Assignment 4

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Operational Risk

Educational Objective (EO)

Describe operational risk and its subcategories.

Instructions

Activity 1—Describing Operational Risk

Group Activity Followed by Large Group Discussion

Divide the participants into small groups and provide each group with a flipchart page. Assign each group one or more of the operational risk subcategories listed here:

- People
- Process
- Systems
- External events

Ask each group to write a brief description of the risk subcategory and to list 3 specific examples of risks that would fall into that subcategory. Impose a time limit of 2-3 minutes.

After each group has completed its description and its list of risk examples, have one person from the group read the group's answer from the flipchart page. Ask the other groups to analyze the group's answer. Next, ask the participants to suggest appropriate risk management techniques for the listed risk examples.

Continue until each group has presented its answer.

Debrief:
Review the groups' answers.

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Operational Risk Indicators

Educational Objective (EO)

Explain how risk indicators are used to track the level of operational risk.

Instructions

Activity 1—Brainstorming Risk Indicators

Small Group Activity Followed by Large Group Discussion

Divide participants into small groups and ask the groups to read **Case Study—Fredine Pizza**.

Draw lines to divide a flipchart page into three columns. Write these labels at the top of each of the three columns:

- Personnel
- Processes
- Systems

Provide each group with a sheet of notebook paper if necessary. Ask each group to identify potential key risk indicators that might be used to track the level of the company's operational risk. Allow 2-3 minutes for the groups to list their key risk indicators.

When all groups have completed their list, have each group write one of their key risk indicators in the appropriate column on the flipchart. Ask the other participants to provide feedback to each group. Continue adding examples but do not repeat answers.

Debrief:
Review the group answers. You may want to ask the groups to identify those key risk indicators that could identify risks in more than one of the three main categories of operational risk.

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Case Study—Fredine Pizza

Fredine Pizza operates a chain of pizza delivery and customer takeout stores in suburban Chicago. The company has been in business for forty years. It began as a family-owned business, but was sold two years ago to a group of entrepreneurs. The new owners have instituted changes meant to streamline the operations, but there have been mixed results.

Since the takeover, Fredine has averaged an annual turnover rate of 60 percent in its store managers, which is twice the normal rate. Further, the turnover includes many of the experienced store managers, so that the average experience level in the current store managers has dropped sharply.

Employee turnover has also increased along with the manager turnover. Drivers are mostly young men, often college students working part-time. It takes approximately three months before the drivers become experienced enough to reach their peak efficiency. Pizza makers and counter staff also take several months to train, and store managers often have to step in during the busy times to meet customer demand.

The personnel office began holding exit interviews with departing employees to try to gain a better perspective on why employees terminate. Although the program was instituted two months ago, the data that has been collected to date has not been collated or analyzed.

As a result of the high manager turnover, the operations at the stores have begun to slip and monthly sales have declined overall. However, the profit per dollar of sales has actually increased at some of the stores.

Supply chain issues have also arisen. Several stores have experienced shortages of key pizza making ingredients over the last month. Fredine has a central warehouse for inventory storage, and a warehouse manager and operations manager work together to schedule deliveries of ingredients to each of the stores. The warehouse delivers inventory to the stores every three days. If a store runs out of ingredients prior to the scheduled delivery date, the store manager purchases the necessary ingredients in the local marketplace.

Fredine's marketing edge is to emphasize the high quality and fresh ingredients that are included in its products. Word-of-mouth advertising is the primary marketing tool. The new owners opened a website earlier in the year and are considering social media as a new advertising medium.

Customer complaints have increased since the company instituted an internet-based customer comment system on its website. However, the marketing manager is unsure whether the higher number of complaints is related to the ease of using the new technology or represents an actual increase in customer frustration and dissatisfaction.

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Financial Risk

Educational Objective (EO)

Describe financial risk and its subcategories.

Instructions

Activity 1—Financial Risk Quiz

Group Activity followed by Large Group Discussion

Game or Group Activity

This activity is written so that you can present it as a "Jeopardy-style" quiz game or as a group discussion activity. To present this activity as a game, divide the participants into small teams. Read the questions aloud and then wait for a group leader to provide the correct answer. Assign one point to teams for correct answers. At the end of the questions, the team with the most points wins. Note: The answers to the activity are in the form of a question as required by the Jeopardy quiz show.

