New Syllabus

Risk Management

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Types

Strategic Risk

A risk in which a company's strategy becomes less effective and it struggles to achieve its goal.
It could be due to
1. technological changes,
2. a new competitor entering the market,
3. shifts in customer demand,
4. increase in the costs of raw materials.

Example: In case of Nokia when it failed to upgrade its technology to develop touch screen mobile phones. That delay enables Samsung to become a market leader in touch screen mobile phones.

Compliance Risk

Every business needs to comply with rules and regulations. For example with the advent of Companies Act, 2013, and continuous updating of SEBI guidelines, each business organization has to comply with plethora of rules, regulations and guidelines. Noncompliance leads to penalties in the form of fine and imprisonment.

Example: India's securities regulator SEBI has banned the global accountancy firm PwC from auditing listed companies in the country for two years, after it failed to spot a $1.7bn fraud at the now defunct Satyam Computer Services. PwC however said it will fight against the ban in court.

Operational Risk

This type of risk relates to internal risk.
It also relates to failure on the part of the company to cope with day to day operational problems.
Operational risk relates to 'people' as well as 'process'.

Example: An employee paying out Rs.1,00,000 from the account of the company instead of Rs.10,000. This is a people as well as a process risk. An organization can employ another person to check the work of that person who has mistakenly paid Rs. 1,00,000 or it can install an electronic system that can flag off an unusual amount.

Financial Risk

Financial Risk is referred as the unexpected changes in financial conditions such as prices, exchange rate, Credit rating, and interest rate etc.
Also people who borrowed money and who are unable to pay for the money they borrowed is a type of Financial Risk.

Example: Liquor baron Vijay Mallya, wanted in India for defaulting on over Rs 8,000 crore in bank loans, was arrested in London. Within hours, a court granted him bail. Mallya's wanted in India on charges of financial irregularities and loan default related to his Kingfisher Airlines

CA Mrunal Kothari

Types | Evaluation

Stakeholder's Angle

1. Equity shareholders view financial gearing i.e. ratio of debt in capital structure of company as risk since in event of winding up of a company they will be least prioritized.
2. Even for a lender, existing gearing is also a risk since company having high gearing faces more risk in default of payment of interest and principal repayment.

Company's Angle

1. From company's point of view if a company borrows excessively or lend to someone who defaults, then it can be forced to go into liquidation.

Government's Angle

1. From Government's point of view, the financial risk can be viewed as failure of any bank or (like Lehman Brothers) down grading of any financial institution leading to spread of distrust among society at large.
2. Even this risk also includes willful defaulters. This can also be extended to sovereign debt crisis.

Counterparty Risk

This risk occurs due to non-honoring of obligations by the counter party

How to Identify Counterparty Risk?
1. Failure to obtain necessary resources to complete the project or transaction undertaken.
2. Any regulatory restrictions from the Government.
3. Hostile action of foreign government.
4. Let down by third party.
5. Have become insolvent.

How to mitigate/manage/reduce this risk?
1. Carrying out Due Diligence before dealing with any third party.
2. Do not over commit to a single entity or group or connected entities.
3. Review the limits and procedure for credit approval regularly.
4. Rapid action in the event of any likelihood of defaults.
5. Use of performance guarantee, insurance or other instruments.

Political Risk

This type of risk is faced by and overseas investors, as the adverse action by the government of host country may lead to huge losses.

How to Identify Political Risk?
1. Insistence on resident investors or labour
2. Restriction on conversion of currency
3. Repatriation of foreign assets of the local govt
4. Price fixation of the products

How to mitigate/manage/reduce this risk?
1. Local sourcing of raw materials and labour
2. Entering into joint ventures
3. Local financing
4. Prior negotiations

Interest Rate Risk

This risk occurs due to change in interest rate resulting in change in asset and liabilities.
This risk is more important for banking companies.

