

CFE SDM Model Solutions

Spring 2015

1. Learning Objectives:

1. The candidate will understand measures of corporate value and their uses in risk management.
5. The candidate will understand the decision making process and the lessons learned from the risk taking activities and experiences of other organizations. In particular, the candidate will be able to apply the learning objectives of all the prior sections of the syllabus to the risk management principles embodied within the case studies explored in this section.

Learning Outcomes:

- (1a) Apply basic accounting concepts used in producing financial statements.
- (1b) Explain how economic capital can be used as a value measure by financial institutions.
- (5c) Assess the risk of the status quo alongside any other risky and or risk management decision.

Sources:

SDM-100-13 (p. 49)

SDM-126-13

Commentary on Question:

This question tested candidates' understanding of the building blocks of the Balanced Scorecard and how KPIs can be used to measure the success/failure of a company's strategy. Candidates were also required to appreciate that strategies introduce risk to a company and recommend appropriate risk management actions. Many candidates did fairly well on this question. The candidates who underperformed failed in connecting their responses to the case study.

Solution:

- (a) Explain how a Dashboard can be transformed into a Balanced Scorecard.

Commentary on Question:

Most candidates were able to explain at least one change to a Dashboard in order to transform it into a Balanced Scorecard. Only a few candidates explained all four of the changes listed below.

1. Continued

- Include a mixture of financial and non-financial performance measures.
 - Compare each performance measure to a target value.
 - Include categorized [four or five] perspectives on financials, learning and growth, internal business, production processes, customers, and sustainability.
 - Measure the performance of each category and weigh to provide score.
- (i) Recommend three performance measurements that can be added to Blue Ocean's Dashboard to make it a Balanced Scorecard. Justify your recommendation.
- (ii) Rank the measurements in part (i) in terms of the greatest impact on company performance. Justify your ranking.
- (iii) Assess the potential impact adding these measurements will have on the Blue Ocean's risk profile.

Commentary on Question:

Most candidates did well on this question, but some failed to present their answers in the context of the case study. Many candidates recommended and ranked three performance measurements that can be added to Blue Ocean's Dashboard without proper justifications. In addition, the impact of their recommendations on Blue Ocean's risk profile was assessed poorly.

In addition to the list below, a variety of answers were accepted as valid.

- (i)
- Financial / Shareholder:
 - PM: Pet and Travel profits to Marine profits (ratio) or Pet Insurance Market Share.
 - Justification: Financial goals are to generate as much profit and premium from [Pet] as core [Marine]; the goal is to establish a dominant market share in this relatively young insurance field.
 - Customer:
 - PM: Percent of Sales from New Products, Number of Contracts per Customer, Number of Customers utilizing [online services].
 - Justification: Mission is to strengthen the brand identity as a dominant innovator and market leader.
 - Internal Processes [Innovation]:
 - PM: Number of New Products introduced vs. target, Number of New Products in development, Time from development to introduction.
 - Justification: Mission is to strengthen the brand identity as a dominant innovator; reflect speed to opportunity and speed to market.

1. Continued

- (ii) Rank:
1. Pet Ins. Market Share
 2. Number of New Products Introduced
 3. Number of Contracts per Customer

Moving into Pet and Travel is a key strategy for Blue Ocean. This financial metric should be ranked #1. Being a dominant innovator is part of Blue Ocean's mission statement, so the innovation metric should be above the customer metric.

- (iii)
- Financial (Pet and Travel): High impact on Blue Ocean's risk profile; the young insurance field will have little to no experience.
 - Customer: Moderate impact on Blue Ocean's risk profile; a multiple-policy holder is expected to have a higher retention.
 - Innovation: Moderate to high impact on risk profile; innovative products may introduce a higher degree of risk, especially compared to traditional products.

- (c)
- (i) Describe three examples of how Blue Ocean's risk profile should be managed given its strategies, from the perspective of the Office of Risk Management.
 - (ii) Recommend a Risk Management Process Style that should be utilized by RPPC to specifically contend with Blue Ocean's risks. Justify your recommendation.

Commentary on Question:

Responses to this question were mediocre at best; many candidates did not answer the question according to Blue Ocean's strategy.

- (i)
- The number of entrants in North American pet insurance and the renewable energy sector will change over time. Changes in an organization's strategy and external environment must lead to the scrutiny of existing internal controls.
 - The renewable energy sector is very young, and the ORM must be diligent in recognizing new and emerging risks. When an organization enters into new strategic areas, the ORM must lead the organization to a higher sensitivity of any new risks.

1. Continued

- With the expansion beyond the UK, company management decided to expand its focus into Pet and Travel Insurance. Strategy considers focus and specialization of resources to achieve a competitive advantage in well-defined product, customer, and industry segments.

- (ii) What-If/Stress-Tester: Stress testing is common in the insurance field, but RPPC must be especially vigilant with Blue Ocean. Blue Ocean wishes to be an innovator in a very new insurance field and assumptions regarding new products, markets, etc. will be important to test and understand. Because of this, the facilitator approach may not give the RPPC ORM a timely approach to analyzing risk.

On the other hand, an active and intrusive approach would not be appropriate because insurance risks emerge, change, etc. fairly slowly, and an active and intrusive approach effects day-to-day operations. This would also affect the relationship between the Blue Ocean risk analysts and RPPC negatively.

