Risk Management and Insurance

Answers to IAT 2 on June 5th

Part A

1.a. Risk measurement definition

In financial mathematics, a **risk** measure is used to determine the amount of an asset or set of assets (traditionally currency) to be kept in reserve.

1.b. All risk management processes follow the same basic steps, although sometimes different jargon is used to describe these steps. Together these 5 risk management process steps combine to deliver a simple and effective risk management process.

Step 1: Identify the Risk. You and your team uncover, recognize and describe risks that might affect your project or its outcomes. There are a number of techniques you can use to find project risks. During this step you start to prepare your Project Risk Register.

Step 2: Analyze the risk. Once risks are identified you determine the likelihood and consequence of each risk. You develop an understanding of the nature of the risk and its potential to affect project goals and objectives. This information is also input to your Project Risk Register.

Step 3: Evaluate or Rank the Risk. You evaluate or rank the risk by determining the risk magnitude, which is the combination of likelihood and consequence. You make decisions about whether the risk is acceptable or whether it is serious enough to warrant treatment. These risk rankings are also added to your Project Risk Register.

Step 4: Treat the Risk. This is also referred to as Risk Response Planning. During this step you assess your highest ranked risks and set out a plan to treat or modify these risks to achieve acceptable risk levels. How can you minimize the probability of the negative risks as well as enhancing the opportunities? You create risk mitigation strategies, preventive plans and contingency plans in this step. And you add the risk treatment measures for the highest ranking or most serious risks to your Project Risk Register.

Step 5: Monitor and Review the risk. This is the step where you take your Project Risk Register and use it to monitor, track and review risks.

Risk is about uncertainty. If you put a framework around that uncertainty, then you effectively de-risk your project. And that means you can move much more confidently to achieve your project goals. By identifying and managing a comprehensive list of project risks, unpleasant surprises and barriers can be reduced and golden opportunities discovered. The risk management process also helps to resolve problems when they occur, because those problems have been envisaged, and plans to treat them have already been developed and agreed. You avoid impulsive reactions and going into "fire-fighting" mode to rectify problems that could have been anticipated. This makes for happier, less stressed project teams and stakeholders. The end result is that you minimize the impacts of project threats and capture the opportunities that occur.

1.c. Pooling arrangement means sharing loss and risks equally or split evenly any accident costs. As a result pooling arrangements reduce risks (standard deviation) for each participant. In pooling arrangements the average loss is paid by each person.

The probability distribution of accident costs facing each person is reduced by pooling arrangements. The pooling arrangement decreases the probabilities of the extreme outcomes. In pooling arrangements each person's risk is reduced but each person's expected accident cost is unchanged.

The pooling arrangement reduces risks through diversification. In pooling arrangements, the cost has become more predictable. Normally the average loss is much more predictable than each individual's loss.

Pooling arrangement also decreases the additional risks by adding people. By adding more people the probability distribution of each person accident cost will continue to be changed. In all the factors being held constant the risk that can be reduced through pooling arrangement increases as the number of participant's increases. In this case the pooling arrangement decreases risk for each participant. The probability distribution would become more and more bell shaped if more participants are added.

2.a . **Insurance** is a means of protection from financial loss. It is a form of risk management, primarily used to hedge against the risk of a contingent or uncertain loss.

2.b.

The insurance has the following characteristics which are, generally, observed in case of life, marine, fire and general insurances.

1. Sharing of Risk:

Insurance is a device to share the financial losses which might befall on an individual or his family on the happening of a specified event. The event may be death of a bread-winner to the family in the case of life insurance, marine-perils in marine insurance, fire in fire insurance and other certain events in general insurance, e.g., theft in burglary insurance, accident in motor insurance, etc. The loss arising nom these events if insured are shared by all the insured in the form of premium.

2. Co-operative Device:

The most important feature of every insurance plan is the co-operation of large number of persons who, in effect, agree to share the financial loss arising due to a particular risk which is insured. Such a group of persons may be brought together voluntarily or through publicity or through solicitation of the agents.

An insurer would be unable to compensate all the losses from his own capital. So, by insuring or underwriting a large number of persons, he is able to pay the amount of loss. Like all cooperative devices, there is no compulsion here on anybody to purchase the insurance policy.

3. Value of Risk:

The risk is evaluated before insuring to charge the amount of share of an insured, herein called, consideration or premium. There are several methods of evaluation of risks. If there is expectation of more loss, higher premium may be charged. So, the probability of loss is calculated at the time of insurance.

