Financial Risk Management

Overview and applications in IT

Overview

- the process of identification, analysis, and acceptance or mitigation of uncertainty in financial decisions
- Entails the analysis and identification process activated as a means of quantify possible losses which are then appropriately handled based on the risk management firm's risk tolerance and investment objectives
- Four key categories of risk to be contended
  - Market risk
  - Credit risk
  - Liquidity risk
  - Operational risk
- Common solutions implemented
  - Strategies- internal, risk sharing, risk transfer

Market risk

- risk of changing conditions in the specific marketplace in which a company competes for business
- risk of being outmanoeuvred by competitors
- Essentially the possibility that an individual or other entity will experience losses due to factors that affect the overall performance of investments in financial markets
- cannot be eliminated through diversification
- may arise due to changes to interest rates, exchange rates, geopolitical events, or recessions

Credit risk

- the risk businesses incur by extending credit to customers
- an also refer to the company's own credit risk with suppliers
- Occurs through possibility of customers defaulting on credit payments
- While managing risks is essential, management is constrained in this function as to not reduce the business’s efficiency
- As such, management’s best option is to identify the maximum level of risk that can be tolerated

Liquidity risk

- includes asset liquidity and operational funding liquidity risk
  - Asset liquidity- relative ease of a company's ability to convert its assets into cash should there be a sudden, substantial need for additional cash flow
  - Operational funding liquidity- a reference to daily cash flow
- General/seasonal downturns in revenue can present a substantial risk if company lacks enough cash on hand to finance business's operations
- Thus, cash flow management is a key indicator of a business's success

Operational risk

- various risks that can arise from a company's ordinary business activities
- includes lawsuits, fraud risk, personnel problems, and business model risks, which is the risk that a company's models of marketing and growth plans may prove to be inaccurate or inadequate

Strategies of financial risk management- internal

- Natural hedging
  - Occurs internally and takes advantage of different risk exposures offsetting each other
  - Primarily used to manage foreign exchange and interest rates
- Internal netting
  - form of natural hedging where offsetting exposures are identified to come up with a net balance that a company can make a decision about
  - Primarily used to manage multiple internal exposures across a range of currencies

Strategies of financial risk management- risk sharing

- Forwards
  - contracts made in the present for delivery of an asset at some specified future date, at a pre-agreed price
  - Primarily used to protect against possible rises in asset prices – most commonly either commodities (gas, oil, sugar, cocoa, etc.) or currencies
- Future contracts
  - form of standardized forward contract that are traded exclusively on organized exchanges
  - In theory, possible to be used to protect against changes in any asset or commodity price, interest rate, exchange rate, or any measurable random variable such as temperature, rainfall, etc
- Swaps
  - contracts to exchange the difference between two cash flows at one or more agreed future dates
  - Primarily used for the management of interest rate and exchange rate risks
  - Recent developments in market in commodity and credit risk swaps
- Joint ventures
  - imply that an organization is willing to accept a given level of risk, but it may wish to share that risk with another party
  - Primarily used to expand into new markets where shared knowledge, as well as shared costs, helps to reduce risks

Strategies of financial risk management- risk transfer

- Options
  - contracts that give the holder the right (but, unlike forward or futures contracts, not the obligation) to buy or sell an underlying asset at an agreed price at one or more specified future dates
  - agreed price is known as the strike or exercise price
  - An option that involves the right to buy is known as a call option and one that involves the right to sell is a put option
  - come in a great variety of forms, and can be exchange traded as well as traded OTC

Risk management software solutions

- PayPal
  - digital payment platform enabling businesses and individuals to pay and accept payments through an online portal without revealing any financial details
- Ondato
  - Designed specifically for financial institutions such as banks and lenders; provides identity verification and authentication tools, as well as compliance management features
- AlternativeSoft
  - financial risk management software designed to help allocators, consultants, fund managers, and third-party fund marketers create portfolios and manage asset selection processes