that can handle large number of individual incidents and their impacts to the organization

It is based on the above that the organization could decide on the option available in handling its risks, such options are:

- Whether to retain a risk internally
- Whether to establish funds to cater for risks incidents and how much of such funds.
- Whether to insure
- Use of other risk financing techniques

The risk manager must critically examine the organization's risk exposure before he could decide on the options. The necessary considerations are as follows:

- Evaluate the potential cost that the organization could have in a given period.
- Note the maximum probable losses as well as its maximum possible loss.
- Measure the total loss alongside the maximum single possible loss
- Identify the cost that could need to be funded.

In this regard, in the words of Kaye (2001), the risk manager need to

- Quantify the level of cost that can be absorbed without a significant impact on the organization itself.
- Identify potential sources of funding to meet larger losses
- Consider how such funds can be available at the time they are needed
- The risk manager can choose from any of the options as in the diagram below:

SELF ASSESSMENT EXERCISE 1

Mention the important considerations in risk financing

3.2 Corporate Risk Funding

Over the years, the commonest form of risk financing is the use of insurance - that is insurance of risk events. With the sophistication of risk as a result of modernization, it was discovered that the insurance market may not be able to cater for risk events alone. This situation led to the birth of alternative sources of funding of risk. More so, insurance as a risk funding technique was more concerned with the need of ensuring operational viability of risk.

Organizations today are facing new exposures of risks in their operations while, at the same time; the old ones are becoming too complex and more destructive than ever. It is in line with this, that most organizations discovered that insurance could not perfectly serve as a means of funding their risk – thus, they resort to a combination of different funding mechanisms so as to ensure that their strengths are fully used for the benefits of the shareholders. And also, for them to make the best use of other risk financing methods available to them.

(1) Self – Funding

This is a system whereby organizations set aside funds through which they indemnify themselves in the event of a loss. In most cases, these organizations find the small losses that might incur while they transfer out bigger losses. These types of losses are those that could fall within the insurance excess, deductibles or franchises.

There is need for us to define these terms:

- **Excess** -This is the amount which the insured bears for each and every loss. In other words, once there is a loss, the insured will bear this before the insurer will come in. For instance, if the insured has a policy excess of N5,000 – where he suffers a loss of N1,000, the insurer will not pay it, where he suffers a loss of N5,000, the insurer

will not pay it; where he suffers a loss of N5,500,the insurer will pay only N500 (which is above the excess).

- **Deductible**:- This is large excess which is involuntarily taken by the insured so as to have some discounts on the premium he would pay. It operates in the same way as the excess.

    - **Franchise;** - This is an amount which the insured bears provided the loss is not more than the franchise limit. For instance, if the policy has a franchise of N5000- where the insured suffers a loss of N1, 000, the insurer will not pay it, where the insured suffers a loss of N5, 000, the insurer will not pay any thing; where the insured suffers a loss of N5001, the insurer will pay everything (as the loss is higher than the franchise limit).

Please note the difference between excess and franchise – that is, if the amount is more than the excess limit, the insurer will only pay the amount which is above the limit while in franchise, he will pay everything.

Instead of keeping funds aside, the organization may establish its own insurance company within the organization – known as Captive insurer or captive. We will discuss this later.

(2) Internal Fund

Here the organization set aside fund to enable it to finance losses.
It may decide to create the fund over a period of years while still insuring during the formative years. This is known as "Sinking fund" which could be used in future to pay for unexpected loss.

(3) Captive Insurer

The organization may decide to set up an insurance company to underwrite its risk instead of using the internal fund method.
This is captive arrangement.

Captives are insurance companies established by large firms, whose business engagement is not related to insurance to underwrite their risks and any other risks that could come their way.

Captives, especially those owned by Aviation, Oil and Gas Companies are established in what is called tax havens – that is why such companies pay little or no taxes at all. These countries are Barbados, Bermuda, Luxemburg, the Isle of man, the Cayman Islands, Gibraltar, Mauritius, etc.

A captive market could arrange reinsurance to protect itself. This is not a facility available for internal fund method.

The risk manager is usually in charge with the management of the captive company. In some cases, he is the Chief Executive of such Company.

(4) Risk Sharing

Here members of some profession decide to come together so as to share any loss any member of such group might have suffered. They could be lawyers, accountants or medical doctors. It is common among artisans, age – grades in Igbo land, etc,

(5) Risk Transfer

Instead of protecting risks within the organization directly through internal fund or indirectly through captive insurer or risk sharing, the organization could transfer its risks to others as will be discussed below.

(6) Transfer to Counter Party

The organization could use contractual agreement to transfer its risk to others. This is done in the process of negotiations between the parties of which the associated risks to the contract are identified and transferred to one of the parties. Examples of such arrangements are:

- A lease for the use of property whereby the tenant is made to bear any risks that would affect the property during the tenancy period.
- Use of financial penalty clause for the delay in delivery of goods.
- A publishing contract clause identifying the ownership of the intellectual property to either author or publisher.

SELF ASSESSMENT EXERCISE 2

List and discuss the various forms of risk find available to corporate organizations.

3.3 Transfer into the Insurance Market Place

The organization decides to transfer its risks to insurance so that it concentrates on other areas of his operation. More so, that the insurance market will provide a viable risk funding mechanism.

In this case, once an insured loss has occurred, the organization will approach the insurer to indemnify them to the extent of the insurance terms, limits and conditions.

The insurance market provides an economic vehicle for the sharing of risk exposures. The cost of risk in form of premium is normally small as compared with the quantum of likely loss. This is so as a result of the mechanism of pooling together of homogenous insurance. It is as a result of the large number of risks or what is known in insurance parlance as law of large member. The likely premium payable by each contractor to the insurance pool will be small – thereby reducing the cost of each individual risk (premium payable)

3.4 Alternative Risk Transfer

The idea of alternative risk transfer (alongside insurance) was introduced in the 1990's by the Chicago Board of Trade. This arrangement means that risks could be traded (or rather transferred) through the capital market.

This method is called either Alternative Risks Transfer or Non-traditional Risk Transfer method. The carrier of risks in this arrangement is the capital market as against insurance or reinsurance market.

The reasons for the use of this method are:

- A recent string of very high catastrophic losses has exposed the inability of the insurance industry to respond adequately;
- Consequently, catastrophe capacity is, at times, not fully available, leading to wildly fluctuating prices,
- The spread and scale of the capital markets means that catastrophe exposure can be spread over a wider capital source, instead of solely within the insurance and reinsurance market (kaye, 2001).

The type of products in this market are derivatives, catastrophe bonds etc.

(1) Derivatives

This product protects organization against movements in price and in interest rates. It is a forward contract that will enable someone to bring or sell a specified asset, at a specified date in the future and at a specific price.

For the purpose of risk, the organization sells its risks at a specified amount over a period of time. For instance, the organization could sell loss following a catastrophe within a period of five years at N10miillion. This means if the organization suffers such losses during the period the buyer of the risks will pay him the sum of N10million

(2) Catastrophe Bond

This is a bond that pays a return to an investor based on insurance event rather than financial event. It helps organizations to transfer their risks beyond the insurance market to the capital market.

Here, the organization buy a bond for its risks in the capital and at the happening of the event of a loss – say a catastrophe – the bondholders will pay the amount of the bond to the buyer.

(3) Catastrophe Risk Exchange (Catex)

This is an electronic system trading insurance risk whereby licensed risk bearers exchange their catastrophe exposures. It makes it possible for the risks of earthquakes, which is common in Japan to spread across the world. Likewise that of hurricane in Florida (USA) to equally be spread down to Japan. _

(5) Loans

The organization can borrow fund to finance its loss after a catastrophe. This method is not recommended as it could make the organization to be working only to pay the loan back – which may also be difficult, thereby putting the organization in jeopardy.
At times, it may even be difficult for organizations, especially the small ones to find a place to borrow from.

(6) 'Put Options'

This makes it possible for the organization to exercise its right to act to be after a catastrophe loss. It is then that the damaged organization could use the contracted right to sell a pre-agreed level and type of quality to the financial organization that provide the option its non- voting preferred shares (which do not affect the balance sheet values).

SELF ASSESSMENT EXERCISE

List and explain methods for alternative risk transfer

3.4 Risk Financing Plan

This is the plan put in place by an organization to enable it finance a loss, taking into consideration its maximum possible loss. The plan could be as follows:

RISK	EXPOSURE	MAX POSSIBLE LOSS	FUNDING	
1	Killer risk Brand value Customer Confidence Employer Skill base Optional failure Business and Financing controls	Destruction	Investment in ➢ Risks controls ➢ Risk management ➢ Impact reduction ➢ Contingency planning	
2	Liabilities: Public Employee Product Professional Director and officers	‹N500m	Retained	‹N10m
			Captive N10-50m	
			Insurance of Captive 500m	N50m–
			Claims outsourced	handling
3	Assets (any one risk)	N100m	Retained	‹N10m
			Captive N10-50m	
			Insurance of Captive	N50m–
			500m Capital Markets 1000m	N500-

Sources Kaye, David (2001) Risk Management p8/18

SELF ASSESSMENT EXERCISE

What is maximum possible loss?

4.0 CONCLUSION

The concept of alternative risk financing is a viable method of funding risks in developing world. This concept is yet to be introduced in Nigeria. One do hope that with the sophistication of industrial risks in Nigeria – especially in terms of the high value of technology used in the industrial sector, that he concept will be adopted sooner than later.

5.0 SUMMARY

- The cost of risk will assist the risk manager decide on how best to handle his organization's risk exposure
- Insurance is not the only method of funding risks as there are alternative risks funding methods in the markets today.
- As there are different types of risk financing matters so also are there different products in the alternative risk transfer market.

In the next study unit, we shall discuss quality and quatity control

6.0 TUTOR - MARKED ASSIGNMENT

List and explain methods for derivatives risk transfer.