Alternatively, have the participants answer the questions in **Activity 1— Financial Risk Quiz**

Debrief:

Review the answers with the participants. You may want to ask participants to suggest risk management techniques that are appropriate to the various types of financial risk.

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Activity 1—Financial Risk Quiz

Questions	Answers
1. This term refers to the state whereby risk and return are balanced so that there is a maximum return for the desired level of risk.	
2. This refers to a financial transaction where one asset is used to offset the risk of another asset.	
3. This type of derivative protects a bank from the risk that a corporate debtor defaults on a bond payment.	
4. This is the type of risk that is common to all securities of the same general class and type and cannot be diversified away.	
5. Organizations that operate in more than one country are exposed to this type of risk, which is related to changes in the value of funds moved from one country to the next.	
6. This is an agreement between two organizations to exchange payments based on changes in the value of an asset, yield, or index over a specific period.	
7. This is the risk that the rate at which periodic interest payments can be reinvested over the life of the investment will be unfavorable.	
8. This is the risk that a security's future value will decline because of changes in interest rates.	
9. A business that buys large quantities of copper on the open market would be exposed to this type of risk, which refers to changes in the market price of	

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copper.	
10. This type of risk includes the risk that an organization's share price falls, restricting its ability to raise capital.	
11. This term refers to the risk that an organization will not be able to maintain cash balances or to quickly raise enough cash to meet its near-term obligations.	
12. Firms that lend money to customers create this type of risk for themselves.	
13. An organization can charge too little or too much for its products and services, which creates this type of risk.	

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Answers for Activity 1—Financial Risk Quiz

Questions	Answers
1. This term refers to the state whereby risk and return are balanced so that there is a maximum return for the desired level of risk.	What is risk optimization?
2. This refers to a financial transaction where one asset is used to offset the risk of another asset.	What is hedging?
3. This type of derivative protects a bank from the risk that a corporate debtor defaults on a bond payment.	What is a credit default swap (CDS)?
4. This is the type of risk that is common to all securities of the same general class and type and cannot be diversified away.	What is systematic risk?
5. Organizations that operate in more than one country are exposed to this type of risk, which is related to changes in the value of funds moved from one country to the next.	What is currency price risk?
6. This is an agreement between two organizations to exchange payments based on changes in the value of an asset, yield, or index over a specific period.	What is a swap agreement?
7. This is the risk that the rate at which periodic interest payments can be reinvested over the life of the investment will be unfavorable.	What is reinvestment risk?
8. This is the risk that a security's future value will decline because of changes in interest rates.	What is interest rate risk?
9. A business that buys large quantities of copper on the open market would be exposed to this type of risk, which	What is commodity price risk?

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refers to changes in the market price of copper.	
10. This type of risk includes the risk that an organization's share price falls, restricting its ability to raise capital.	What is equity price risk?
11. This term refers to the risk that an organization will not be able to maintain cash balances or to quickly raise enough cash to meet its near-term obligations.	What is liquidity risk?
12. Firms that lend money to customers create this type of risk for themselves.	What is credit risk?
13. An organization can charge too little or too much for its products and services, which creates this type of risk.	What is price risk?

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Value at Risk and Earnings at Risk

Educational Objective (EO)

Apply the concepts of value at risk and earnings at risk to financial risk.

Instructions

Activity 1—Calculating VaR

Ask the participants to read **Case Study—Etchley Accounting Services**.

Divide participants into small groups and ask them to fill the blank spaces in the worksheet in **Activity 1—Calculating VaR**.

When all groups have completed the worksheet, have each group compare their answers with the other group answers. If there are discrepancies, have the groups to try to resolve them.

Debrief:
Review the calculations with the groups. For discussion, you may ask the participants one or more of the following discussion questions:

- What is the probability that the portfolio has a negative return over the upcoming year?
- What other information might the client wish to know about the potential risk of this portfolio?

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Activity 1—Calculating VaR

Compute the following Value at Risk (VaR) amounts from the information provided **Case Study—Etchley Accounting Services.** Explain the 5% VaR amount in words.

1% VaR	
5% VaR	
10% VaR	

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Answers to Activity 1—Calculating VaR

Compute the following Value at Risk (VaR) amounts from the information provided **Case Study—Etchley Accounting Services.** Explain the 5% VaR amount in words.