4. Payment at Contingency:

The payment is made at a certain contingency insured. If the contingency occurs, payment is made. Since the life insurance contract is a contract of certainty, because the contingency, the death or the expiry of term, will certainly occur, the payment is certain. In other insurance contracts, the contingency is the fire or the marine perils etc., may or may not occur. So, if the contingency occurs, payment is made, otherwise no amount is given to the policy-holder.

Similarly, in certain types of life policies, payment is not certain due to uncertainty of a particular contingency within a particular period. For example, in term-insurance then, payment is made only when death of the assured occurs within the specified term, may be one or two years. Similarly, in Pure Endowment payment is made only at the survival of the insured at the expiry of the period.

5. Amount of Payment:

The amount of payment depends upon the value of loss occurred due to the particular insured risk provided insurance is there up to that amount. In life insurance, the purpose is not to make good the financial loss suffered. The insurer promises to pay a fixed sum on the happening of an event.

If the event or the contingency takes place, the payment does fall due if the policy is valid and in force at the time of the event, like property insurance, the dependents will not be required to prove the occurring of loss and the amount of loss. It is immaterial in life insurance what was the amount of loss at the time of contingency. But in the property and general insurances, the amount of loss as well as the happening of loss, are required to be proved.

6. Large Number of Insured Persons

To spread the loss immediately, smoothly and cheaply, large number of persons should be insured. The co-operation of a small number of persons may also be insurance but it will be limited to smaller area. The cost of insurance to each member may be higher. So, it may be unmarketable.

Therefore, to make the insurance cheaper, it is essential to insure large number of persons or property because the lesser would be cost of insurance and so, the lower would be premium. In past years, tariff associations or mutual fire insurance associations were found to share the loss at cheaper rate. In order to function successfully, the insurance should be joined by a large number of persons.

7. Insurance is not a gambling:

The insurance serves indirectly to increase the productivity of the community by eliminating worry and increasing initiative. The uncertainty is changed into certainty by insuring property and life because the insurer promises to pay a definite sum at damage or death.

From a family and business point of view all lives possess an economic value which may at any time be snuffed out by death, and it is as reasonable to ensure against the loss of this value as it is to protect oneself against the loss of property. In the absence of insurance, the property owners could at best practice only some form of self-insurance, which may not give him absolute certainty.

Similarly, in absence of life insurance, saving requires time; but death may occur at any time and the property, and family may remain unprotected. Thus, the family is protected against losses on death and damage with the help of insurance.

From the company's point of view, the life insurance is essentially non-speculative; in fact, no other business operates with greater certainties. From the insured point of view, too, insurance is also the antithesis of gambling. Nothing is more uncertain than life and life insurance offers the only sure method of changing that uncertainty into certainty.

Failure of insurance amounts gambling because the uncertainty of loss is always looming. In fact, the insurance is just the opposite of gambling. In gambling, by bidding the person exposes himself to risk of losing, in the insurance; the insured is always opposed to risk, and will suffer loss if he is not insured.

By getting insured his life and property, he protects himself against the risk of loss. In fact, if he does not get his property or life insured he is gambling with his life on property.

8. Insurance is not Charity:

Charity is given without consideration but insurance is not possible without premium. It provides security and safety to an individual and to the society although it is a kind of business because in consideration of premium it guarantees the payment of loss. It is a profession because it provides adequate sources at the time of disasters only by charging a nominal premium for the service.

2.c. The essentials of insurance contracts are as follows:

1. Agreement

Agreement means **communication** by the parties to one another of their intentions to create legal relationship. For a valid contract of insurance, there must be an agreement between the parties, i.e. one making offer or proposal and another accepting the proposal or signifying his acceptance upon proposal.

Also Read: **Introduction And Meaning Of Insurance**

2. Free consent

There must be free consent between the parties to contract. Consent means that parties to an agreement must agree on a specific thing in the same sense or their understanding should be the same. Consent must be given by the parties thereto in a contract, freely, independently, without any fear and favor. The consent is known to be free when it is not caused by, fraud, misrepresentation, mistakes and other undue influences .

3. Components to contract

The parties in an agreement must be legally competent to enter into the contract. It means both parties in the insurance contract must be age of majority, posses sound mind and not disqualified by any ;aw of the country. It clears that a person who is minor, lunatics, idiot and alike cannot enter into a insurance contract. The contract entered into by these will be declared as void.

4. Lawful object

In insurance contract, the object of the contract must be lawful as in other types of contracts. The agreement must not relate to a thing which is contrary to the provision of any law or has expressly been forbidden by any law. It must not be of such nature that if permitted, it implies injury to the person or property of other or immoral or opposed to public policy.