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UNIT 4 QUALITY AND QUALITY CONTROL

CONTENTS

1.0 INTRODUCTION

We have looked at risk from different points and we want to look at the relationship between risk and quality control.

2.0 OBJECTIVES

At the end of this unit, you will be able to:

- To identify the meaning of quality and quality control
- The importance of quality control in organization
- The contributions of experts on quality control.

3.0 MAIN CONTENT

3.1 Meaning of Quality

Tom Peters (1992) in his classical management work – Liberation Management quoted Robert Pirsig as having said, "Quality doesn't have to be defined. You understand it without definition. Quality is a direct experience independent of and prior to intellectual abstractions"

In other words, quality is felt than being described. This notwithstanding, we will want to define what we mean by quality from the point of view of experts in the meaning of the word. This will actually guide us appropriately with analysis and some arrays of definitions are as follows:

- Chambers English Dictionary (1990) defines quality as "that which makes a thing what it is: nature: character: kind: property: attributes: social status: "grade of goodness: excellence: profession … adj. of high grade of excellence…"

- Oxford Advanced Learners Dictionary (2000) sees it as "the standard of something when it is compared to other things like it; how good or bad something is… a high standard…"

- Merriam – Webster's Collegiate Dictionary (2002) defines quality as "…peculiar and essential character… a degree of excellence…

The above definitions have shown that quality has to do with good standard of excellence. The word quality as a qualification of being of high quality came to use since 1936 according to the Merriam – Webster's Collegiate Dictionary.

The essence of quality of a product or service is to ensure that products and services meet the desired satisfaction. Thus, the organization has to embark on programme of quality assurance.

Quality assurance, according to the Merriam- Webster Dictionary (op cit) means "a programme for the systematic monitoring and evaluation of the various aspects of product, service, or facility to ensure that standards of quality are being met"

This led to the issue of quality control. What is quality control? This means an aggregate of activities (as design analysis and inspection for defects) designed to ensure adequate quality especially in manufactured products (Merriam – Webster Dictionary)

Writing on what they term the quality gospel, in the book Financial Times Handbook of Management, 3rd edition, Crainer and Deanlove (ed, 2004) noted, "They found it in the notion of 'quality'. Western managers grabbed hold of quality with the enthusiasm of the quality desperate".

"I think people here expect miracles. American management thinks that they can just copy from Japan. But they don't know what to copy". Deming said on the famous NBC broadcast. Deming is seen as the father of quality management. He was the one who introduced the concept in Japan in the early 1950's and had insisted that for Japanese products to be accepted abroad, they must be of the highest quality – thus leading to the great concern about quality globally, later.

Deming's message in 1950 in Japan was that first, "management was responsible for the mess". That is "failure of management to plan for the future and to foresee problems have brought about waste of manpower, of material, and of machine- time, all of which raise the manufacturer's cost and price that the purchaser must pay. The customer is not always willing to subsidies this waste. The inevitable result is loss of market".

In other words, quality must be led from the top. The exhortation to work harder does not lead to quality.

Also, part of the message is that the customer is king, emperor, CEO, and dictator. Or as Deming puts it, the customer is the most important part of the production line.

"Quality is defined by the customer. Third, the old showhart mantra: understand and reduce variation in every process. The process, not the product, is the thing, as by the time the product is in the hands of the inspector, it will be too late to improve on its quality. Four, never stop apply quality to everything. Everybody in the organization must be involved in this five, train people".

To do all these, Deming came up with his fourteen – points agenda, which is stated below:

1. Create constancy of purpose for improvement of products and service.
2. Adopt the new philosophy
3. Cease dependence on inspection to achieve quality
4. End the practice of awarding business on the basis of price tag alone.Instead, minimize total cost by working with a single supplier
5. Improve constantly forever every process for planning, production, and service.
6. Institute training on the job.
7. Adopt and institute leadership
8. Drive out fear
9. Break down barriers between staff areas
10. Eliminate slogans, exhortations and targets for the workforce.
11. Eliminate numerical quotas for the workforce and numerical goals for management.
12. Remove barriers that rob people of pride of workmanship. Eliminate the annual rating or merit system.
13. Institute a vigorous programme of education and self- improvement for everyone.
14. Put everybody in the company to work to accomplish the transformation.

These points became the commandments of the quality movement. As one commentator noted, in his efforts to move quality off the factory floor and on to the desk of every single executive, Deming recreated it as a philosophy of business and, for some, of life. "Unfortunately, a system of totality insists, by definition that it will solve everything".

SELF ASSESSMENT EXERCISE 1

What are the fourteen commandments of quality?

Another noted freak for quality is Joseph Juaran (born 1904) who had spoken wildly to the Japanese in 1950's also for the need for what he called "managing for quality".

Juran wrote a book in 1951, entitled Quality Control Handbook and was awarded the Second Class Order of the Sacred Treasures by Emperor of Japan-the highest honour for a non-Japanese citizen – for "the development of quality control in Japan and the facilitation of US and Japanese friendship"

Juran had posited that there was a blessed quality trinity of planning, control and improvement. He produced his "Quality Planning Road Map" in keeping the desire for simplification and checklists, with nine quality steps for organization. They are:

1. Identify who are the customers
2. Determine the needs of those customers
3. Translate those needs into our language
4. Develop a product that can respond to those needs.
5. Optimize the product features so as to meet our needs as well as customer needs.
6. Develop a process which is able to produce the product
7. Optimize the process
8. Pave that the process can produce the product under operating conditions.
9. Transfer the process to operations

The duo of Deming and Juran spread the concept of quality gospel across the world.

The Japanese wanted their own concept of quality termed kaizen – this is at the heart of the quality philosophy, and involves the use of quality circles – small teams of workers who analyze and make suggestions for improving their own work tasks. Quality circles can support continuous quality improvement at shop floor level.

SELF ASSESSMENT EXERCISE 2

Mention the nine steps needed for quality improvement

3.2 Quality Control

The American Society for Quality Control (ASQC), in its Glossary and Tables for Statistical Quality Control, defines quality control as

"The operational techniques and the activities which sustain a quality of product or service that will satisfy given needs; also the use of such quality is to provide quality that is satisfactory, e.g, safe, adequate, dependable, and economical… (This steps including proper specification…design of the product…to meet the requirements, production (processes that)… meet the specification; inspection to determine (the degree of conformance)…to specification; and review of usage to provide for revision of specification (if necessary)".

Control charts are used, as a technique, in the implementing, sustaining and improving quality control. So also is statistical process studies used in improving quality by reducing process variations. Total Quality Control (TQC) or Total Quality Management (TQM) is also a method of controlling quality beyond the "sustaining" of quality.

Total quality control, is defined by Dr Kaoru Ishikawa (1987) as a system of introducing and implementing quality technologies into various departments of a company, such as engineering, production, sales, and service, for the purpose of satisfying the customer. He posited that the TQC is only the first stage of Company-Wide Quality Control (CWQC).

On his own part, Dale Besterfield (1990) stated in his book Quality Control, that the deliverance of a quality product or service requires the responsible integration of all the firms departments-marketing, product engineering, purchasing, manufacturing engineering, manufacturing, inspection and testing, packaging and shipping, and product service.

This is why at the international level, the ISO 9000 series of quality standard has been incorporated since 1987 to reflect the importance of quality and reliability as critical factors for achieving and maintaining world wide competitive advantages.

SELF ASSESSMENT EXERCISES 3

Write short notes on:

- Quality
- Quality Control
- Quality Assurance

4.0 CONCLUSION

It requires strong commitment of management for quality control to succeed in any organization. That is, the attitude of top management to the concept will go a long way in its implementation. All the same, the organization benefits greatly from the implementation of quality management.

5.0 SUMMARY

- You don't need to define quality, it is something you feel.
- The purpose of quality is to satisfy the customer and reduce wastages.
- Deming and Juran contributed greatly to the development of the concept of quality control

In our next study unit, we shall discuss risk and quality control.

6.0 TUTOR - MARKED ASSIGNMENT

What are the fourteen (14) points agenda of Deming needed for entrenchment of quality in organization?

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MODULE 4

UNIT 1 RISK AND QUALITY CONTROL

CONTENTS

1.0 INTRODUCTION

Quality control is one of the ways through which mankind has being able to handle its risk exposure. Standard quality helps to reduce either the frequency or severity of risk to an organization.

2.0 OBJECTIVES

After studying this unit, you would be able to:

- Discuss the evolution of risk and quality control
- Explain the relationship between risk and quality control

3.0 MAIN CONTENT

3.1 Evolution of Management of Risk and Quality Control

Mankind has lived with risk all his life. In the course of living with risks mankind has devised different ways to manage his risk exposures.

For instance, one of the risk that had affected mankind is the maritime perils. Maritime had been the earliest form of transportation within the globe. It was also associated with risks in form of shipwrecks, etc. To

take care of the associated risks – otherwise known as maritime peril, marine insurance was invented. The time of invention of marine insurance is not unknown, but what is known is that it became popular from the 13th century.

It was as a result of the challenges of fire to mankind especially that of London of 1666 – popularly referred to as Great London Fire of 1666 that in 1667 Mr. Nicholas Barbone came up with the concept of fire insurance. Same goes to Motor, Aviation, etc.

Apart from insurance, mankind since the17th century had devised one appliance or the other to help him to take measures to reduce the impact of risk such as fire extinguishers, locks, etc.

The concept of quality of products began in the Middle Ages, with emphasis that craftsmen should be trained over a period of time so as to instill quality in their work.

During the 19th century, modern industrial systems began to be anchored on the need to have quality products using the concept of Freddrick W. Taylor's (1856-1915) "Scientific management". Taylor's philosophy placed work and production planning in the hands of management and industrial engineers. Thus, the great industrialist, Henry Ford (1863-1947) based his moving assembly line on this concept.

