

NANYANG TECHNOLOGICAL UNIVERSITY

SEMESTER 1 EXAMINATION 2022-2023

BR3208 – Operational Risk Management
BR3211 – Operational Risk and Resiliency

November 2022

Time Allowed: 2½ hours

INSTRUCTIONS

1. This paper contains **SIX(6)** questions and comprises **SEVEN(7)** pages.
2. Answer all **SIX(6)** questions on the answer book.
3. Begin your answer to each question on a separate page of the answer book.
4. This is a **CLOSED-BOOK** examination.
5. The number of marks allocated is shown at the end of each question.
6. Answers will be graded for content and appropriate presentation.

Note: Exam Questions begin on Page 2.

Question 1

This question consists of **FIVE (5)** multiple-choice questions. Choose the correct answer from the alternatives given. In your **ANSWER BOOK**, write the correct answer (i), (ii), (iii) or (iv) next to the question number and the part. Write in one column. Each multiple-choice question carries **TWO (2)** marks.

- (a) Which of the following event is an operational risk event?
- (i) Sharp decrease in the value of the company's equity portfolio due to financial crisis.
 - (ii) Increase in probability of default of a bank loan portfolio due to deterioration of the financial condition of the borrowers.
 - (iii) Model errors due to carelessness of the model developer.
 - (iv) Inability to meet the cash outflows due to illiquidity of the asset portfolio.
- (b) Which of the following action is not an action taken as a result of the Dodd Frank Act?
- (i) Relaxing capital rules so that financial institutions are able to survive through the financial crisis.
 - (ii) Imposing tough new capital and leverage requirements that made it undesirable to get too big.
 - (iii) Ensuring consumers get clear and accurate information they need to shop for financial products.
 - (iv) Strengthening oversight and empowering regulators to aggressively pursue misconducts in the financial market.
- (c) Which of the following option shows the key governance components of an Operational Risk Management Framework?
- (i) Governance structure, culture and awareness, and policies and procedures.
 - (ii) Operational risk event data collection, risk and control self-assessment, scenario analysis and key risk indicators.
 - (iii) Governance structure, culture and awareness, policies and procedures, and risk appetite.
 - (iv) Measurement and modelling, and reporting.
- (d) Which of the following statement is correct?
- (i) Reputational risk cannot be treated as a standalone risk.
 - (ii) Reputational risk management framework can be adapted from operational risk management framework.
 - (iii) There is no relationship between reputational risk and operational risk.
 - (iv) There is no relationship between reputational risk and financial risk.

Note: Question No. 1 continues on page 3

Question 1 (continued)

- (e) Which of the following action is the best way of assessing the reputational risk exposure?
- (i) Building a capital model to assess the reputational risk exposure.
 - (ii) There is no way to assess the reputational risk exposure.
 - (iii) Seeking the opinion from senior management members.
 - (iv) Constructing a stress scenario with the focus on reputational risk.

(TOTAL: 10 marks)

Question 2

InsureProtect, a local composite insurance company, has grown rapidly over the last few years. The CEO decides to strengthen the existing risk management process of the company in order to manage the risks more effectively. The current stage of the company's risk management process is as follows:

- The risk management process is guided by a set of risk policies, without any procedural manuals.
- The risk management activities are currently handled by a team without risk management knowledge, and the team reports directly to the CFO.
- Various tools are used to identify and measure the operational risks such as operational risk event database, risk and control self-assessment, scenario analysis, key risk indicators and capital modelling.
- There is no dedicated forum to discuss and make decisions on risk management related matters.
- The Internal Audit Function is staffed with experienced staff. The function supports the management on the day-to-day activities with the use of market best practices in internal audit.
- Risk management is not considered in appraising and rewarding the employees.

The CEO engages you, a Senior Risk Management Consultant, to help the management to understand the importance of risk management and to improve the existing risk management process. Specifically, he would like you to:

- (a) Identify four potential stakeholders driving the adoption of operational risk management of a financial institution, and explain the benefit(s) of adopting operational risk management from the perspective of the stakeholders.

(5 marks)

Note: Question No. 2 continues on page 4

Question 2 (continued)

- (b) Identify five key weaknesses of the company's existing risk management process, and explain clearly the impact of each weakness on the company.

(5 marks)

- (c) Describe the improvement needed to address each weakness identified in Part (b).