5. Lawful consideration

There must be due and lawful consideration in the insurance contract. The consideration, for which the contract is entered and created by the parties, must be lawful. To establish legal relationship, to create obligation between them and to make it enforceable by law there must be lawful consideration.

Also Read: **Importance Of Insurance**

6. Compliance with legal formalities

To make an agreement valid, prescribed legal formalities of writing, registration, etc. must have been observed. In the contract of insurance, the agreement between parties must be in written form and dully signed by both parties, properly attested by witness and registered otherwise, it may not be enforced by the court.

3.a. **Hedging** is the practice of taking a position in one market to offset and balance against the risk adopted by assuming a position in a contrary or opposing market or investment.

3.b. Insurance Brokers

Admission Criteria for Registered Insurance Brokers

In assessing an application for a insurance broker licence, MAS takes the following factors into consideration :

a. Track Record, Financial Soundness and Reputation

b. Business Plans - The applicant should have business plans that are well developed and reflect the risk profile of the business

c. Fitness and Propriety
The applicant should satisfy MAS that -
i. it is a fit and proper person to be licensed;
ii. all of its directors and chief executive officer are fit and proper persons to hold the office; and
iii. all of its substantial shareholders and broking staff are fit and proper persons.

For more information on the admission criteria, please refer to the Guidelines on Criteria for the Registration of an Insurance Broker.

3.c.

Without prejudice to the generality of the provisions contained in sub-section (1), the powers and functions of the Authority shall include, -

issue to the applicant a certificate of registration, renew, modify, withdraw, suspend or cancel such registration;

protection of the interests of the policy holders in matters concerning assigning of policy, nomination by policy holders, insurable interest, settlement of insurance claim, surrender value of policy and other terms and conditions of contracts of insurance;

specifying requisite qualifications, code of conduct and practical training for intermediary or insurance intermediaries and agents

specifying the code of conduct for surveyors and loss assessors;

promoting efficiency in the conduct of insurance business;

promoting and regulating professional organisations connected with the insurance and re-insurance business;

levying fees and other charges for carrying out the purposes of this Act;

calling for information from, undertaking inspection of, conducting enquiries and investigations including audit of the insurers, intermediaries, insurance intermediaries and other organisations connected with the insurance business;

control and regulation of the rates, advantages, terms and conditions that may be offered by insurers in respect of general insurance business not so controlled and regulated by the Tariff Advisory Committee under section 64U of the Insurance Act, 1938 (4 of 1938);

specifying the form and manner in which books of account shall be maintained and statement of accounts shall be rendered by insurers and other insurance intermediaries;

regulating investment of funds by insurance companies;

regulating maintenance of margin of solvency;

adjudication of disputes between insurers and intermediaries or insurance intermediaries;

supervising the functioning of the Tariff Advisory Committee;

specifying the percentage of premium income of the insurer to finance schemes for promoting and regulating professional organisations referred to in clause (f);

specifying the percentage of life insurance business and general insurance business to be undertaken by the insurer in the rural or social sector; and

exercising such other powers as may be prescribed.

Part B

4.a.

Types of Insurance :

(A) LIFE INSURANCE :

- **Term Life Insurance**
- **Permanent Life Insurance**

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(B) GENERAL INSURANCE

- **Fire Insurance**
- **Marine Insurance**
- **Accident Insurance**

4.b. **Risk Identification tools and techniques**

Documentation Reviews

The standard practice to identify risks is reviewing project related documents such as lessons learned, articles, organizational process assets, etc

Information Gathering Techniques

The given techniques are similar to the techniques used to collect requirements. Lets look at a few of them:

Brainstorming

Brainstorming is done with a group of people who focus on identification of risk for the project.

Delphi Technique

A team of experts is consulted anonymously. A list of required information is sent to experts, responses are compiled, and results are sent back to them for further review until a consensus is reached.

Interviewing

An interview is conducted with project participants, stakeholders, experts, etc to identify risks.

Root Cause Analysis

Root causes are determined for the identified risks. These root causes are further used to identify additional risks.

Swot Analysis (STRENGTH, Weakness, Opportunities And Threats)

Strengths and weaknesses are identified for the project and thus, risks are determined.

Checklist Analysis

The checklist of risk categories is used to come up with additional risks for the project.

Assumption Analysis

Identification of different assumptions of the project and determining their validity, further helps in identifying risks for the project.

Outputs to Identify Risks

This process of Risk Identification results in creation of Risk Register.

Risk Register

A Risk Register is a living document that is updated regularly throughout the life cycle of the project. It becomes a part of project documents and is included in the historical records that are used for future projects. The risk register includes:

- List of Risks
- List of Potential Responses
- Root Causes of Risks
- Updated Risk Categories