- (d)
- (i) Recommend one strategic objective that Big Ben should include in its Balanced Scorecard, which would not be used by Blue Ocean, from either the Customer perspective or the Learning and Growth perspective. Justify your recommendation.
- (ii) Explain why the strategic objective from (i) would not be appropriate for Blue Ocean.

Commentary on Question:

Candidates performed very well on this question. Any reasonable recommendation with justification was awarded full marks.

- (i) Customer: Change an objective in the Balanced Scorecard to one of the options below. The interaction Big Ben has with its customers is much more interactive and robust, defining great client experience as a part of its strategy
- Realizing a great client experience through the integration of wealth management and insurance offerings.
 - Realizing a great client experience by strengthening wealth management and insurance offerings.
 - Building global platforms for new growth.
 - Creating a significant brand that is perceived as a private club and a family.

1. Continued

Learning and Growth: Change an objective in the Balanced Scorecard to one of the options below. Big Ben's target market is much more specific, and differentiation is much more important. The learning and growth objectives should reflect this

- Focus on very high net worth, globally active business traveler.
- Incorporating new services that can sustain the growth of Big Ben's businesses.
- Discovering markets that could be penetrated by leveraging the existing operation systems and distribution in order to achieve greater organic growth.
- Discovering and reacting to emerging financial crisis or regulatory changes that might be a hindrance to future plans.

- (ii) Customer Perspective: Will be more important to follow. Objectives will be more numerous. Measurements and targets will mostly be non-financial. Blue Ocean's interaction with its customers will not be nearly as frequent nor as close as Big Ben's relationship with its customers.

Learning and Growth: Blue Ocean has a much broader customer base while Big Ben must reflect a more specific target market.

2. Learning Objectives:

4. The candidate will understand organizational behavioral concepts and apply strategic management frameworks to corporate financial and ERM business problems.
5. The candidate will understand the decision making process and the lessons learned from the risk taking activities and experiences of other organizations. In particular, the candidate will be able to apply the learning objectives of all the prior sections of the syllabus to the risk management principles embodied within the case studies explored in this section.

Learning Outcomes:

- (4b) Evaluate and apply the concepts of strategic management, recognizing the factors that affect the development and implementation of strategies.
- Demonstrate the importance of analyzing the firm's external environment and the internal organization.
 - Define types of business-level strategies and recommend an appropriate business-level strategy for a given situation.
 - Explain the impact of competitive dynamics on strategic management.
- (4c) Use organizational behavior and strategic management concepts to evaluate and recommend corporate financial and ERM decisions.
- (5a) Critique financial models, assumptions and decisions including the impact of behavioral finance concepts.

Sources:

Strategic Management Ch. 3

Strategic Management Ch. 5

SDM-127-13: Nephila

SDM-139-14: Lion King

Commentary on Question:

The goal of the question is to separately assess the candidate's knowledge of first mover incentives, value chain analysis, and catastrophic risk transfers. The candidate is expected to recognize and apply these concepts in the context of travel insurance, while also considering the specific strategic positions of Blue Jay Air and Blue Ocean, as described in the case study.

Overall, most candidates demonstrated a basic understanding of the learning objectives. However, very few were able to coherently articulate their application to the specific context of this question. As a result, candidates performed poorly on this question, particularly on sections testing higher cognitive levels.

2. Continued

Solution:

- (a) Describe one advantage and one disadvantage of BJA being the first mover in the custom travel insurance market.

Commentary on Question:

Candidates were able to generally identify advantages and disadvantages of being the first mover. However, few candidates provided supporting evidence specifically relevant to BJA's strategic position and/or the travel insurance market.

In general, first mover advantages include temporary above-average returns, increased customer loyalty, and increased market share. Being the first mover is especially critical in a fast cycle market. In general, first mover disadvantages include difficulty in estimating returns from innovations, reduction in financial slack, and lack of product acceptance.

Advantages:

Travel insurance offering is a fast cycle market because competitor imitation is likely to be rapid and inexpensive. Thus, BJA can enjoy the temporary competitive advantage of being the first mover. The strategy also aligns with their corporate vision of being a customer-oriented airline and will help establish the loyalty of customers looking for premium services (such as easy, customizable access to travel insurance). This aligns with BJA's differentiation strategy.

Disadvantages:

BJA reported positive net income for only the past two years, and the airline industry is very capital-intensive, so the amount of financial slack available for product innovation may be limited. Additionally, their key client base – business travelers – may have these types of coverage elsewhere, so demand for the product may be less than expected.

- (b) Identify two specific tasks relevant to the travel insurance business for each value chain activity.

Commentary on Question:

Candidates performed poorly on this section. Very few candidates successfully applied the value chain analysis presented in the syllabus to the specific context of a travel insurance policy. Many candidates invoked classic definitions of "Operations" and "Follow-up Service" as they apply to an insurance company in general. However, the question is specifically discussing the value chain relating to manufacturing a travel insurance policy.

2. Continued

Operations:

Operations for the travel insurance business include pricing, product design, underwriting, etc. Generally, anything related to “building” the product (the product being a travel insurance policy) is included.

Follow Up Service:

Service for the travel insurance business include answering and paying claims, loss adjustment, litigation, policy renewal, etc. Generally, anything related to servicing the product after the point of sale is included.

- (c) Assess one advantage and one disadvantage of leveraging Blue Ocean to execute these value chain activities. Justify your answer based on Disney’s success with “The Lion King”.