(5 marks)

The CEO has recently discussed with his ex-colleague, and he gets to know it is a good practice to appoint a Chief Risk Officer (CRO) to look after the risk management activities of the company. The CRO should have sufficient stature, authority and seniority to perform his/her duty and to allow him/her to act independently from the business. He would like to you to:

- (d) Explain three ways that the CRO can have sufficient stature, authority and seniority in discharging his/her duties.

(3 marks)

- (e) Describe three ways that the CRO can perform his/her duties independently from the business without undue influence by the business.

(3 marks)

The CEO also happens to know that a strong risk culture is needed to ensure the effectiveness of the risk management process. He would like you to:

- (f) Explain four ways that the company can communicate the importance of risk management to the employees in order to improve the risk culture of the company.

(4 marks)

(TOTAL: 25 marks)

Question 3

RiskSecure, a retail bank, is planning to establish an operational risk event database in order to strengthen the risk identification process. The management has tasked you, a Senior Risk Analyst, to set up a database. Before giving you the necessary resources to do the setup, the management would like you to:

- (a) Explain four areas of the risk management activities which can be supported by the operational risk event data.

(4 marks)

Note: Question No. 3 continues on page 5

Question 3 (continued)

- (b) List down four types of events which can be recorded in the database. (2 marks)
- (c) Discuss why it is important to allocate operational loss amount appropriately to each business unit. (3 marks)

The management understands that external data is equally useful for risk identification. The management would like you to:

- (d) Identify two key sources of external data, and describe one advantage and one disadvantage of each source of external data identified. (4 marks)
- (e) Explain two weaknesses of using external data to identify the risks of the company. (2 marks)

After few years of establishing the operational risk event database, the company manages to identify the key risks. One of the key risks is oversight of the employees in carrying out the manual business processes. The management would like you to:

- (f) Describe two possible consequences of the identified key risk with an example. (2 marks)
- (g) Explain three actions that can be adopted to reduce the key risk. (3 marks)

(TOTAL: 20 marks)

Question 4

A company implemented the risk and control self-assessment (RCSA) exercise five years ago. The existing practices adopted in RCSA exercise are currently reviewed by Operational Risk Management Team. The review shows that there are three key weaknesses:

- The risks were identified and assessed by Operational Risk Management Team without the involvement of business units.
- The risk assessment only quantifies net risk exposures.
- The last review on the RCSA results happened three years ago.

Note: Question No. 4 continues on page 6

Question 4 (continued)

The management of the company would like you, the Operational Risk Manager, to:

- (a) Discuss why each observation is considered a weakness to the RCSA exercise.
(6 marks)
- (b) Explain an action needed to address each weakness identified in Part (a).
(3 marks)

The company has created a set of key risk indicators (KRI) which are used to monitor various operational risk exposures. The management would like you to:

- (c) Explain two ways of using the KRI results to support the RCSA exercise.
(2 marks)
- (d) Discuss how an appropriate KRI can be set with an example i.e., number of customers' complaints. Please include SMART principle as part of your discussion.
(4 marks)

(TOTAL: 15 marks)

Question 5

The stress scenario analysis exercise has been completed recently. An intern would like to understand more about the exercise. He has approached you, a Senior Risk Analyst, to know more about the exercise. He would like you to:

- (a) List down the key steps needed to construct a stress scenario.
(4 marks)
- (b) Explain three possible stress parameters needed for a reputation risk scenario.
(3 marks)
- (c) Discuss how the output of the stress scenario analysis can be used to manage the risks of the company.
(3 marks)

The intern is also interested in understanding the use of the output of the stress scenario analysis when deriving the economic capital from the Internal Model. He would like you to:

Note: Question No. 5 continues on page 7

Question 5 (continued)

- (d) Discuss how the output of the stress scenario analysis can be used to support and influence the economic capital calculation using Internal Model.

(5 marks)

(TOTAL: 15 marks)

Question 6

Alex is currently preparing for an exam on Enterprise Risk Management, and he does not understand some of the risk management practices adopted by the financial institutions. He has approached you, an experienced risk analyst in a bank, to answer some of his questions. Specifically, he would like to:

- (a) List down four types of information covered in a comprehensive risk report.

(2 marks)

- (b) Discuss how a risk analyst carry out risk analysis on a comprehensive risk report.

(5 marks)

- (c) Explain five key characteristics of good quality risk information.

(5 marks)

- (d) Describe three key features an off-the-shelf GRC software can offer to strengthen the risk monitoring and reporting process.

(3 marks)

(TOTAL: 15 marks)

- END OF PAPER -