Before scientific management, quality was the manufacturer's responsibility. However, with the meeting of production deadlines the priority of the production management, the responsibility for quality was placed increasingly in the hands of the "Chief inspector" and the quality control department.

Walter A. Shewhart (1891-1967) in 1967, at Bell Telephone Laboratories, developed statistical control charts. These charts showed the sources of variation within processes and were used to control the quality of, and to improve the processes that delivered the output.

It is an acknowledged fact that the introduction and implementation of Shewhart's control charts inaugurated statistical quality control. In 1950, Edwards Deming (1900-1987) a statistician began to encourage Japanese Manufacturers to embrace quality Control in their manufacturing processes.

The Japanese industrialists and engineers embraced Deming's teaching, and Japanese quality, productivity, and competitive position significantly increased. Under Deming, Joseph M. Juran (1904),and

Armond V. Fergenbaum (1920-), the concept of quality control was extended to all areas, from design to sale.

In the last four decades, Japanese management and engineering professionals like Ishikawa, Masaaki Imai, and Genichi Taguchi- the latter formulated new statistical designs of experiment for quality – have expanded the theories of Deming, Juran, and R.A. Fisher.

SELF ASSESSMENT EXERCISE 1

Discuss the contribution and eminent scholars to the evolution risk and quality control management

3.2 Project Risk Management

In project executions; risk management is usually given the least attention. In fact, it is virtually ignored, irrespective of the fact that it should be seen as an integral part of the project selection and management process.

There are many sources of risk and they can take many shapes. As Levine (2002) rightly noted, "we just need to look at some of the more well known catastrophes to see the breadth of this thing that we collectively call risk"

The importance of risk management is finally being recognized. According to Frank T. Anbari, project manager – technical systems for the National Railroad Passenger Corporation of Ambak.

> By definition, projects are risky endeavors. They aim to create new and unique products, services, and processes that did not exist in the past. Therefore, careful management of project risk is imperative to repeatable success. Quantitative methods play an important role in risk management. There is no substitute for profound knowledge of these tools.

Today, all organizations of note have embraced risk management in their operations. As Kerzner (2000) puts it, today, excellent companies integrate five main management processes in their operations and they are:

- Project management
- Total quality management
- Concurrent engineering
- Risk management
- Change management

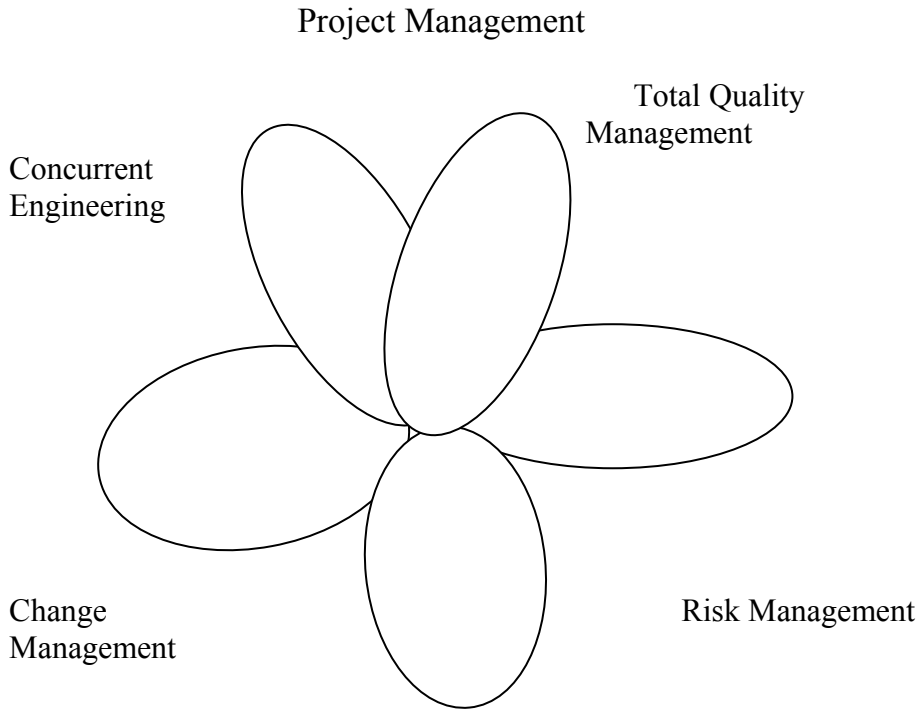

Figure 13.1 Modern Management Processes

Preparing a project plan is based on the history of the project as provided. What have we learned from the past? Risk management assist us, in this regard in looking at the future and anticipated what can go wrong, and then, to develop contingency strategies to mitigate these risks.

Risk management could be performed in two ways, that is, financial and scheduling risk management. To mitigate a financial risk, we increased the project's budget. To mitigate a scheduling risk, we add more time to the schedule.

It was discovered in the 1990's that these two approaches could not help in mitigating technical risks of today. As such, there was need to adopt another approach on technical risk management, especially to address two primary questions:

- Can we develop the technology within the imposed constraints?
- If we do develop the technology, what is the risk of obsolescence, and when might we expect it to occur?

To address these questions Kerzner (2000) wrote:

To address these technical risks, effective risk management strategies are needed based upon technical forecasting.

.
On the surface, it might seem that making risk management an integral part of project planning school be relatively easy. Just identify and address risk factors before they get out of hand. Unfortunately, the reserve is likely to be the norm, at least for the foreseeable future.

Consider the following scenario. As your organization gets better and better at project management, your customers begin giving you more and more work.

You're now getting contracts for turnkey projects. Before, all you had to do was deliver the project on time and you were through. Now you are responsible for project installation and start-up as well sometimes even for ongoing customer service.
Because the customers no longer use their own resources on the project, they worry less about how you're handling your project management system.

Alternatively, you could be working for third world clients who haven't yet developed their own systems. One hundred percent of the risk for such projects for such projects is yours, especially as project grows more complex…

It is in view of the complex nature of projects we will like to review the views of notable project managers on risk management.

Suzanne Zale, global programme manager of EDS, made the following comments on risk management:

- Risk management automatically becomes more critical for global projects. For some geographical regions, people are less likely to surface issues, especially if issues may be taken to higher-level management or outside the local environment. It is very important that the risk management process is very clearly defined and people well trained in the process.

    This will give people a non-threatening avenue to raise issues. It is also very important for the project manager to establish good relationships with the team members to increase the level of comfort and encourage open communications.

It is important to state here that having a simple risk management process is better than not having any process at all. In short, risk management is part of the value-added chain in an organization. As Steve Gregerson, vice president for product development at the Sealing Systems Group of BTR Automotive noted:

- Risk management is a major value-added function of our project management process. A single form has been developed with the intent of predicting the likelihood of failure of a program based on its current status. The program team must complete this form for each gateway and report on the risk management in about 20 areas of the program and take counter measures to mitigate the risk.

In addition, a survey of each member of the program is taken during the gateway review, and any concern which is considered worthy of further analysis is carried either in the team open issues report or reported in the monthly Red Friday meetings, or both. I have found that a "gut feeling" of an experienced team member is as good of an early warnings systems as any.

3.3 Risk and Project Management

There is no project without its own risks, as a result in executing any project.

- The managers should identify the allied risks to the project.
- Determine the level of risks that could be retained by the organization.
- Determine the methods to minimize or reduce the impact of the identified risks on the organization, i.e., these methods that could physically reduce the risk exposures of the organization.
- Determine the risks that should be transferred with either through insurance or contractual agreement.

SELF ASSESSMENT EXERCISE 2

Discuss project risk management

4.0 CONCLUSION

Quality control is a good method for the handling of identified risk in an organization. Moreover, no organization worth its salt can operate without having good quality control mechanism in place.

5.0 SUMMARY

Mankind has lived all his life with risks and as a result, has always being on the look out for ways of integrating the effect of risks to his existence. Quality control is one of the modern methods used by man in mitigating the effects of risks to him. Every project has its own risk exposure which must be managed.

In the next study unit, we shall discuss risk management and probability distribution

6.0 TUTOR MARKED ASSIGNMENTS

Mention and discuss the five main management processes according to Verner.

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UNIT 2 RISK MANAGEMENT AND PROBABILITY DISTRIBUTION

CONTENTS

1.0 INTRODUCTION

Probability distribution is one of the important methods of measuring risk. Unfortunately, this method is more difficult to explain and the data needed to construct the required probability distributions are commonly not available. Nevertheless, probability distributions are a more comprehensive risk measurement technique; they are becoming a more common tool of modern management.

Furthermore, probability distributions improve one's understanding of the more popular risk measurements and are extremely useful in determining which risk management devises would be best in a given situation.

2.0 OBJECTIVES

At the end of the study, you should be able to:

- Distinguish between temporal probability and spatial probability of loss.
- Determine the probabilities of outcomes of risk measurement.

3.0 MAIN CONTENT

3.1 Probability Distribution

Probability is an important measure of risk as it measures the likelihood that certain events will take place. For instance, the likelihood that there will be a loss or certain number of losses. It also measures the likelihood that each of these losses will cost some amounts.

In this regard, we will look at three concepts. The nature of probability
How probabilities are derived, using probabilities

When we talk about the chance of an event occurring, for instance, of rainfall, or the likelihood of passing an exam, etc, we are actually trying to place some measure of these events occurring.

In other words, probability theory is a simple formal mechanism of measuring likelihood. And it is measured on a scale of 0 to 1, where 0 represent impossibility and 1 represents certainty. However, points along this scale, which is from 0 to 1 indicate likelihood of events occurring. The more the point is closer to 1, the more likelihood that the event will occur. Thus, an event with a probability of 0.6 is more likely to occur than one with 0.2.

At this juncture, it is important we note that there are a number of conventions or traditions when writing probabilities and using them in calculations for instance, if the event be A. this is normally phrased as follows:

Let the event that there will be a motor accident, be “A”. The probability that an event will occur is shown by the letter “P”. Therefore, the probability that there will be a motor accident is P(A).