Commentary on Question:

Successful candidates were able to articulate the relevant parallels between this question’s context and the Lion King case study, namely that the potential affiliate has the competencies required to execute the value chain activity.

In the Lion King example, the marketing model was successful only because Disney leveraged the competencies of their affiliates (e.g. branded toys in kids’ meals at Burger King and McDonald’s). Blue Ocean intends to grow its niche market position in travel insurance for business clients (i.e. BJA’s target market), so there is a natural strategic fit and potential synergy between the two companies. Alternatively, effective outsourcing increases flexibility, mitigates risks, and reduces capital investments. Only activities where firms cannot create value or where they are at a substantial disadvantage should be outsourced. A good outsourcing partner has the capabilities and resources to perform the value chain activity or support function.

Using Blue Ocean has the upside of potential cost savings (BJA can benefit from being a potential cost leader), and it also keeps the travel insurance revenue stream within the RPPC Dynasty (if that is a desirable outcome for the enterprise). The downside is that Blue Ocean may not have the required competencies to create value in this market relative to a more advanced player (they have established this niche and have a desire to expand but still may not be best choice). Additionally, the risk from travel insurance may be outside RPPC’s risk appetite (though this can be managed through risk transfer agreements while Blue Ocean remains the policy originator).

2. Continued

Outsourcing to an external partner has the upside of choosing a specific partner with the best core competencies to successfully operate and service the product. Even though Blue Ocean has the right competencies to execute, they may not be the best choice in this particular context. Carefully selecting the right partner would likely optimize customer satisfaction and support BJA's vision of being the most customer-oriented airline. The downsides are the potential cost of securing and managing such a partner and also transferring the revenue stream outside the Dynasty.

- (d) Explain why Jim is concerned about tail dependence.

Commentary on Question:

Candidates did well on this section, recognizing the potential tail dependence among travel insurance policies and relating to multiple policies affected by a single peril (e.g. a plane crash).

The insurance business model is based on the assumption that independent and identically distributed risks can be pooled to diversify aggregate risk and converge to best estimates. Some travel insurance coverage violates this assumption (e.g. all policyholders are getting on the same plane, so the insured events all happen simultaneously, such as a plane crash). Thus, there is tail dependence between certain risk exposures that ought to be captured in capital needs and subsequently reflected in pricing.

- (e) Recommend a catastrophic risk transfer option for the tail event risks that concern Geoff. Justify your recommendation.

Commentary on Question:

Candidates were able to recommend a suitable option, and describe the dynamics and payoffs of their recommended solution. However, very few candidates justified why their recommendation is appropriate in this situation.

Potential answer for recommending XOL Reinsurance:

Ceding company pays a premium to the reinsurer to cover losses beyond a specified trigger point. This option is relatively easy to price and administer, and there is no basis risk because the actual losses to the insurer are indemnified. There is also likely enough market depth to transact such a deal, with several reinsurers having an appetite for such tail risks. However, the downside may be that this type of reinsurance may be too expensive relative to an alternative capital market transfer, and both parties are exposed to each other's counterparty risk (can be managed through FWH and/or Mod-co agreements).

2. Continued

Potential answer for recommending Cat Bond:

Originator pays premiums to the SPV in exchange for reinsurance. SPV issues bonds to capital markets where principal and/or coupons are at risk, contingent on the insured event happening or aggregate losses exceeding a specified trigger point. This option may be cheaper than traditional reinsurance treaties, as there is growing demand for capital market investors to take insurance risks (generally uncorrelated with the market portfolio). The SPV ensures that only the insurance risk is transferred (no counterparty risk). However, the downside may be that the structure is difficult to understand and regulate, and basis risk to the extent that disbursements are index, rather than indemnity, based.

3. Learning Objectives:

2. The candidate will understand various approaches to measuring and managing credit and liquidity risk.

Learning Outcomes:

- (2a) Apply credit and liquidity risk concepts.
 - Describe and analyze credit, counterparty, liquidity, and wrong-way risk.
 - Assess and critique results of various credit and liquidity models for their impact on decision making.

Sources:

Counterparty Credit Risk, Gregory, Jon, 2nd edition; Ch. 15

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Explain why wrong-way risk is dangerous.

Commentary on Question:

Many candidates only provided a definition of wrong-way risk and did not provide further explanation as to why wrong-way risk is dangerous.

Wrong-way risk is an unfavorable dependence between exposure and counterparty credit quality (e.g. exposure is high when counterparty is more likely to default). It is dangerous because:

- It tends to be unrecognized and underestimated.
- Many models do not consider it.
- It is manifested subtly but can have dramatic impact.

Example: If a Credit Default Swap (CDS) is purchased from a counterparty that is positively correlated with the reference entity and if the reference entity defaults, the counterparty backing the CDS also has a higher probability of default, exposing the purchaser to wrong-way risk.

- (b) Assess whether each of the four assets in Section 1, Exhibit 2 contains wrong-way risk.

Commentary on Question:

Most candidates successfully answered this question.

3. Continued

Credit Default Swap on the Senior Tranche of Mortgage Backed Security

Assessment: Can exhibit wrong-way risk.

Explanation: If home prices significantly decrease due to a financial crisis, the underlying asset (mortgages and mortgage-backed securities) will depreciate in value. The CDS would offer protection to Darwin Life. However, the guarantor of the CDS would face a higher risk of default because its exposure would also be high as it would need to pay out on all the swaps it had sold at the same time.

Fixed Payer Oil Swap with a Large Oil Production Company

Assessment: Cannot exhibit wrong-way risk.

