

MOCK TEST PAPER
FINAL (NEW) COURSE: GROUP – II
PAPER – 6A: RISK MANAGEMENT

Case Study Question Number One

XYZ Textiles Ltd. is a textile company operating in India. It has comprehensive risk management policy. The risk management inter alia provides for review of the risk assessment and mitigation procedure, laying down procedure to inform/ report the Board in the matter and for periodical review of the procedure to ensure that executive management controls risks through a properly defined framework.

During the year, the Audit Committee, which has been designated by the Board for the purpose, reviews the adequacy of the risk management framework of the company, the key risks associated with the business of the company and the measures and steps in place to mitigate the same.

1.1 What details you would present at the Board Meeting in respect of key risks affecting the XYZ Textiles Ltd. **(30 Marks)**

Choose the correct answers to the following questions:

2 Marks x 10 = 20 Marks

1.2 Auditors have to use the following for risk assessment:

- (a) Delphi Approach
- (b) Theory of Probability
- (c) Judgement and Intuition
- (d) None of the above

1.3 GARCH model is the-most popular method to estimate:

- (a) Severity
- (b) Frequency
- (c) Volatility
- (d) None of the above

1.4 The following is not one of simplest techniques for country risk assessment to rank the countries:

- (a) Numeral Coding Method
- (b) Colour Coding Method
- (c) Event Driven Method
- (d) Taxation Method

1.5 Monotonicity is:

- (a) the risk of the portfolio which is dependent on assets within the portfolio
- (b) the size of the portfolio
- (c) the portfolio with greater future returns will likely have less risk
- (d) None of the above

1.6 Covenants are

- (a) conditions imposed by the lender on the borrower that certain activities will or will not be carried out.
- (b) are transactions to adequately secure should the borrower default.
- (c) be insurance contracts purchased by the borrower at the instance of lender.

- (d) None of the above
- 1.7 Economic capital, in relation to a firm, is :
- (a) the amount of capital stipulated in the law to commence business.
 - (b) the amount of capital needed to ensure the solvency for a given risk profile.
 - (c) the amount of working capital.
 - (d) None of the above
- 1.8 ERM is a management process, ultimately owned by the
- (a) CEO
 - (b) Board of Directors
 - (c) Shareholders
 - (d) None of the above.
- 1.9 Phishing is :
- (a) a fraud technique to get access to the; victim's computer systems.
 - (b) a technique to create a fraudulent transaction to benefit financially.
 - (c) a technique to encrypt the entire data on an individual or entity's computer system to ruin the business.
 - (d) a financial transaction that an organization performs outside its network
- 1.10 SMA-1 refers to the following classification basis:
- (a) Principal or interest payment not overdue for more than 30 days.
 - (b) Principal or interest payment not overdue between 31-60 days.
 - (c) Principal or interest payment not overdue between 61-180 days.
 - (d) Principal or interest payment not overdue between 181-365 days.
- 1.11 Chief Risk Officer (CRO) would not perform the following :
- (a) Reviews the third-party opinion of the design and effectiveness of the overall risk governance framework on an annual basis.
 - (b) Is involved in the setting of risk-related performance indicators for business units.
 - (c) Is independent of business lines and has the appropriate stature in the firm as his/her performance, compensation and budget is reviewed and approved by the risk committee.
 - (d) Meets periodically with the board and risk committee without executive & directors or management present.

Case Study Question Number Two

AFL, an MNC is sole producer of 'Nikhar' chewing gum, the latest craze in India in replacement of tobacco. With the increasing sale in some of the previous years, the company has managed to secure all necessary funding for rapid expansion of its product as not only it gained popularity in India but also in neighboring countries such as Bangladesh, Pakistan and Nepal. The factory is situated in backward district of Haryana.

Recently one 'NGO' named 'Nasha Mukh' started misgiving about the product amongst the key sections of society. And, there are no such regulation that it cannot be sold to people less than 18 years of age as it does not have any harmful effect. However, some health professions have also joined the mission of NGO as to the long-term effects of the product.