SELF ASSESSMENT EXERCISE 1

Explain the nature of probability distribution.

3.2 Deriving Probability

There are three main ways to measure the likelihood of an event occurring and they are a priori, relative frequency, subjective probability

Each one has its own part to play and the interpretation of the derived probability will be the same regardless of which method that is used.

(1) A Priori

This is used in measuring event when all the possible outcomes in an event are known before, or prior to the event occurring and all of the outcomes are equally likely. For example, in the event of tossing of a coin, it is either a head is gotten or a tail. The chance of getting a head on a flip of a coin is therefore 50%. Put simply, we divide the desired outcome by all possible outcomes, that is:

$$\frac{\text{Desired outcome}}{\text{All possible outcomes}} = \frac{1}{2} = 0.5$$

In the same way the probability of picking a queen from a pack of playing card is.

$$\frac{\text{Desired outcome}}{\text{All possible outcomes}} = \frac{4}{52} = 0.0769$$

(2) Relative Frequency

A drawback in the priori method is that all possible outcomes must be known before hand, which is not so in reality. For instance, it is not possible to know before hand the number of fire or motor accidents in a particular locality in a given year. However, an organization could look at its past experience, assuring no change in the nature of the event and estimate the losses- say fire or accident in the future.

Take an example, that in 2006 there were100 fire events among 10,000 buildings in Surulere. The relative frequency of such losses is

$$\frac{100}{10{,}000} = 0.01$$

Based on the above one can predict that since, we have 12,000 buildings in Surulere in 2007, the number of fire losses will be

$$12{,}000 \times 0.01 = 120$$

(3) Subjective Probability

The relative frequency we just discussed has its own drawback, that the relative frequency lies on there being some priori knowledge of the past. This means where there is no historical record of the past, it will be impossible to predict the future event occurring.

In this case, the subjective probabilities are used, using techniques concerned with behaviourial matters, to find out the outcome of an event where there is no past or little occurrence, for instance, when an organization is dealing with unique events or events, which have only occurred a few times, it may need to use the subjective probabilities.

3.3 Two Interpretations of Probability

In interpreting the probability of an event occurring, there may be two ways of doing so. For instance, if the risk manager says that the probability is $^1/_{10}$ that fire will damage the organization's warehouse in a given year. The risk manager is only trying to state the likelihood of fire occurring in that warehouse that year. This could lead to the following interpretations:

1. During the year, $^1/_{10}$ of the total warehouse in the location is independently exposed to the same loss under the same conditions will be damaged by fire.

2. If the same warehouse is exposed to fire losses under the same conditions over a very long period of time, fire damage will occur about $^1/_{10}$ of the years of exposure.

Whichever interpretation, the most important thing to note is that both are of great concern to a risk manager in an organization. Moreso, that before a risk manager could make such statement, he or she must have studied the fire loss experience of similar warehouses. (Or rather the population of such warehouses) in the past.

However, in drawing such inference, it is important to note that:

(a) No two warehouses are the same and
(b) Conditions could change which could alter the risk exposure of warehouses, either for good or for bad.

This example above is one type of probability measurement – the probability that a particular exposure unit will suffer a loss of any size due to a specific condition in a period of time.

There are other forms of probability involving events such as below:

(i) A loss will result from two or more periods
(ii) A loss between, say, N5,000 and N10,000 will occur.
(iii) Two or more units, say warehouses, will experience losses during the coming year

(iv) A property loss exceeding, say N50,000 and a liability loss exceeding the same amount will occur the same year.
(v) At least one of several units, say, motorcars owned by the organization, will be damaged during the coming year.

SELF ASSESSMENT EXERCISE 2

List some interpretations of probability occurrences

3.4 Some Rules of Probability

The rule, which are important in the study of probability, apply to mutually exclusive outcomes, and compound or joint outcomes

(1) Mutually Exclusive Outcomes

In this rule, the two outcomes cannot occur together. For example, a warehouse cannot be burnt and remain un-burnt at the same time. Neither can a car be involved in an accident and at the same time not be involved in an accident. This means that the probability that the actual outcome will be any one of a set of two or more mutually exclusive outcomes is equal to the sum of the probabilities of the separate outcomes. If a loss occurs, the liability could either be N10,000 or be N50,000.

In the liability loss above, the probability is that the loss will be either N10,000 or N50,000.

In determining this type of probability, the compound outcome will depend upon whether the separate outcomes are independent. Two outcomes will be independent of one another if the occurrence of one outcome does not affect the probability that the other will occur.

For example, there is no probability that the fire in a warehouse in Mushin will affect the one in Ikoyi. Consequently, if there are fires in the two areas the probabilities of the fires are independent.

However, where the two warehouses are adjacent, the probability of fire spreading from one to another is increased. Consequently, a loss to one of the warehouses is not independent to that of the other.

Where the probability of two or more outcomes is independent, the probability of a compound event is the product of the probabilities of the independent events.

For example, in our warehouses in Mushin and Ikoyi, if Mushin's probability is $^1/_{20}$ and that of Ikoyi is $^1/_{40}$, then the probability of both will be ($^1/_{20}$) + ($^1/_{40}$) = or what is called the N10,000 plus the probability that the loss will be N50,000. for example, if the probability of a N10,000 loss is $^1/_{10}$ and the probability of N50,000 loss is $^1/_{20}$, the probability of either a N10,000 or N50,000 is $^1/_{10}$+ $^1/_{20}$ = 3/20 (or what is called the addition rule).

It is important to note that the sum of the probabilities of all possible mutually exclusive events is 1, as one of the events is certain to occur.

For example, the probability that the warehouse will either burn or not burn is 1.that the warehouse will burn is $^1/_{10}$, which means that it will not burn is $^9/_{10}$.

(2) Compound or Joint Outcomes

This is used to measure the probability of two or more separate events occurring during the same period. For example, fire occurring in warehouses A and B, a property loss and liability loss arising from the same accident, or industrial injuries to two or more workers in an organization involves multiplication rule.

This compound probability theorem can be combined with the theorem on mutually exclusive outcomes to calculate the probability of the other three possible compound outcomes, as follows:

Loss in Mushin, not in Ikoyi: ($^1/_{20}$) (1-$^1/_{40}$) = $^{39}/_{800}$

No loss in Mushin,loss in Ikoyi (1-$^1/_{20}$) ($^1/_{40}$) = $^{19}/_{800}$

No loss in either location: (1-$^1/_{20}$) (1-$^1/_{40}$) = $^{741}/_{800}$

The sum of the probabilities for the four mutually exclusive compound events is equal to 1.

In a situation whereby the separate outcomes are not independent, the calculation of compound probabilities is more complicated. For example, if there are two separate outcomes, A and B, the probabilities that both outcomes will occur is determined by multiplying the probability of A by the probability (called the conditional probability) of B, given that A has occurred.

The same result can be obtained by multiplying the probability of B times the conditional probability of A, given that B has occurred.

For example, if the probability of a fire loss for each of two warehouses, A and B, is $^1/_{40}$, the probability that both warehouses will burn, assuming

independence, is $(^1/_4)$ $(^1/_{40}) = {}^1/_{1600}$. In addition to fires at both locations, three other outcomes are possible with the following probabilities.

Loss to warehouse A, not B: (1/40) (1-1/3) = 2/120

Loss to warehouse B, not A: $(^1/_{40})$ $(1-{}^1/_3) = {}^2/_{120}$

Loss to neither A nor B: $(1-{}^1/_{120} - {}^2/_{120} - {}^2/_{120}) = {}^{115}/_{120}$

The value for the final outcome is calculated on the assumption that the probabilities of the four outcomes are equal to 1.

When compared with the situation involving independent outcomes the two probabilities are higher, the probability that both warehouses will burn and the probability that neither warehouse will burn. As the degree of dependence increases, these two probabilities approach the probability that one warehouse will respectively burn or not burn.

(3) Alternative Outcomes

In some probabilities, the statements tell of the chance that at least one of the two or more outcomes will occur within a given time; as we had in mutually exclusive outcomes. If the outcomes are mutually exclusive, the probability that at least one of the alternative outcomes will occur is the sum of the probabilities that these alternative outcomes will occur.

If the outcomes are not mutually exclusive, the calculation is more complex only the probability that at least one of two outcomes will occur will be considered here. This probability is the sum of the probabilities of the two separate outcomes less the probability that they both occur.

For example, consider the case of warehouses A and B presented earlier. The probability that either A or B will burn, assuming independence, is ${}^1/_{40} + {}^1/_{40} - (^1/_{40})$ $(^1/_{40}) = {}^{79}/_{1600}$. This probability can also be calculated by, summing the probabilities for the three possible joint outcomes in which either A or B suffer a loss.

A and B: $(^1/_{40})$ $(^1/_{40}) = {}^1/_{1600}$

A, not B: $(^1/_{40})$ $(1- {}^1/_{40}) = {}^{39}/_{1600}$

B, not A: $(^1/_{40})$ $(1-{}^1/_{40}) = {}^{39}/_{1600}$

For the situation in which independence was not assumed, the probability that either warehouse will burn is ${}^1/_{40} + {}^1/_{40} - {}^1/_{120} = {}^5/_{120}$.

Alternatively, summing the probability for the three possible joint outcomes involving a loss at A or B yields $^{1}/_{120} + {}^{2}/_{120} + {}^{2}/_{120} = {}^{5}/_{120}$.

SELF ASSESSMENT EXERCISE 3

Explain the following items in relevant to probability distributions:

i. Initial exclusive outcome
ii. Compound or joint outcomes
iii. Alternative outcomes

3.5 Probability Distributions

We can better explain what we mean by probability distribution by looking at the frequency distribution of an event – say motor insurance claims costs as stated under.