Explanation: BJA is the fixed payer, so the swap has value when oil prices are high. When oil prices are high, the credit quality of the oil production company will be improving due to increased revenue from oil. When the oil prices are low, the oil production company has the highest likelihood of default, but also the lowest exposure. This is a right-way risk situation.

Call Option where the Underlying Security is Negatively Correlated with the Counterparty

Assessment: Can exhibit wrong-way risk.

Explanation: When the underlying security increases in value, the call option will be in-the-money, and a payment will be required by the counterparty. However, at the time of payout, the counterparty has the highest risk of default because of the negative correlation between the underlying and the counterparty.

Put Option where the Underlying Bond is Uncorrelated with the Counterparty

Assessment: Independent of wrong-way risk.

Explanation: When the underlying bond decreases in value, the put option will be in-the-money, and a payment will be required by the counterparty. The decrease in the value of the underlying bond has no effect on the counterparty's risk of default because they are not correlated.

- (c) Explain how each of the sensitivity variables in Figure 1 impacts the exposure to wrong-way risk to the holder of the corresponding asset.

Commentary on Question:

Most candidates successfully answered this question by making the assumption that the elements of the contract do not change other than the sensitivity variable in question. Candidates were able to identify the relationship between the probability of default and the impact of a systemic risk.

3. Continued

Forward Contract & Time Since Issue

Explanation: The less time to maturity, the less likely the counterparty will default. However, there will be higher exposure to wrong-way risk because if default occurs, and it will stem from a systematic event that affects the index underlying the forward contract, making the contract in-the-money.

Forward Contract & Counterparty Rating

Explanation: The better the counterparty rating, the lower the probability of default. However, there will be higher exposure to wrong-way risk because if default occurs, it will stem from a systemic event that affects the index underlying the forward contract, making the contract in-the-money.

Pay Floating, Receive Fixed Interest Rate Swap & Counterparty Correlation with Interest Rates

Explanation: The type of correlation impacts the exposure to wrong-way risk. If the counterparty's correlation with the floating interest rate is positive, a low interest rate means a higher exposure to the counterparty. Since the probability of default and exposure move in the same direction, this means more exposure to wrong-way risk. If no correlation or negative correlation exists, there won't be exposure to wrong-way risk.

Payer-Side Currency Swap & Volatility of Denominated Currency

Explanation: The more volatility in the underlying currency, the more the exposure to the counterparty and wrong-way risk.

- (d) Assess whether there is wrong-way risk inherent in the call option strategy.

Commentary on Question:

This question differentiated strong candidates from weak candidates by testing their ability to make a connection with the call option strategy to Blue Jay Air. Strong candidates were able to recognize the different correlation possibilities between Blue Jay Air and the other airline companies that Big Ben Bank started writing call options on.

RPPC has exposure to airlines through Blue Jay Air. If Big Ben starts writing more airline call options, RPPC will be even more exposed to airlines.

Assuming options are not written on BJA, and BJA is positively or non-correlated with the airlines Big Ben is writing options on, there will be no-wrong way risk. Wrong-way risk will not exist because when the call options are in-the-money, BJA will be financially strong. This will offset the risk to RPPC.

3. Continued

Assuming options are not written on BJA, and BJA is negatively correlated with the airlines Big Ben is writing options on, there will be wrong-way risk. Wrong-way risk will exist because when call options are in-the-money, BJA will also be experiencing financial difficulties. This will add further risk to RPPC.

4. Learning Objectives:

3. The candidate will understand best practices for ERM processes and Capital Management and their use in setting a risk-return strategy.
5. The candidate will understand the decision making process and the lessons learned from the risk taking activities and experiences of other organizations. In particular, the candidate will be able to apply the learning objectives of all the prior sections of the syllabus to the risk management principles embodied within the case studies explored in this section.

Learning Outcomes:

- (3a) Explain ERM principles and frameworks.
 - Describe the best practices and frameworks for ERM processes under various industry forums and regulatory guidelines and standards.
 - Explain the principles driving the direction of new regulation and industry standards in risk governance.
 - Describe the components of a risk appetite statement. Design and develop a risk appetite statement and risk return strategy.
- (5b) Evaluate the robustness and flexibility of the risk management framework and recommend approaches for continual improvement in the framework and processes.

Sources:

The Full Spectrum of Risk Attitude

SDM-126-13

Commentary on Question:

The goal of this question was to test the candidate's basic understanding of risk attitudes and strategies. Based on the descriptions provided in the question, candidates should be able to identify various attitudes, risk strategies, and improvements that are needed to be effective.

Solution:

- (a) Describe each of the four risk management strategies: loss controlling, risk trading, risk steering, and diversification.

Commentary on Question:

Most candidates answered this part of the question reasonably well. Some candidates described the associated risk attitude instead of the concept itself. This was particularly the case for the risk steering and diversification concepts. Only partial points were awarded for these answers. For example, if a candidate wrote that diversification meant keeping options open but did not state anything about spreading exposures among a variety of risk classes, full credit was not received.

4. Continued

Loss Controlling: Seeks to mitigate and control the firm's most important risks.

Risk Trading: Focuses on getting the price of risk correct – this sometimes leads to complicated models of risk, reward, and economic capital.

Risk Steering: Ideas of risk trading are applied at a macro level to the major strategic decisions of the firm. The focus is on how much risk the firm should take and how to steer the firm in the ideal direction.