Due to all these reasons a further research on this is planned by Ministry of Health. The Board of Director's are hopeful of increase in its sales amongst adult and also rise in exports to neighboring countries.

Further Board is also interested in introducing advanced technologies that allows different branches (modes) to securely propose, validate and record state of changes (or updates) to a synchronized ledger that is distributed across worldwide.

However, Board has little time to combat with the issues that are managed at Corporate Level and concentrate on expansion plans.

AFL's has developed Enterprise Wide approach to risk management and is communicated. Also, the Risk Register in place.

Risk Strategy and policy is in place and is communicated and also the Risk appetite is defined.

2.1 You have been appointed as Chief Risk Officer and asked to prepare a report for Board covering the following aspects:

- (a) Defining the different stakeholders involved and assessing the impact upon them of the Risk. **(5 Marks)**
- (b) Impact areas and their nature of impacts. **(3 Marks)**
- (c) Available Risk Treatment Options. **(3 Marks)**
- (d) Explaining the Risk Maturity Level of the company. **(3 Marks)**
- (e) Techniques that can be used to track the progress of Risk Management. **(2 Marks)**
- (f) Various types of Political Risks to which company can be exposed to. **(4 Marks)**
- (g) Benefits likely to be derived from a synchronized ledger that is distributed across the network's modes. **(4 Marks)**
- (h) Quantitative tools that can be used to assess the neighboring Country Risk. **(4 Marks)**

(2 Marks for Report Format)

Multiple Choice Questions

2 Marks x 10 = 20 Marks

2.2 While uncertainty means the existence of more than one possibility, risk is a state of uncertainty where some of the possibilities may involve an undesirable outcome. Which one of the following statements correctly describes the above statement?

- (a) One may have uncertainty without risk but risk without certainty.
- (b) One may have uncertainty without risk but risk without uncertainty.
- (c) One may have uncertainty without risk but not risk without certainty.
- (d) One may have uncertainty without risk but not risk without uncertainty.

2.3 The risk manager would like to know the risk that refers to ineffective and unethical management of a company by its executives and managerial levels. The risk is known as:

- (a) Staffing Risk
- (b) Management Risk
- (c) Strategic Risk
- (d) Governance Risk

2.4 While taking a decision, the category risk profile bucket that would most likely to escape attention of the Management is

- (a) High Impact-Low Probability
- (b) Low Impact-Low Probability
- (c) High Impact-High Probability
- (d) Low Impact-High Probability

- 2.5** Before commencement of the project, various risks factors have to be considered for feasibility study. In a case where a project feasibility is based on a particular land acquisition and the cost of treating it, in terms of legal fees is much higher, the appropriate recommendation the consultant would provide is to:
- Terminate the Project
 - Treat the project
 - Transfer the project
 - Continue the Project
- 2.6** Which of the following would NOT be included as a principle in determining the risk appetite of the company?
- Risk appetite is not a single, fixed concept.
 - Risk appetite can be complex.
 - Risk appetite needs to be measurable.
 - Risk appetite is about identifying opportunities.
- 2.7** If $\text{Corr}(X, Y) = -1$, then X and Y have
- Perfect positive correlation
 - No correlation
 - Perfect negative correlation
 - None of the above.
- 2.8** The Manager is considering to employ VaR to quantify the level of financial risk. Which one of the following is NOT a limitation of VaR ?
- not sub-additive
 - uninformative of tail losses
 - can encourage diversification
 - can create perverse incentives structures
- 2.9** As per BIS capital adequacy rules, banks should operate with a holding period of
- one week (or 5 business days)
 - one week (or 7 days)
 - two weeks (or 10 business days)
 - two weeks (or 14 days)
- 2.10** RAROC is
- Return on capital adjusted for inflation.
 - Risk-based profitability measurement framework.
 - Return on gilts
 - None of the above
- 2.11** Annual Report of the Board of Directors must include a statement indicating the development and implementation of a risk management policy for a company. This is mandated by
- SEBI through 'Issue of Capital and Disclosure Requirements Regulations'
 - Information Technology (Amendment) Act, 2008
 - Companies Act, 2013
 - Prevention of Money Laundering Act, 2002.