Cost (000)	Number
0‹ 200	90
200 ‹ 400	70
400 ‹ 600	20
600 ‹ 800	15
800 ‹ 1000	5
	200c/aims

The above shows that the insurer had 200 claims as distributed above. The number of claims in each class represents the actual frequency. These could be changed to relative frequency by expressing each in percentage of the total, for example 90% of 200 is 45%, etc. The probability distribution could be illustrated as below.

Cost	Number	Relative Frequency (%)	P(X)
0‹ 200	90	45.0	0.45
200 ‹ 400	72	35.0	0.35
400 ‹ 600	20	10.0	0.10
600 ‹ 800	15	7.5	0.075
800 ‹ 1000	5	2.5	0.075
	200	100	1.000

The relative frequency column shows the percentage while the last column (p(x)) expressed in a decimal fraction the relative frequency probabilities.

The frequency is the number of times an event will occur. The frequency with which losses occur is a discrete variable, that is, it is a whole number. For example, an insurer may have the following statistics from his theft insurance policy.

Number of theft	Number of shops
0	700
1	200
2	60
3	30
4	10
	1,000

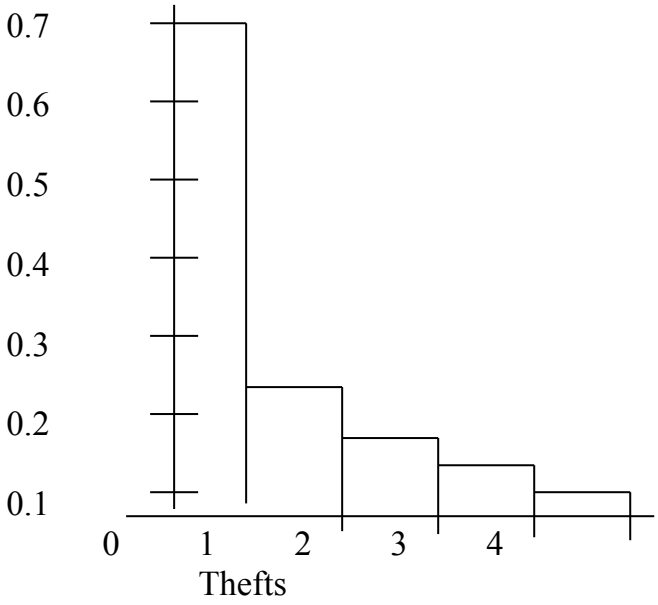
The above data could be changed into frequency distribution as follows

Number of theft	Relative frequency
0	0.7
1	0.2
2	0.06
3	0.03
4	0.01

The probability distribution could be drawn as a histogram as below

Figure 14.1. Probability Distribution

Number of theft losses



SELF ASSESSMENT EXERCISE 4

Explain and discuss distribution in relation to probability

3.6 Expected Value

Once the probability distribution is known, it is then used to calculate the expected value of the said event. For example, in our theft case above, this could be as below:

Number of Thefts	P (x)	P (x). x
0	0.7	0
1	0.2	0.2
2	0.06	0.12
3	0.03	0.09
4	0.01	0.04
	1.0	0.45

The above means that the expected value of theft per shop is 0,45

Let us assume that you are to play a gamble where a coin is to be flipped. Should it land head up you will win N10 and tail you will pay N2. The expected value of the game is $\sum$ P (X) .X. And since, you only have two options the probability of either a win or loss is 0.5. Thus, the expected value of the gamble is:

N10 (0.5) + (-N2 (0.5)) = N4

This means the amount of loss and it is measured in the same way as frequency, that is:

- Probability distribution
- Expected value

Severity may not be a discrete number as it is usually a continuous variable.

SELF ASSESSMENT EXERCISE 5

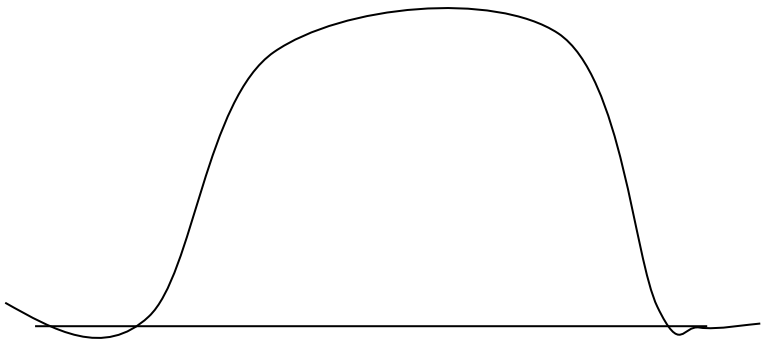
Explain with example, expected value of an event.

This form of probability distribution depends upon whether the data to be used is continuous or discrete. The theoretical probability distributions such as the Binomial and Poisson exist for discrete data while normal distribution is for continuous variables.

3.7 The Normal Distribution

In a situation where a large number of histograms are drawn and subsequently frequency polygons and probability distributions of continuous data are also drawn, we will find that one particular shape bell-like will predominate, as shown below:

Figure:14.2



The Normal distribution

The above shape have been studied and been subjected to mathematical formulation (which is outside the scope of this course)

We call this curve the normal curve, and it illustrates graphically the theoretical normal probability distribution to which many actual probability distributions bear a remarkable resemblance.

The main features of the normal distribution, as outlined by Dickson and Stan (1999) are:

- It is a theoretical distribution, but is a close approximation in a large number of actual cases if empirical distribution were to be drawn. The heights of people are a good illustration of the feature. The bulk of the people are all roughly the same height, with only a few very small people and a few very large ones.
- It is systematical

- The mean lies at the point under the peak of the curve

- The two tails of the curve theoretically never touch the horizontal axis. For all practical purposes this is not too important.

- It is used in much of the statistical work concerned with sampling
- In specific areas under the curve, lies certain standard deviation above and below the mean.

The final point requires some explanation. One hundred percent of the values in our distribution lie under the curve of the normal distribution. One extremely valuable feature of the theoretical normal distribution is the mean (di) and any point above or below the mean.

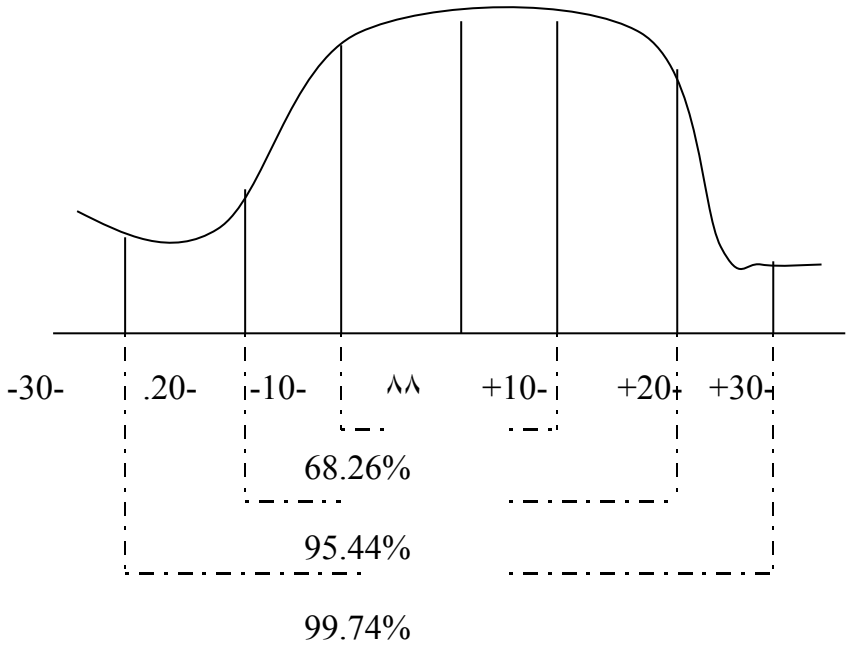


Figure 14.3: Areas under the normal curve

We can see that 68.26%of all values are bonded by the area one standard deviation above and below the mean. Similarly, 95.44% and 99.74% of

all values lie plus or minus two or three standard deviation around the mean respectively.

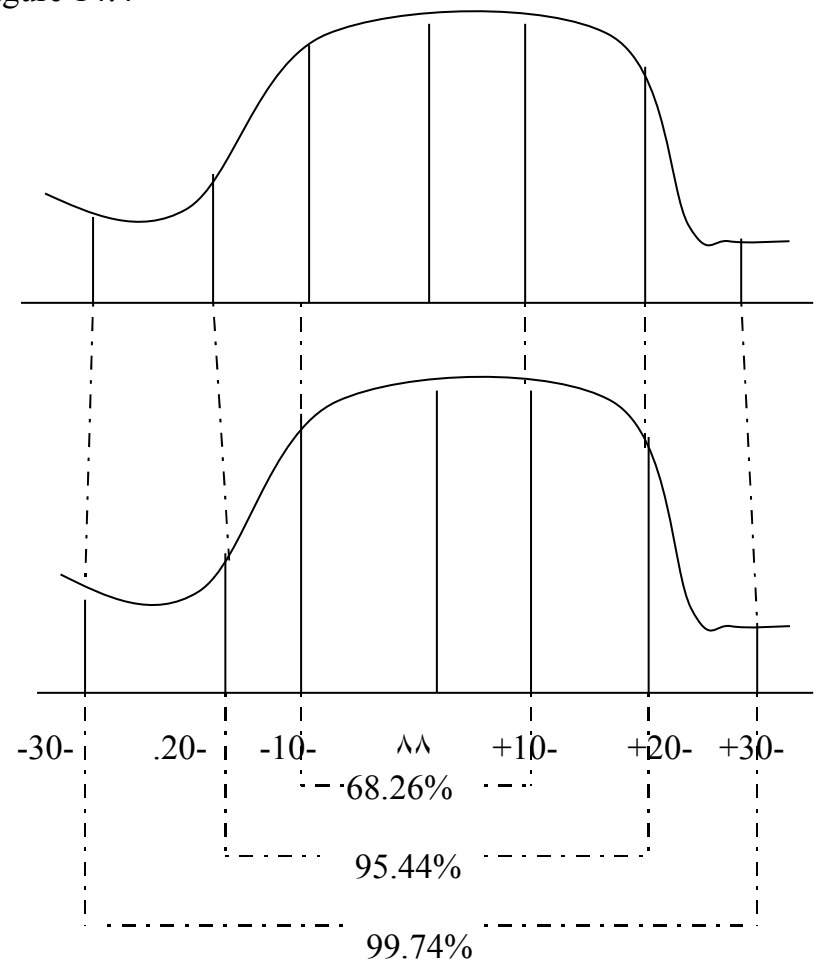
As the distribution is systematical, it follows that 34.13% of the distribution lies within the deviation above or below the mean.