How to Identify Interest Rate Risk?
1. Monetary Policy of the Government.
2. Any action by Government such as demonetization etc.
3. Economic Growth
4. Release of Industrial Data
5. Investment by foreign investors
6. Stock market changes

How to mitigate/manage/reduce this risk?
1. Using Forward Rate Agreement
2. Using Swaps
3. Using Interest Rate Futures
4. Using Caps, Collars, & Floors

Currency Risk

This risk mainly affects the organization dealing with foreign exchange as their cash flows changes with the movement in the currency exchange rates.

How to Identify Currency Risk?
1. Government Action
2. Nominal Interest Rate
3. Inflation Rate: Purchasing power parity theory discussed in later chapters impact the value of currency.
4. The change of government and its attitude towards foreign investment also helps to identify the currency risk.

How to mitigate/manage/reduce this risk?
1. Using Home Currency Invoicing
2. Using Forward Contracts
3. Using Futures Contracts
4. Using Options Contract
5. Using Swaps
6. Leading or Lagging the foreign currency receivables or payables

VaR

Meaning

1. VAR is a measure of risk of investment given the normal market condition in a set of period, say, one day it estimates how much an investment might lose
2. VAR answers two basic questions
   1. What is worst case scenario?
   2. What will be loss?
3. VAR answers the question, "What is my worst-case scenario?" or "How much could I lose in a really bad month?"
4. For example,
   1. If a portfolio of stocks has a one-day 5% VaR of Rs. 1 million, that means that there is a 0.05 probability that the portfolio will fall in value by more than Rs.1 million over a one-day period if there is no trading. Informally, a loss of Rs.1 million or more on this portfolio is expected on 1 day out of 20 days (because of 5% probability). A loss which exceeds the VaR threshold is termed a "VaR breach.
   2. If a daily VaR is stated as £100,000 to a 95% level of confidence, this means that during the day there is a only a 5% chance that the loss the next day will be greater than £100,000.
3. Assume a London bank determines that its VaR is £3 million at 5% for one day. This statement means that the bank expects to lose a minimum of £3 million in one day 5% of the time. A critical, and often overlooked word, is **minimum**. In this example, the bank expects that its losses will be at least £3 million in one day with 5% probability. **In a VaR measure, there is no ultimate maximum that one can state. VaR is thus a minimum extreme loss metric.** With a probability of 5% and a measurement period of one day, we can interpret the bank's VaR as expecting a minimum loss of £3 million once every 20 business days.

Features

1. **Components of Calculations**: VAR calculation is based on following 3 components :
   1. Time Period
   2. Confidence Level – Generally 95% and 99%
   3. Loss in percentage or in amount
2. **Probability**: Assuming the values are normally attributed, probability of maximum loss can be predicted.
3. **Time Horizon:** VAR can be applied for different time horizons say 1 day, 1 week, 1 month month and so on.
4. **Z score:** Z score indicates how many standard Deviations is away from Mean value of a population. When it is multiplied with Standard Deviation it provides VAR.
5. **Statistical Method:** It is a type of statistical tool based on Standard Deviation.
6. **Control Risk:** Risk can be controlled by selling limits for maximum loss.

Application

- To measure the maximum possible loss on any portfolio or a trading position.
- As a tool for Asset and Liability Management especially in banks.
- As a benchmark for performance measurement of any operation or trading.
- To fix limits for individuals dealing in front office of a treasury department.
- To enable the management to decide the trading strategies.

Formula

$$VAR_{t\ days} = SD_{t\ days} \times Z\ Score$$

$$SD_{t\ days} = SD_{1\ day} \times \sqrt{t\ days}$$

$$VAR_{t\ days} = SD_{1\ day} \times \sqrt{t\ days} \times Z\ Score$$

$$VAR_{t\ days} = VAR_{1\ day} \times \sqrt{t\ days}$$

Sometimes when you innovate, you make mistakes. It is best to admit them quickly, and get on with improving your other innovations. That's been one of my mantras—focus and simplicity. Simple can be harder than complex; you have to work hard to get your thinking clean to make it simple.|"Do not wait; the time will never be 'just right.' Start where you stand, and work with whatever tools you may have at your command, and better tools will be found as you go along.