Case Study Question Number Three

About the Company

ABC Limited is a public limited company incorporated in the year 2003. It has the registered head office in Bhubaneswar, Odisha. The Company has iron ore mines situated in five places in the State. The main business of the Company is extraction and sale of iron ore to many iron and steel industries both inside and outside states.

The Company has decided to diversify its business in trading of shares. Also, the Company is considering the possibility of setting up a Non-Banking Finance Company. For these purposes, the Company is in the process of doing feasibility studies.

Risk Manager

The Company has approached you, being a senior Risk Manager to look into the proposals. The role performed by you would include:

- To gather regular risk management related information from external and internal sources.
- Identify the problems and provide possible solutions to the various issues arising in the risk management.
- To effectively manage specific risk circumstances.
- To monitor the risk of Anti-Money Laundering (AML).
- To monitor the investment portfolio and to analyse the unfavourable movements.
- Advise and make recommendations to the management in the matters of identifying the risks and quantifying the same.
- Help the management in designing and implementing various risk management strategies and their related processes in the banking & investment portfolio and to suggest improvements.
- Get updated with the advances happening in the relevant software technology.
- Have a detailed understanding and knowledge of the credit, operational and market risks of the portfolio and also the software tools used to assess them.
- Understand and reduce the exposures in financial risks by using strategies such as hedging, credit default swap, insurance etc.
- Proactively analyse the market trends for finding out opportunities in expanding the portfolio.
- Adhere to various laws, procedures relating to the financial operations.
- Gather various information relating to the operations of NBFC in India including credit risk management and the underlying Guidelines of RBI with respect to capital adequacy norms, provisioning etc.

Required by the Risk Manager

In order to have a better understanding of the risk factors involved thereon, the Risk Manager needs a better understanding on the following issues:

- (i) The purchase order for a script would be authorised by a manager. The risk manager is bothered about authorising the order for a wrong script, instead of the intended one by the manager. Thus, he is interested to learn the controls placed and if any weakness is found he wants to strengthen the same.
- (ii) A machine learning program dynamically responds to change in data / situation by changing the rules that govern the behavior and the algorithm "learns" from new data inputs and gets better over time. The risk manager tries to explore the possibility of employing a new software towards the same.
- (iii) Calculation or measuring the loss in the value of the portfolio in a given period of time for a distribution of historical returns.

- (iv) The risk manager is interested to find out as to how the portfolio would fare during the period of a financial crisis. He is also interested to build the stress testing capabilities and to explore the ways of using them to meet the broader risk management and business objectives.
- (v) The rules and regulations existing in a foreign country and also the risk factors involved with reference to the investment climate of that country that are to be considered before buying shares of a foreign company.
- (vi) While applying for a bank loan for the expansion of the portfolio, the parameters of credit risk that the bank might consider and also the credit scoring model that might be applied by the bank, while approving such loan to the company. The Company would be offering some of its immovable properties as collateral to the proposed loan with the bank.
- (vii) The certainty equivalence is a guaranteed return that the management would accept rather than accepting a higher but uncertain return. The risk manager would like to explore the possibility of "certainty equivalent" technique.
- (viii) Effectively employing big data analytics in analysis of various transactions to study the patterns of investments and also the possibility of using block-chain technology in ensuring the veracity of the transactions.

3.1 You are appointed as a risk management consultant and you are expected to give your valuable inputs by answering the following.

- (a) There is a 30% probability of increase in a particular share price on Monday. If that share price increased on Monday, there is a 20% probability that it will increase on Tuesday. If the price did not increase on Monday, there is a 70% probability that it will increase on Tuesday. Give your workings.