One important point to note is that the same areas under the curve are bounded by one, two and three standard deviations around the mean, regardless of the particular shape of the normal distribution.

This seems to be a contradiction of our position that normal curves have a characteristic 'bell' shape. Not every distribution will, however, have the same mean or standard deviation.

We may say that our data is 'normally' distributed, but the actual shape of the curve is dictated by the, mean and standard deviation as shown in the diagram below.

Figure 14:4



For instance, let say we have a normally distributed set off values relating to the time taken to process policy endorsements with a mean time of 5 minutes and a standard deviation of 1 minute.

We could now say that 95.44% of all the different times we observed lie between 3 and 7 minutes, that is two standard deviations above and below the mean. It is quite usual to see the percentages 68.26%, 95.44% and 99.74% rounded up to 68%, 95% and 99%. In this regard, we can say that less than 95% chance of an endorsement taking less than 3 minutes or more than 7minutes.

To measure the distance along the X-9x4 of a normal distribution, we use the Standard Normal Deviation "Z" with the following formula:

$$Z = \frac{x - \mu}{0}$$

That is, to measure the distance along the X – 9x is from the mean and express this distance in relation to the standard deviation. If we go to our endorsement-processing example, where the mean time was 5minutes with a standard deviation of 1 minute, we can now find that the space on the X- 9x is between

μ = 5 and plus one standard deviation (+10) is equivalent to a Z value of 1:

$$Z = \frac{6-5}{1} = 1$$

In the same way, the between μ =5 and plus time standard deviation is:

$$Z = \frac{7-5}{1} = 2$$

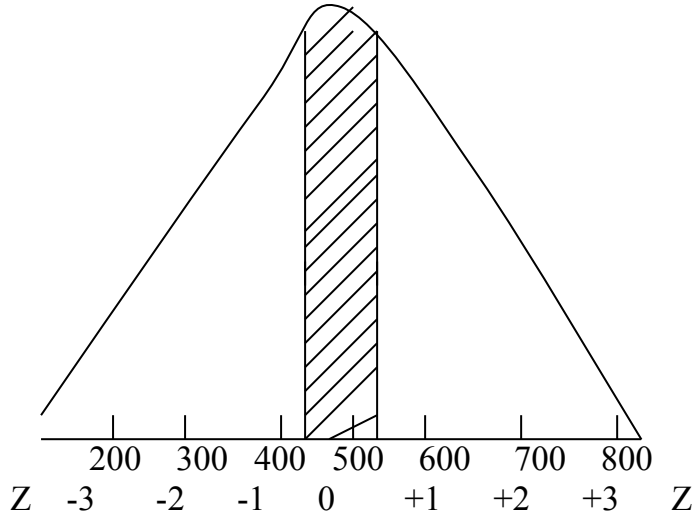
Regardless of what values for standard deviations and means we use, we find that the standard normal deviation expresses the movement along the X – axis in such a way that:

(i) $\mu \pm$ SZ embraces 68.26% of the area under the curve, when Z = 1

(ii) $\mu \pm$ SZ embraces 95.44% of the area under the curve, when Z = 2.

(iii) $\mu \pm$ SZ embraces 99.74% of the area under the curve, when Z = 3.

The figure below shows a normally distributed set of variables relating to claims for a particular type of risk.



The mean claims cost is 500 and the standard deviation is N100. Immediately under the curve we have shown the absolute amounts of money and just below them the Z values are indicated.

In a practical situation,we may be asked to estimate the probability of a claim being between N500 and N600. All claims cost are embraced by the curve and what we want to find is the area under the curve which is bounded by the pointsN500 to N600,which is shaded in the figure above. This can be found from our formula

$$Z = \frac{X-\mu}{-}$$

$$Z = \frac{600-500}{100}$$

$$z = 1$$

one Z value above the mean embraces 34.13% of all values, as we said earlier, therefore the required probability is 0.34.3%

We can get figures involving Z different from one, two or three standard deviations as this can extend to any distance. Where Z values other than one, two or three results we require tables to find the associated probabilities.

An extract of the table which shows the area in the tail of the normal distribution for certain values of Z is provided on the formula or log table. This is shown below.

Figure 14:6. Normal Curve Table

Value of 2	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.65	1.7
Area under as tail	.159	..36	.115	.097	.081	.067	.055	.050	.065
Value of Z	1.8	1.1	1.96	2.0	2.1	2.2	2.3	2.33	2.4
Area under as tail	.036	.029	.025	.023	.018	.04	.011	.010	.008
Value of Z	2.5	2.58	2.7	2.8	2.9	3.0			

We can use this table in two ways:

(i) Firstly, we can consult it to find the probability associated with a certain Z value. In the above example, we can see from the table that the area in the tail of the normal distribution one Z value above or below the mean is 15.9%

(ii) We can also use the table to find a particular value of X, given a certain area in the tail. For example,let us say that the bottom 5% of all the claims fall within some kind of self-insurance seductible and are met by the insured.

What the insurer wants to know is the claims figure at the point where he begins to pay. He knows that the cut-off point starts after the bottom 5% has been met. In other words, the area in the left hand tail is to be 5% of the total area under the curve. He can check the table and find the value of Z associated with 0.05. This is 1.65 and so he knows that he have to move 1.65 below the mean.

In our example, the mean is N500 and the standard deviation is N100. Therefore, 1.65 is N156. Then N165 below the mean of N500 is N335, and so 5% of all claims are less than N335 and the insurer would begin to pay claims over this amount.

SELF ASSESSMENT EXERCISE 6

What do you understand by discrete and continuous variables in probability distribution? List the properties of a normal curve.

4.0 CONCLUSION

Probability plays a prominent role in the study of risk as it helps in the understanding of both frequency and severity risk.

5.0 SUMMARY

At the end of the unit, we look, inter-alia probability distribution, related frequency, more interpretations of probability, some rules of probability.

In the next study unit, we shall discuss total quality management.

6.0 TUTOR - MARKED ASSIGNMENTS

Write shorts note on:

1. A prior
2. Relative frequency
3. Expected value
4. The normal distribution

7.0 REFERENCES/FURTHER READINGS

DICKSON, Prof and W.M Stein (1999): *Basic Principles of Insurance*. London Chartered Insurance Institute.

WILLIAMS, C. ARTHUR Jr. and RICHARD .M HENNIS (1985). *Risk Management and Insurance*. New York: McGraw-Hill Book Co

UNIT 3 TOTAL QUALITY MANAGEMENT (TQM)

CONTENTS

1.0 INTRODUCTION

Total quality management is a management method for enhancing quality and productivity in organizations. It is a comprehensive approach to the running of all facts of the organization focusing on quality. Other terms used for the same concepts are:

- Continuous Quality Improvement (CQI);
- Statistical Quality Control (SQC);
- Quality Function Deployment (QFD);
- Quality in Daily Work (QIDW)
- Total Quality Control (TQC)

2.0 OBJECTIVES

After studying this chapter, you should be able:

- Explain the meaning of Total Quality Management
- Discuss the origin of TQM
- Explain the TQM principles
- Identify successful TQM program

3.0 MAIN CONTENT

3.1 Origin of Total Quality Management (TQM)

The concept of TQM was adopted before the World War 11 by a number of organizations based on the total quality management philosophy of Dr. W. Edwards Deming (1900-1993). Deming found in the late 1920's while working as a summer employee at Western Electric Company, Chicago that worker motivation system was degrading and economically unproductive; incentives were tied directly to quality of output, and inefficient post production inspection systems were used to find flawed goods.

The above situation gave him some concern. He had to team up with Walter A. Shewhart (1891-1967), at Bell Telephone Company to use statistical control techniques to help reduce flawed products after production.

Deming used Shewhart's theories to develop a statistically controlled management process that provided managers with a means of determining when to intervene in an industrial process and when to leave it alone during the World War 11.

After the war, the U.S. State Department posted… Deming to Japan in 1947 as part of a national effort to revitalize the war devastated Japanese economy. It was in Japan that Dr. Deming's Management idea on quality was overwhelmingly accepted. Thus, Deming introduced his statistical process of control or statistical quality control programmes into Japan's ailing manufacturing sector.

It has been acknowledged that these techniques instilled a dedication to quality and productivity in Japanese industrial service sectors. This in effect helped the economy to grow and begin to boom in the 1980's.

In response to Japanese industrial feats, the U.S. manufacturers began in the 1970's to adopt quality and productivity techniques that might restore their competitiveness.

Indeed, Deming's philosophies and systems were finally recognized in the United States, and Deming himself became s highly sought after lecturer. The Deming management method became the model for many American organizations willing to improve their production methods.