1% VaR	-$400,000
5% VaR	-$200,000
10% VaR	-$100,000

There is a 5% chance that the portfolio will loss $200,000 or more of its value.

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Case Study—Etchley Accounting Services

Etchley Accounting Services prepared a risk and return analysis for one of its clients. After evaluating the portfolio's historic returns, they determined the probabilities associated with various asset values for the portfolio over the next 12 months. They are now ready to explain the portfolio's Value at Risk (VaR) to the client.

Portfolio Value	Probability
-400,000	1%
-300,000	2%
-200,000	2%
-100,000	5%
0	7%
100,000	8%
200,000	10%
300,000	12%
400,000	13%
500,000	12%
600,000	11%
700,000	6%
800,000	4%
900,000	4%
1,000,000	2%
1,100,000	1%
Total	100%

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Regulatory Capital

Educational Objective (EO)

Explain how regulatory capital provides protection from the downside of financial and operational risks.

Instructions

Activity 1—Explaining Regulatory Capital

Small Group Activity Followed by Large Group Discussion

Divide participants into groups and ask the groups to answer the questions in **Activity 1—Explaining Regulatory Capital.** Allow 3-5 minutes for the groups to complete their answers.

Post a flipchart page at the front of the room and ask one group to write their answer to the first question on the flipchart page. Ask the other groups to comment on or expand on that answer before continuing to the next question.

Debrief:
Review the answers with the groups. You may want to ask the group to comment on how well they expect the newly revised regulatory capital requirements to work at reducing risk in the global financial system.

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Activity 1—Explaining Regulatory Capital

Answer each of the following questions.

Topics
1. How have regulatory capital requirements changed in the wake of the 2008 world financial crisis?
2. How does regulatory capital reduce financial risk (liquidity, credit, and/or market risk)?
3. How does regulatory capital reduce operational risk?

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Economic Capital

Educational Objective (EO)

Apply the concept of economic capital to insurers.

Instructions

Activity 1 — Determining Economic Capital Case Study

Group Activity Followed by Large Group Discussion

Divide participants into two groups and provide each group with a flipchart. Ask participants to read the scenario and complete the questions in **Activity 1—Determining Economic Capital**.

Debrief:
Reconvene the large group. Ask each group to present their findings and compare. Review and discuss with the class.

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Activity 1 — Determining Economic Capital Case Study

Autumn Assurance Group has assets at fair value of $100 million. The present value of Autumn's liabilities is $85 million. The market value margin is $5 million.

Using probability models, Autumn determines that its VaR is $8 million. Autumn may be expected to incur $8 million or greater loss of capital at a .5 percent probability over a one-year period.

Questions
1. What is Autumn's MVS?
2. What is Autumn's economic capital?
3. Does Autumn have excess capital or a deficiency in capital?

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Answers to Activity 1 — Determining Economic Capital Case Study

Questions
1. What is Autumn's MVS? MVS = Fair value of assets – (Present value of liabilities + Market value margin) Autumn's MVS = $100 million – ($85 million + $5 million) = $10 million
2. What is Autumn's economic capital? Autumn's economic capital is $8 million. The VaR is $8 million at the threshold determined by Autumn.
3. Does Autumn have excess capital or a deficiency in capital? Autumn's MVS of $10 million is larger than its economic capital of $8 million. Therefore, Autumn has excess capital.

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Strategic Risk

Educational Objective (EO)

Describe strategic risk and its major subcategories.

Instructions

Activity 1—Describing Personnel Causes of Loss

Small Group Activity Followed by Large Group Discussion

Draw lines to divide a flipchart page into three columns. Write these labels at the top of each of the three columns:

- Economic environment
- Demographics
- Political environment

Divide participants into small groups and provide each group with a blank sheet of paper if necessary. Ask each group to write down examples of strategic risks in each of these three categories. Each group should have at least nine different examples, and they should have at least three examples in each category.

Allow the groups several minutes to complete their task, and then ask one of the groups to write one of their examples in the appropriate column of the flipchart page. Continue adding examples from each group, but do not repeat examples.

When the flipchart page has been completed, ask the participants to suggest some risk management techniques that might be appropriate for the examples that are written on the flipchart.

Debrief:
Review the answers with the class.

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