Diversification: Spreading risk exposures among a variety of classes of risk, and avoiding large concentrations of risk.

- (b) Identify which risk strategy from part (a) should be used for each pillar. Justify your answer.

Commentary on Question:

Most candidates did well on this question, with the exception of explaining the loss controlling function of the audit officers. Stating that audit tries to control losses was not a sufficient justification – the candidate needed to expand more on the audit process to receive full credit.

- I. Risk Trading – The Business Operating Group uses complicated models of risk, reward, and economic capital in order to get the price of risk correct. They seek to maximize profits.
- II. Risk Steering – The Office of CRO uses risk assessments in major strategic decisions. They focus on how much risk the firm should take and steer the firm in the ideal direction.
- III. Loss Controlling – The audit process includes assessments of the underwriting processes, claims management, and other processes that result in significant risks for the company.

- (c) Identify the risk perspective for each of the four Company XYZ groups. Justify your answers.

Commentary on Question:

Candidates did very well on this part of the question, and many received full marks.

4. Continued

- 1) Conservators – The Audit Officers seek to minimize risk.
 - 2) Managers – The CRO and ERO balance risk and reward and recognize that higher risk can sometimes result in greater profits.
 - 3) Pragmatists – The Board does not follow a specific pattern and keeps an open mind.
 - 4) Maximizer – The CEO’s main focus is increasing profit.
- (d)
- (i) Explain whether each of ABC Life’s risk management practices is effective or ineffective based on the principles of ORM (Office of Risk Management).
 - (ii) Recommend an improvement for each of the ineffective practice(s) in part (i).

Commentary on Question:

Candidates generally performed poorly on this question. Many were not familiar with the ORM principles and thus could not identify correctly whether the practices were effective or ineffective. Some were able to identify the effectiveness of the practices, but did not relate their justifications to the ORM principles. Only a few candidates received full points.

- I. Practice I is effective. One principle of ORM is that risk management complements (rather than displaces) internal audit and management control practices. The regular meetings between the risk management and audit teams would meet this criterion.
- II. Practice II is effective. The second ORM principle is to promote business-relevant discussion and debate within the business line. The surveys and open forums would help promote such discussion and debate throughout the company.
- III. Practice III is ineffective. According to ORM principles, members of a company should be allowed to challenge executives about the risks emanating from their strategies. Private decision-making and fast implementation without pushback would contradict this principle.

4. Continued

To improve practice III, there should be an opportunity to challenge the executives. The company could implement a voting or check and balance system. This would ensure proper buy-in from a wider range of people. Thorough discussions should be had before implementing decisions right away.

- (e)
- (i) Explain which risk regime ABC Life is facing.
 - (ii) Identify which risk perspective and ERM program/risk strategy the company should hold in this environment in order to fare best. Justify your answer.
 - (iii) Describe one success and one shortfall ABC Life has in relation to rational adaptability.
 - (iv) Recommend two improvements that can be made in order for the company to thrive under all future risk environments. Justify your recommendations.

Commentary on Question:

In general, candidates performed moderately well on this part of the question. Many candidates were able to correctly identify the environment, but a few struggled with this concept. To receive full credit for part (ii), candidates needed to justify both the risk perspective and the ERM program and risk strategy. Several candidates did not provide sufficient justification for their responses. For part (iii) and (iv), rational adaptability relates to a company's risk program and has basic principles that need to be met. Most did well on this part. Candidates who did not receive full credit tended to focus on product issues or other shortfalls not related to the rational adaptability concept. Note that the model solution for part (iii) includes a couple examples of successes and shortfalls. Candidates only needed to describe one of each to receive full credit.

- (i) ABC Life is facing an Uncertain environment. The company's risks from interest rates, rating agency, and assumptions are very unpredictable. ABC Life's profits could go up or down.
- (ii) ABC Life should hold a Pragmatist risk perspective in this environment. Pragmatists are not tied to a certain view and make decisions in the moment with maximum flexibility. The corresponding ERM program and risk strategy would be Diversification. This strategy spreads exposure among a variety of risk classes in order to avoid concentration risk. Using the diversification strategy would thus maximize tactical flexibility.

4. Continued

- (iii) The three steps of rational adaptability are:
- 1) Discernment of changes in risk regime.
 - 2) Willingness to shift risk perspective.
 - 3) Ability to modify ERM program.

Successes that ABC Life has in relation to rational adaptability include the ability to modify its ERM program and discernment of when profit and risk levels change over time.

One shortfall of ABC Life is that the ERM program is only updated every two years. The ERM program is able to be changed but perhaps not fast enough in a rapidly changing environment. Every two years indicates a bureaucratic risk policy. Another shortfall is that the risk committee does not consist of members from all risk perspectives. Therefore, the committee may not be willing to shift risk regimes in different environments.

- (iv) To improve, ABC Life decision-makers should change risk perspectives when the environment or risk regime changes. In order for this to happen effectively, the risk committee should consist of members of all risk perspectives, and each perspective should be valued for its contribution in the firm's success. Furthermore, the ERM program should be reviewed more often than once every two years. This would enable needed modifications in a more timely fashion.

5. Learning Objectives:

4. The candidate will understand organizational behavioral concepts and apply strategic management frameworks to corporate financial and ERM business problems.