SELF ASSESSMENT EXERCISE 1

Discuss the origin of the total quality management

Figure 15.1
Contributions of the Experts to Total Quality Management

DEMING'S (1989) 14 POINTS	J.M. JURAN (1989)	CROSBY'S (1984)
1. Create constancy of purpose	1. Define your customers.	The first absolute: The definition of quality is conformance to requirements
2. Adopt the new philosophy	2. Define customer needs.	The key to quality improvement is to "do it right the first time" (DIRFT)
3. Cease dependence on mass inspection to achieve quality	3. Design products and services to respond to customer needs.	The second absolute: The system of quality is prevention
4. End the practice of awarding business on price tag alone	4. Transfer the plans to the operating workforces	Prevention involves understanding and monitoring the process so the errors do not occur in the first place.
5. Improve constantly	Quality Control	The third absolute: The performance standard is zero defects.
6. Institute training on the job	1. Evaluate actual. Performance.	The message of "that's close enough" will encourage people not to strive for quality.
7. Institute leadership	2. Compare actual performance with quality goals	The fourth absolute: The measurement of quality is the price of nonconformance.
8. Drive out fear.	3. Act on the difference	The price includes "all expenses involved in doing things wrong "Quality will cut these expenses.
9. Breakdown barriers between departments.	Quality Improvement	
10. Eliminate slogans, exhortations and numerical targets.	1. Establish the necessary infrastructure to assure quality improvement.	
11. Eliminate work standards (quotas) and management by objective.	2. Identify specific improvement projects.	
12. Remove barriers that rob workers, engineers, and managers of their right to pride of workmanship.	3. Establish project improvement teams.	
13. Institute a vigorous program of education and self-improvement	4. Provide resources, motivation, and training to teams.	
14. Put everyone in the company to work to accomplish the transformation	5. Teams execute process improvement.	

NOTE: Based on Deming, W.E (1986), out of the crisis. Cambridge, MA: MIT Press. Juran J.M, (1989). Juran on leadership for quality New York Press,Cosby P.B. (1984). Quality without fears. New York McGraw-Hill.

Reviewing all these contributions, one will come to the simple conclusion that TQM is focused on the fact that organizations should channel their efforts to customer satisfaction, identify problem areas by

measuring both work processes and outcomes, empower employees to continually improve work processes to prevent error and rework, and improve systems functioning as a more efficient means to quality improvement (Osborne, 1992).

3.2 TQM Principles

As Howard Weiss and Mark Gershon observed in production and operations management, "the terms quality management, quality control and quality assurance often are used interchangeably. Regardless of the term used within any business, this function is directly responsible for the continual evaluation of the effectiveness of the total quality system"

Weiss and Gershon went on to delineate the basic elements of total quality management as expounded by the American Society for Quality Control:

- Policy, planning and administration
- Product design and design change control
- Control of purchased material
- Production quality control
- User contact and field performance
- Corrective action
- Employee selection, training and motivation

Deming saw the above seven items as cornerstone of his total quality philosophies in his book: Out of the Crisis'. He noted that companies need to create an overarching business environment with emphasis on improvement of products and services over short – term financial gains. Adding that if such a philosophy was adhered to, various aspects of business- ranging from training to system improvement to manager-worker relationship – would become far more healthy and, ultimately, profitable.

Only through the use of statistics, Deming argued, could managers know exactly what their problems are, learn how to fix them, and gauge the company's progress in achieving quality and organizational objectives.

SELF ASSESSMENT EXERCISE 2

List the elements of TQM

3.3 Making TQM Successful

In his book, Implementing TQM, Joseph Jablonski identified three characteristics for the success of TQM in an organization and they are:

(i) Participative management – which means the involvement of all members of the organization in the management process, thus de-emphasizing traditional top-down management methods.

(ii) Continuous process improvement- this entails the recognition of small, incremental gains toward the good of total quality.

(iii) The utilization of terms- this involves the organization of cross-functional teams within the company. As Mote (2000) observed, this multidisciplinary team approach helps workers to share knowledge, identify problems and opportunities, derive a comprehensive understanding of their role in the overall process, and align their work goals with those of the organization.

Jablonski also identified six attributes of successful TQM program and they are:

(a) Customer focus (including internal customers such as other departments and co-workers, as well as external customers).
(b) Process focus
(c) Prevention versus inspection (development of a process that incorporates quality during production, rather than a process that attempts to achieve quality through inspection after resources have already been consumed to produce the good or service).
(d) Employee empowerment and compensation.
(e) Fact –based decision making
(f) Receptiveness to feedback

Apart from identifying three characteristics that need to be present in an organization and six attributes of successful TQM programme, Jablonski offers a five-phase guideline for implementing total quality management as follows:

(1) Preparation- at this phase, management should decide whether or not to adopt the TQM programme.
(2) Planning- in this stage, a detailed plan of implementation is drafted (including budget and schedule), the infrastructure that will support the programme is established, and the resources necessary to begin the plan are earmarked and secured.
(3) Assessment- a thorough self assessment- with input from customers/clients- of the qualities and characteristics of individuals in the company, as well as the company as a whole.
(4) Implementation- At this phase, the support personnel are chosen and trained, and managers and the workforce are trained- that is

the workers' awareness of TQM are raised. Each workers role in the programme is explained to him.

(5) Diversification- At this phase, managers utilize their TQM experiences and successes to bring groups outside the organization (suppliers, distributors, and other companies that have an impact on the business's overall health), into the quality process. This training, rewarding supporting, and participating with groups that are embraced by the organization's TQM initiatives.

The basic premise of TQM is that an improvement in quality service can affect an improvement in customer satisfaction, employee relations, and motivation as well as a reduction in costs. However, the implementation of TQM principles requires a revised management philosophy and a change in organizational culture that will foster employee involvement and commencement to continuously search for ways to improve the organizations processes and services (Morrissey and Wandersman, 2005).

SELF ASSESSMENT EXERCISE 2

Identify and explain the five steps for successful implementation of TQM.

3.4 Barriers to TQM Implementation

The barriers likely to be met in the implementation of TQM are:

(i) Some employees may believe that involvement in TQM simply creates more work with little payoff.

(ii) Lack of genuine support by some members of mid-and upper-level management.

(iii) Some managers in organization are often particularly resistant to the concept of empowerment, largely because of a traditional hierarchy power structure.

(iv) Full adoption of the principles of TQM is a crucial link to its successful implementation. However, some fundamental contradictions in these principles challenge the efficacy of management in bringing about change (Kaluzuy & Mclaughin, 1992). Kaluzuy and Mclaughlin outlined the following four contradictions:

(a) TQM is a participatory, decentralized approach to quality and productivity improvement- yet it must be managed from the top, intensely and in detail.

(b) TQM as a managerial innovation is seen as a paradigm shift that affects the whole organization, with the greatest payoffs derived in rationalizing multidisciplinary and interdisciplinary systems- yet it is most easily adopted one work unit at a line.

(c) TQM requires an environment of low threat and implied job security and takes time to implement and institutionalize yet most organizations are under siege of the realities of the market place, operating under severe time constraints to contain costs and improve quality.

(d) TQM depends on the strength of apparent outcomes-yet the strength of outcomes is likely to depend on the extent of adoption.

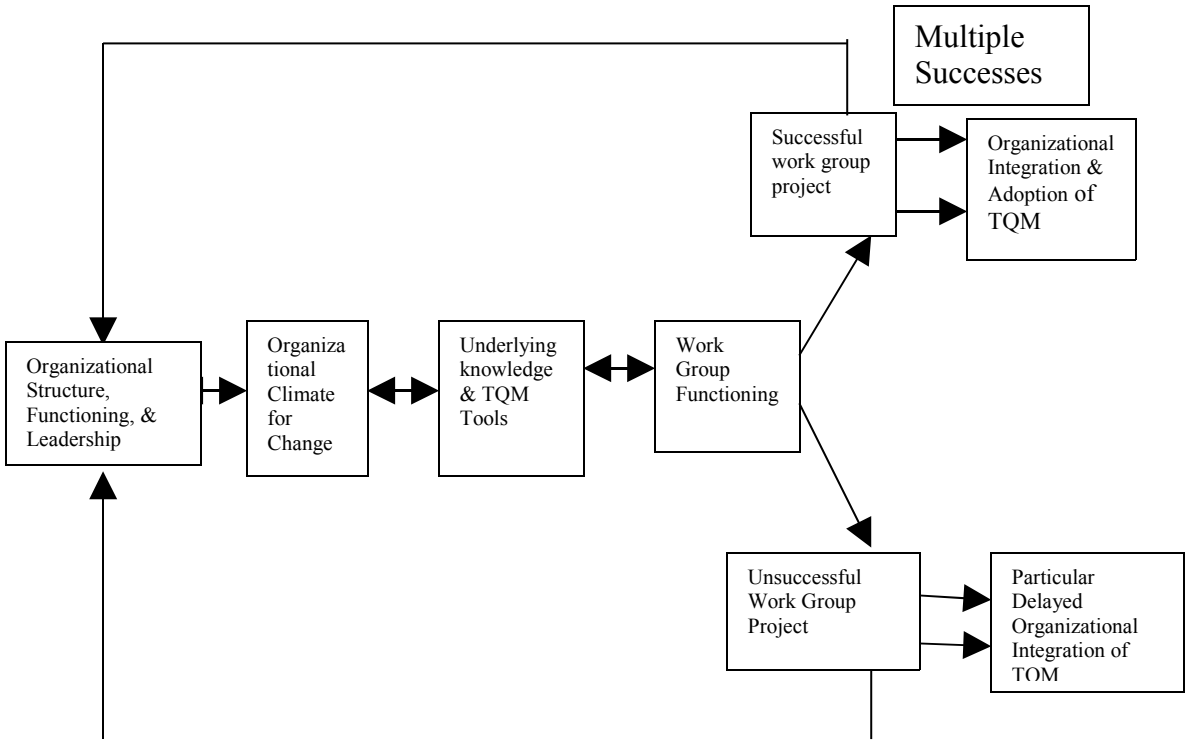
SELF ASSESSMENT EXERCISE 3

What are the barriers and contradiction of Total Quality Management?

3.5 Preliminary Framework for Successful Implementation

The implementation of TQM is a complex process with many important components, or dimensions (Keys, 2005). We will try to outline an organizing framework for the most important of these dimensions that serves to show their relationships and utter dependence.
This is shown in the table below.

