

RISK MANAGMEMENT

Lecture (1)

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Risk and Insurance

- Nature of risk, risks facing human beings and their attempts to mitigate it.
- **Definition of risk:**
- “The probability of suffering from a financial loss in either the property or income as a result of an event”
- Event, Actual realization to one of the natural or public phenomena and as a result , there is a financial loss in the property or income
- **Elements of Risk:-**
 - ✓ Probability: the factor that confirms the presence of the risk
 - ✓ Sudden: not arranged or planned for.
 - ✓ Financial loss: fully or partially losing the income or property.

Types of Risks

- ***Absolute and Commercial risks.*** Absolute risks are accidental risks whilst the commercial risks are not accidental, but caused by the human being.
- ***Financial and Moral (Immaterial) risks.***
- ***Public and Private risks,*** Public risks are those which if happens affect big portion of the community, but private expose only an individual or small group.
- ***Life, non life, and Liability risks.***
 - ***Can insurance take care of all risks explained above?***

Origin of Risks

- It refers to the main causes that generate risks in the life of the human beings.
- It is divided to Act of God (Absolute) and General factors.

Factors Increasing Risk

- Talking about such factors which increase the possibility /probability of risk happening on one side and the expected loss on the other side
- Natural Hazards wherein there is no intervention whatsoever of the human being. It increases the frequency and the severity of risks.
- Social and environmental factors, such as illness, revolutions, SRCC, War. Increase the possibility of death and its scale as well
- Local Factors, which refers to as Inherent vice, technical or faulty design that may exist in the subject matter insured.

Factors Increasing Risk, Cont.

- ***Subjective factors ,Human being is the main reason behind the existence of such risks :-***
 - ✓ Intentional wherein human being directly and intentionally interferes to increase the probability of risk happening
 - ***How is it dealt with?***
 - ✓ Unintentional wherein human being intervenes in an indirect and unintentional manner to cause damages for others and society such as negligence or smoking, carelessness, inability to control a car.
 - ***How is it dealt with?***

Measuring Risks

- **The frequency of risk:-**
 - ✓ It is calculated in advance based on the past accumulative experience.
 - ✓ One should not neglect the the quality and quantity of historical data
 - ✓ Historical data is dynamic not static and requires continuous review/ update
 - ✓ Law of large number
 - ✓ Ranges from 0 to 1

- **The severity of the risk**
 - ✓ The value of subject matter or income is a good indicator for the anticipated loss amount.

- Only one of the above two factors is not enough to measure the value of the risk.

- **Mathematical Expectation =** Probability * Severity

Risk Management

- It refers to controlling the risk through reducing its frequency and its severity in case it happened,
- What is the main objective?
- Risk manager refers to the person or corporate that manages the risks to which the project is exposed and timely take the relevant decisions/actions to mitigate them.
- **The methodologies adopted:**
 - ✓ Identify risks
 - ✓ Grouping related risks
 - ✓ Identify the factors of each risk via the mathematical expectation equilibrium
 - ✓ Select the best possible method to face the risk.

Risk Management Methods

- Passive/ negative methods:

- ✓ Risk avoidance:- In such case the only decision taken is not to face risks.
 - ✧ Suitable wherein the frequency and severity of risk is high
 - ✧ No cost associated with it.
 - ✧ It has a direct impact upon the frequency and severity of risk.
- ✓ Risk assumption:- Despite negative but it does not control the movement of human being (assume the risk and bear the consequences).
 - ✧ Suitable for the risks wherein the loss amounts are small.
 - ✧ No cost.
 - ✧ Does not have any impact upon the risk.

Risk Management Methods

- Active /positive methods

- ✓ Building up reserves

- ✧ Used to meet small and high frequent losses.
 - ✧ Losses might occur prior to building up the needful reserves.
 - ✧ Its cost is the low investment return.
 - ✧ Has no impact on the risk but has an impact upon the volume of the losses

- ✓ Self insurance (Risk sharing method). There are pre requisites:-

- ✧ Large number of well spread homogeneous risks.
 - ✧ Continually build up reserves and invest, in order to mitigate the impact of losses.
 - ✧ It requires having a manager or special department, with its associated cost
 - ✧ The cost consists of:- Cost of the fund- Warehouses- as well as its maintenance- The individual's share in the small losses
 - ✧ Has NO impact on risk.

Risk Management Methods

- ✓ **Pooling / Loss Sharing:**
- ✓ which is similar to Cooperative Insurance wherein homogeneous risks are pooled together and losses are shared.
 - ✧ No impact on the risk
 - ✧ No cost in advance, only his /its part of the losses

- ✓ **Risk Transfer:**
 - ✧ Risk transfer is affected through special contracts by which the risks to which the project or individual is exposed are to be transferred to a third party in return for consideration
 - ✧ Has no impact on the risk but reduces its cost
 - ✧ Reduces the impact of the losses
 - ✧ Has a cost in the form of the consideration paid
 - ✧ Forms of contracts include, Insurance, Transportation, Construction, and Lease contracts

- ✓ **Supporting methods**
- ✧ Loss prevention