Learning Outcomes:

- (4a) Apply organization behavior concepts.
 - Describe the communication process and explain the strategic importance of communication to organizations.
 - Describe the fundamentals of decision making and explain decision-making styles and influences.
 - Describe common types and causes of organizational conflict and apply the elements of a basic negotiation process.
 - Assess how the behavior of individuals and groups in organizations drives organizational decisions and performance.
- (4b) Evaluate and apply the concepts of strategic management, recognizing the factors that affect the development and implementation of strategies.
 - Demonstrate the importance of analyzing the firm's external environment and the internal organization.
 - Define types of business-level strategies and recommend an appropriate business-level strategy for a given situation.
 - Explain the impact of competitive dynamics on strategic management.

Sources:

OB, Hitt Chapter 12

Commentary on Question:

The goal of this question was to have candidates demonstrate their understanding of the negotiation process and competing strategic goals at a micro and macro level.

Essentially, candidates were asked to develop an appropriate negotiation strategy where the counterparty is a coworker and evaluate how the proposed actions fit within the overall goal structure of the company.

Solution:

- (a) For each negotiation tactic:
 - (i) Define the tactic.
 - (ii) Describe how the tactic is used.

Commentary on Question:

Definitions all came directly from the text. Full marks were awarded for the definition of Distributive Bargaining or recognizing that it results in a "Win-Lose" outcome. Full marks were awarded for the definition of Integrative Bargaining or recognizing that it results in a "Win-Win" outcome.

5. Continued

There was a tendency for candidates to simply repeat or re-word the definition of a tactic when asked to describe how it is used. A number of candidates also described situations in which a tactic may be used, which is different from a description of the use of the tactic.

- (i) Distributive Bargaining: A negotiation where one party's goals are in direct conflict with the goals of another party.

Integrative Bargaining: A negotiation strategy where the nature of the problem permits a solution that is attractive to both parties. In other words, a win-win outcome.

Attitudinal Structuring: Activities aimed at influencing the attitudes and relationships of the negotiating parties.

- (ii) Distributive Bargaining: A party may try to convince the other that breaking off negotiations would be costly to one or both parties. A party may try to convince the other that his/her target outcome is fair and the opposing party's target outcome is unfair. A party may try to convince the other that he/she is very committed to reaching the target outcome.

Integrative Bargaining: Parties will look for common ground and support each other through the process by showing the other that his/her concerns are important to each other, or that their target outcome is too important to compromise.

Attitudinal Structuring: Parties will use similar language, reward good behavior, and associate with others liked by each party by using language similar to the other party's, or dissociate oneself from others not liked by the opponent.

- b) Describe the cause of conflict between Jeff Bemowski and Kitty Dunn regarding overhead allocation.

Commentary on Question:

The source of conflict is not simply the allocation of overhead but that different departments have different views on how it should be allocated. Some candidates cited Bemowski's bonus as source of conflict; no marks were awarded for this as it is not the actual source of conflict.

The Marketing Department (Bemowski) and Accounting Department (Dunn) have differing objectives, goals, and/or perspectives on the allocation of overhead expenses.

5. Continued

- (c) Identify the conflict response used by:
- (i) Jeff Bemowski
 - (ii) Kitty Dunn

Justify your answer.

Commentary on Question:

Candidates were generally successful in identifying Bemowski's response as competing.

Many candidates identified Dunn's response as avoiding, which is not supported by the documents since she offers to consider the other options. Half marks were awarded for identifying Dunn's response as "collaborating" since she agrees to look at the alternatives; full marks were not awarded for this answer since she does not work with Bemowski as part of this review.

- (i) Competing: Bemowski uses forceful language and tries to dominate the negotiation by cutting off Dunn mid-sentence to express his point of view while refusing to listen to her.
 - (ii) Compromising: Dunn is open to suggestions and willing to look at additional data to consider the "cost-center" approach.
- (d) Describe an approach Jeff Bemowski should use to produce his desired result.

Commentary on Question:

Approaches needed to meet three main criteria: be consistent with the definition of each tactic, be consistent with the case study, and result in Bemowski attaining his desired result.

No marks were awarded for stand-offish tactics such as shaming Dunn. Both characters work for Frenz and will presumably continue working for Frenz.

There was no single correct response for this question. The below are samples only.

- (i) Kitty Dunn states that the current allocation method seems fair. Bemowski can try to convince Dunn either that his system is also fair and in line with corporate strategies for growth and expansion into non-coffee products. Alternatively, he could propose that the existing allocation method is not fair and contrary to corporate strategies.

5. Continued

- (ii) Bemowski must first stop with his aggressive behavior and listen to Dunn when she is talking. He should then focus on the shared goal of finding a fair allocation method that helps to further the corporate strategies (i.e. sales of non-coffee products). The end result may not be his original proposal of the cost-center method.
 - (iii) Dunn has no obligation to review the allocation method for Bemowski. Bemowski can respond in two ways: express his appreciation to Dunn for taking the time to review the figures and offer to return the favor later on.
- (e) Recommend one of the approaches described in part (d). Justify your recommendation.

Commentary on Question:

The justification needed to consider two factors: Dunn's reaction to the approach and the likelihood of Bemowski successfully attaining his goal.

- The recommended strategy should not be damaging to the relationship between Dunn and Bemowski. The two are still employees of Frenz.
 - It should be clear that the recommended approach is likely to result in Bemowski achieving his goal (e.g. it is the best way to achieve corporate goals).
- (f) Assess whether the cost-center approach to overhead allocation proposed by Bemowski would be a good fit with Frenz's Asian expansion strategy.