Figure 15.2: A Preliminary Framework of TQM implementation in Health Care Settings



Source Keys (2005)
There is need for us to examine the components as in the diagram above.

3.6 Organizational Structure, Functioning, And Leadership

There are four variables important to the successful implementation of TQM and they are supportive leadership, employee empowerment, managerial staff's involvement, and interdepartmental collaboration.

(1) Supportive Leadership Style

This means that the leaders in the organization should be willing to support the implementation of TQM for it to be effectively implemented. That is, there is need for behavourial change in the organization, which must start from the top. Moreover, Coffey, Jones, Kowalkowski, and Browne (1998) discovered that the success or failure of TQM is related to the attitudes and behaviours of the leaders.

Coffey, et al suggested that effective questions should do the following:

1. Support the concept of empowerment (e.g, "since you are closer to this process than we are, what are your findings and recommendations?")
2. Encourage individuals and groups to learn, share, and solve problems collaboratively (e.g., "what information and people would be helpful to make improvements?")
3. Encourage decisions based on data (e.g., "can you explain the data to us?")
4. Seek ways to help remove barriers perceived by the team or individuals (e.g., "what barriers have you identified that we can help eliminate?")
5. Promote supportive behavious (e.g., "How can we or your managers help?")
6. Stimulate creative thinking and paradigm changes (e.g., "what would you do if you had no constraints?" or "can you think of other ways to improve this process?")
7. Support systems thinking (e.g., "what impacts, if any, will your recommended changes have on other processes?")
8. Value people (e.g., "what ideas do you have to provide greater opportunities for the people working in the process?").
9. Focus on customers (e.g., "what input have you gathered from the patients, physicians, or other customers about this issue?").
10. Make sure the improvements are maintained (e.g., "what measures are you putting in place to monitor this process?")

Batalden & Stoltz (1993) added that organization leaders must use policy to create a work environment that will foster the success of TQM implementations.

SELF ASSESSMENT EXERCISE 4

List and explain the preoccupations of leadership in the success of TQM

(2) Empowerment

This simply means empowering the employees so that they could do the job on their own and effectively too. Conger and Kannago (1988) stated that employee empowerment is an essential area for improving managerial and organizational effectiveness; empowering employees increases their sense of efficacy and improves their motivation and productivity.

Dverin & Adams (1998) listed nine essential aspects of an empowering environment, as:

1. Employees participate in creating the organization's mission and vision.
2. Manager respect employees' judgment and capabilities and give them the authority to use skills on the job without constant supervision.
3. Groups have a clearly established level of resource control.
4. Individuals and work groups have access to information that will facilitate their jobs.
5. Employees have access to education and training.
6. There is an environment of trust and respect.
7. Employees see that their efforts are making a difference.
8. There are meaningful incentives for being involved in TQM efforts (for example, education, training, recognition, reward).
9. Employees are involved in setting boundaries, which they are free to manage resources, manage their time, and make decisions.

SELF ASSESSMENT EXERCISE 5

What are the essential elements of empowering environment?

(3) Manager's Involvement

This means that the organization's managers as a group, among many other stakeholders must be involved in the implementation of TQM in the organization.

(4) Interdepartmental Collaboration

There is need for collaboration between the various departments in the organization to ensure the success of the implementation of TQM. Moreso, that the continuous quality improvement of an organization on the identification, cooperation, and collaboration of the various staff in different departments in the organization.

SELF ASSESSMENT EXERCISE 6

List the basic elements of TQM as expounded by the American Society for Quality Control.

4.0 CONCLUSION

Some organizations move through the stages of the adoption process more rapidly than others. This depends on factors such as organizational readiness, management commitment, employee empowerment, etc.

The extent to which these and other key variables are managed successfully determines the extent to which TQM will succeed.

5.0 SUMMARY

- TQM is a management method for enhancing quality and productivity.
- Deming's contribution in the development of TQM is invaluable
- Organizations should create an overarching business environment with emphasis on improvement of production and services.
- There are three characteristics for the success of TQM in an organization.
- There are six attributes of successful TQM

In the next study unit, we shall continue the discussion in total quality management.

6.0 TUTOR - MARKED ASSIGNMENTS

What are the attributes for successful implementation of TQM in an organization?

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UNIT 4 JAPANESE QUALITY MANAGEMENT TECHNIQUES

CONTENTS

1.0 INTRODUCTION

The Japanese management style has contributed so much on the state of quality management. It is in this regard that we will like to discuss Japanese quality management techniques.

2.0 OBJECTIVES

After studying this unit you should be able to:-

- Discuss Japanese quality management techniques
- Discuss Japanese management practices

3.0 MAIN CONTENT

3.1 Japanese Management Techniques

In Studying Japanese Management Application to American Public and Non profit Health and Human Services Organization, Keys (2005) identified useful Japanese processes such as traditional and formal participatory management practices, life long training, and participation by service workers in most agency discussions. The benefits, on the same hand, of these practices include:

- Improved communications
- A high quality of client services.
- High employee agreement with the principles and values of the services agency.

In studying the Japanese management system for possibility of adoption by American organizations, Keys (1988) identified the problems of most American organizations as include:

(a) Poor staff morale, resulting in absenteeism, tardiness, favouritism, apathy, and high staff turnover (Turnover approaches 100 in units of some large, public, child welfare agencies).
(b) Fragmentation of effort, duplication of services, and low productivity in deliverable service to clients.

In examining these problems, keys noted that these problems reveal that the underlying causes have to do with the following interrelated areas:

- Lack of creativity and fear of innovation on the part of managers and directors.
- Lack of information and insufficient communication channels among management, staff, and field workers.
- Limited staff involvement in agency decision-making.
- Lack of training and too narrow an understanding by many employees of their roles in the organizations.

SELF ASSESSMENT EXERCISE 1

What are the peculiar American management problems?

3.2 Japanese Management Practices

The Japanese management practices entail the following:

1. Flexible job description – The flexibility allows adoption in job duties and responsibilities as well as quick response to client's service needs- flexible responsibilities encourage proactive response to problems across organizational lines wherever they occur in an agency.

   It is important to note that the concept of flexibility makes it possible for the organization to avoid the "not in my job description" system as common in most other countries of the world- including here in Nigeria.

2. Use of Nemawashi informal decision-making processes- Nemawashi means, "cultivating the root" in Japanese language. This system involves informal discussions and compromises that precede formal meetings and pave the way for a consensus at the main meeting.

In this system, key staffs are consulted before a decision is made by the organization. According to keys (2005). "In Japanese circles, the process of formal recognition and constitution may be more important than the actual content of the process. Consultation is proof of the respect and importance given the participant in the organization" Nemawashi is similar to pre-selling or "private recognition" in the United States, keys added.

3. The Ringi decision-making process-This simply meaning circulating a written memo i.e. Ringin-sho. The circulated memo serves as a communications device and as evidence of prior discussion and distribution of a decision.

   In the system, the top management wait for a concensus to be reached by the lower-level management through Nemawashi, which is adopted and circulated on the ringi document.

4. Promotion of the wa-wa means "Unity" and this is created through creating or maintaining high morale in the organization. It is adopted so as to foster group consensus and harmony in the workplace.
   The "maintenance of we" as the Japanese will say, is achieved through various comprehensive, lifelong, training strategies.

   The chief goal of Japanese training strategies is not just to impart knowledge but to allow employees to get to know each other on a personal level and to impart values and philosophy of the organization to the employees.

   The essence of promoting Wa is to eliminate workplace conflicts, foster teamwork, and create an informal support system for each employee.

5. Job reassignment and rotation-In Japanese, an employee can be used to do any job, as there are fewer and lower boundaries between among jobs unlike in other parts of the world, like as we have it in Nigeria or in UK or USA. In this regard, the employee undergoes s systematic training policies, which familiarize such employee with one another's jobs.

   These reassignment and rotation system through the following policies:

   - Jingi,-ido'- This is a process of planned and routine rotation and reassignment of employees to various jobs. This takes two major forms-that is Amakudari and Shukko

+ Amakudari – is a system whereby a retired manager is re-employed and reassigned to another work which is not similar to the one he had retired from or the organization he had retired from.

+ Shukko-here, the employee rotates to an affiliated organization.

6. Extensive training-another feature of Japanese management practice is that of comprehensive and lifelong training of employees by their organization. According to keys (2005) "such training takes many forms and combines social and formal features.

   The Chief executive begins the training process with a formal recognition ceremony for new employees that include a speech.Within a few weeks, a welcoming party, called a kangi-kai, is given newcomers to meet other employees.

   A kangi-kai is more than a social event; it is a ceremony designed to show the new arrivals that they are now a part of the family". It begins with formal and personal introductions to the people with whom they will work. Typically, in Japan, this affiliation is for life (though in actuality it is until retirement)"

   This could equally be in form of an overnight social excursion and retreat called a gasshuku-following the newcomer's kangei-kai. The gasshukuku exposes the employee to the organizations values, ways of operation, history and tradition.

   Annually, the organization organizes another social excursion called a Shain-ryoko'- which is an annual event that traditionally includes sightseeing, a banquet, and much social interaction. There is also the morning pep talk (Chorei) to employees Chorei is a communications means of imparting information by the organization.

7. Total Quality Control (TQM) or Total Quality Management – which is a continuous quality improvement or business process improvement.

SELF ASSESSMENT EXERCISE 2

Examine the peculiar Japanese management practices.

4.0 CONCLUSION

Japanese quality management technique had help Japan to produce near – to – zero free error quality products.

5.0 SUMMARY

The unit examined Japanese quality management with a view of improving communication, a high quality of client services and high employee agreement with the principles and values of the services agency.

6.0 TUTOR - MARKED ASSIGNMENTS

List and discuss what the Japanese management practices entail?

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