Using Baye's Theorem, calculate the probability of increase in that share price on Monday, if the price increased on Tuesday. **(4 Marks)**

- (b) Briefly explain how big data analytics help in improve the existing processes in Anti-Money Laundering operations. **(4 Marks)**

- (c) Calculate the compounded Geometric Mean rate of return for the previous two year-period. The stock had a return for the three years as follows:

| Year | 2016 | 2017 | 2018 |
|--------|------|------|------|
| Return | 8% | -5% | 15% |

(2 Marks)

- (d) (i) The risk manager would like to have your opinion in deciding between VaR and Expected short fall method as a risk measure. Give your advice explaining the reasons thereof. **(3 Marks)**

- (ii) What are the advantages of Monte Carlo Simulation? **(3 Marks)**

- (iii) If investment proposal is Rs. 50,00,000/- and risk-free rate is 6% p.a., calculate Net Present Value under certainty equivalent technique, given the following information:

| Year | Expected Cash Flow (in Rs.) | Certainty Equivalent Coefficient |
|------|-----------------------------|----------------------------------|
| 1 | 12,00,000 | 0.87 |
| 2 | 14,00,000 | 0.84 |
| 3 | 18,00,000 | 0.93 |
| 4 | 27,00,000 | 0.82 |

(4 Marks)

- (e) (i) The Manager is looking at the viability of Credit Default Swap contracts. He learnt that it has similarities with credit insurance. Discuss the differences between CDS and credit insurance. **(6 Marks)**
- (ii) In the present days, banks face a lot of problems in collections from customers resulting in increase of NPAs. Hence the banks make attempts to mitigate the risks of lending to unworthy borrowers by reviewing their five C's of Credit. Briefly explain them. **(4 Marks)**

Choose the correct answer from the following. Each question carries two marks. 2 x 10 = 20

3.2 OECD has developed set of principles for better corporate governance. The principle of Disclosures and Transparency would NOT include :

- (a) Overseeing the process of disclosure and communications
- (b) Foreseeable risk factors
- (c) The financial and operating results of the company
- (d) Company Objectives and non-financial information

3.3 Bad credit history has the impact on borrower's future. A BCO score is a powerful measure of the creditworthiness as a lender might refer. If FICO score is 750, the chance of default is :

- (a) 1%
- (b) 2%
- (c) 8%
- (d) 61%

3.4 Risk measures are expected to correctly reflect diversification effects and facilitate effective decision making. This is achieved in

- (a) Stress testing measures
- (b) Coherent risk measures
- (c) Full revaluation methods
- (d) VaR conversion methods

3.5 The following one is not the property for a coherent risk measure :

- (a) Subadditivity
- (b) Homogeneity
- (c) Monotonicity
- (d) Monatomicity

3.6 The manager likes to place more importance to recent observations and provide geometrically declining weights on past observations. For this purpose, he WOULD most like use

- (a) Loss Given Default model
- (b) Exponentially Weighted Moving Averages model
- (c) Altman Z Score model
- (d) Generalized Autoregressive Conditional Heteroskedastic model

3.7 Sample is not :

- (a) Representative of the population.
- (b) Sufficiently large
- (c) Chosen group of population.
- (d) Randomly selected.

- 3.8** Which one of the following that a company would LEAST likely choose as a common risk management objective when framing the risk management approach?
- (a) Enhance the level of risk maturity
 - (b) Allocate capital more efficiently
 - (c) Build safeguards against earnings-related surprises
 - (d) Achieve a better understanding of risk for competitive advantage
- 3.9** In risk rating table, if risk rating is 7, it needs corrective action :
- (a) within one week
 - (b) within one month
 - (c) immediately
 - (d) Nil
- 3.10** Strategic risks are associated with:
- (a) the on-going, day to day operations;
 - (b) the primary long-term purpose, objectives and direction of business;
 - (c) the management and protection of knowledge and information within the enterprise;
 - (d) processes, techniques and instruments utilized to manage the finances of the enterprise.
- 3.11** As per the Standards on Auditing issued by the ICAI, a risk resulting from significant conditions, events, circumstances, actions or inactions that could adversely affect an entity's ability to achieve its objectives and execute its strategies, or from the setting of inappropriate objectives and strategies is BEST known as :
- (a) Significant Risk
 - (b) Business Risk
 - (c) Inherent Risk
 - (d) Control Risk.