Commentary on Question:

The Asian market is uniquely different compared to North American and Europe (Frenz's existing markets). To earn full marks on this question, candidates needed to capture two elements: differences between the markets and the equitability of the distribution method between the different stores.

- The most successful strategy in Asia is cost leadership. Consumers look for the best price and do not generally look for secondary products or value "the experience".
- Using the cost-center approach rather than the current percentage of goods sold model, Asian stores would be responsible for the same share of overhead as the North American stores selling the higher-margin non-coffee products. This circumstance would require the Asian stores to either sell significantly higher volumes of coffee or raise prices relative to the average.
- Conclusion: The cost-center approach is not a good fit for the Asian expansion.

6. Learning Objectives:

4. The candidate will understand organizational behavioral concepts and apply strategic management frameworks to corporate financial and ERM business problems.

Learning Outcomes:

- (4b) Evaluate and apply the concepts of strategic management, recognizing the factors that affect the development and implementation of strategies.
- Demonstrate the importance of analyzing the firm's external environment and the internal organization.
 - Define types of business-level strategies and recommend an appropriate business-level strategy for a given situation.
 - Explain the impact of competitive dynamics on strategic management.

Sources:

Strategic Management (p. 108-120)

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Define business-level strategy.

Commentary on Question:

This was a recall question and was looking for a definition of business-level strategy to lead into the rest of the question. Candidates performed very well on this part of the question.

A set of commitments and actions a firm uses to gain competitive advantage by exploiting core competencies. It provides an indication of how the firm will compete in individual product markets.

- (b) Identify the business-level strategy used by any four RPPC subsidiaries. Justify your answer.

Commentary on Question:

This was a comprehension question where candidates were required to identify the business level strategy for RPCC subsidiaries. Candidates performed relatively okay on this question. The main struggle with the candidates here was being able to understand the difference between differentiation and focused differentiation.

6. Continued

Blue Jay Air - Differentiation Strategy

Blue Jay Air's strategy is to build an image as a customer oriented airline that delivers exceptional service. Their customer make-up is 55% business travelers and 45% leisure travelers, and thus they have a wide customer base.

Blue Ocean - Focused Differentiation Strategy

Blue Ocean's strategy is to be a market leader in Pet and Travel Insurance while maintaining its dominance in the marine insurance market.

Darwin Life Insurance Company - Differentiation Strategy

Darwin Life Insurance Company is focused on wealth management and a customer focus targeting the middle to upper income individuals. Darwin strives to develop products and services that meet estate planning, tax-deferred accumulation, income preservation, and retirement needs.

Big Ben Bank - Focused Differentiation Strategy

Big Ben Bank strives to differentiate by offering a personalized and unique financial planning experience to its clients. It does this by focusing on client experience in the wealth management and insurance offerings. In addition, its focus has been high net worth individuals.

(c)

- (i) Recommend a business-level strategy for existing business customers.
- (ii) Recommend a business-level strategy for new customers.

Justify your recommendations.

Commentary on Question:

Candidates were able to successfully answer part (i), but most were not able to identify the correct strategy for (ii).

- (i) Business- Focused Differentiation
Blue Jay Air's business travelers will be more interested in how customer oriented the airline is, the services it offers, and how it differentiates itself, with a lesser focus on the cost.
- (ii) New Customers - Focused Cost Leadership
The leisure market will be more cost sensitive since travelers will be paying out-of-pocket and hence searching for the least expensive alternative

6. Continued

- (d) Recommend business strategy A or B based on Blue Jay Air's key risk management objective. Justify your recommendation.

Commentary on Question:

Most candidates were able to answer this question correctly.

The key risk management objective is to maintain the credit rating of the company within the investment grade categories of BBB- or higher. Strategy A does provide a higher expected return but a greater standard deviation that would result in a wider range of outcomes. The large variance in possible outcomes resembles greater risk in Strategy A for a marginally higher NPV. Therefore, Strategy B would be the most appropriate strategy to move forward with in regards to BJA Vacations.

7. Learning Objectives:

3. The candidate will understand best practices for ERM processes and Capital Management and their use in setting a risk-return strategy.

Learning Outcomes:

- (3a) Explain ERM principles and frameworks.
- Describe the best practices and frameworks for ERM processes under various industry forums and regulatory guidelines and standards.
 - Explain the principles driving the direction of new regulation and industry standards in risk governance.
 - Describe the components of a risk appetite statement. Design and develop a risk appetite statement and risk return strategy.

Sources:

SDM-105-13

Commentary on Question:

The purpose of this question was to test the candidates understanding of the MCEV concept and apply it to the case study. In general, candidates did average on this question. Some candidates struggled on the basic comprehension of MCEV and its principles, while others failed to apply MCEV to the case study.

Solution:

- (a) Describe each of the four VIF components.

Commentary on Question:

Candidates did well on describing PVFP but did not do as well with the other 3 components. Candidates struggled with the concept of an allowance versus a defined value (i.e. TVFOG). Many candidates did not provide additional details than could be reasonably deduced from the term itself.

Present Value of Future Profits

- Present value of future profits (where profits are post taxation shareholder cash flows from the in-force covered business and the assets backing the associated liabilities).
- Includes the cost of renewals of in-force business.

Time Value of Financial Options and Guarantees

- Allowance for the potential impact on future cash flows of all financial options and guarantees within the in-force covered business.
- Must be based on stochastic techniques using methods and assumptions consistent with the underlying embedded value.
- All projected cash flows should be valued using economic assumptions such that they are valued in line with the price of similar cash flows that are traded in the capital markets.

7. Continued

Frictional Costs of Required Capital

- Reflect the taxation and investment costs on the assets backing required capital.
- The allowance for taxation should be based on the taxation rate applicable to investment earnings on assets backing the required capital.
- Reflect the taxation and investment costs on the assets backing required capital.
- The required capital should be projected appropriately over the lifetime of the underlying risks.
- Approximate required capital projection methods such as the use of key capital drivers to determine the run off pattern of the required capital may be used.

Cost of residual non hedgeable risks

- Should not include any cost already included in the TVOFG or the PVFP.
- Should reflect at least the mean expectation of outcomes of that risk variable.
- An allowance for uncertainty in the best estimate of shareholder cash flows as a result of the non-hedgeable risk (both symmetric and asymmetric) should be considered.
- Should allow for any areas where the calibration of the model to the market does not fully mitigate the market risk. This may occur when market assumptions are required where there is no market or where the market is not sufficiently deep and liquid.
- Should be presented as an equivalent average cost of capital charge. A single average charge should be calculated across all residual non-hedgeable risk, such that the present value of charges levied on the projected residual non-hedgeable risk back capital equates to the cost of residual non-hedgeable risks.
- Should be determined using an internal economic capital model.
- An allowance should be made for diversification in the cost of residual non-hedgeable risk.

- (b) Given the principles of Market Consistent Embedded Value:
- (i) Critique the actuarial analyst's experience study analysis.
 - (ii) Critique the actuarial analyst's experience study recommendation.

7. Continued

Commentary on Question:

This question was poorly answered with few candidates receiving full credit. Many candidates failed to apply the MCEV principles to the question and thus missed the purpose of the question. For example, candidates indicated that pad should be different for different products, which might be true. However, under MCEV principles, the assumption should be based on the best estimate and should exclude pad.

- (i) The mortality experience assumption should be actively reviewed, and updated as appropriate, at least annually. Only updating the mortality experience every 3 years is not appropriate according to the MCEV principles.

The experience study is based on Darwin's experience which is consistent with MCEV principles.

Extend the experience period to more than 5 years

- (ii) The mortality assumption should be considered separately for each product group instead of aggregated. Aggregating the assumption clearly misrepresents the actual mortality experience for several of the products.

The mortality assumption should not include a 5% pad. The experience assumptions used for MCEV should be based on best estimate assumptions and should not include pads for adverse deviation.

- (c) List three key assumptions that would be specific to the retail coffee house market that Frenz needs to consider to calculate the present value of future new business for each of the following categories:

- I. Revenue
- II. Expenses
- III. Economic

Commentary on Question:

Most candidates were successful in answering this question. Candidates struggled the most on identifying economic assumptions that Frenz needed to consider. Listing interest rate, investment rate and discount rate/inflation rate as the 3 key economic assumptions was insufficient for full marks as the concepts are all inter-related.

7. Continued

- I. Revenue
 - Number of people, average purchase size
 - Number of coffee sales
 - Number of food and other ancillary sales

- II. Expenses
 - Price of coffee beans
 - Store costs
 - Roasting expenses
 - Coffee brewing costs
 - Shipping and transportation costs of beans
 - Tariffs
 - Staffing costs, such as barista salaries

- III. Economic
 - Coffee bean prices (commodity prices)
 - Oil prices for shipping
 - Rental costs for stores
 - Unemployment rate

- (d) Identify the most impactful risk for each category I, II, III in (c) for which Frenz should establish economic capital. Justify your answer.

Commentary on Question:

Most candidates were able to receive full marks for this question as long as a reasonable justification was given.

The most impactful risk to revenue is that coffee sales will decline. This is the primary source of income for the coffee shop, and a decrease in coffee sales will significantly impact the value of the business. Economic capital should be established and held for this risk.

The most impactful risk from the expense category is that the price of coffee beans will increase. This is one of the largest expenses the company incurs and is key to its business model. This assumption will have a significant impact on the PVFP and VIF since it will drive the profit margin on coffee sales and whole bean sales in the store. Economic capital should be established and held for this risk.

The most impactful risk from the economic category is the risk that rental costs for the store will increase. Rental costs make up a large portion of the company's overhead costs. Significant changes in this assumption would significantly impact the profit margin. Economic capital should be established and held for this risk.

7. Continued

Accepted other reasonable answers if supported by well-developed arguments.

- (e) Classify each risk identified in (d) as hedgeable or non-hedgeable. Justify your answer.

Commentary on Question:

Most candidates were able to receive full marks for this question. If the risk was hedgeable, candidates needed to identify and describe the hedge to be used to receive full marks.

Coffee shop revenue is a non-hedgeable risk. There is currently no active market where the varying revenues of coffee shops can be swapped for level revenue streams.

The price of coffee beans is a hedgeable risk. Frenz can engage in a long term contract with coffee bean producers to lock in a price for a longer period of time. Frenz may also be able to hedge the risk through a swap on the commodities market.

Store rental costs are a hedgeable risk. Frenz can enter a long-term rental contract to lock in the rental rate for a longer period of time.

Accepted other reasonable answers if supported by well-developed arguments.

- (f)
- (i) Define the Value of New Business under the MCEV framework for a typical life insurance company such as Darwin.
- (ii) Recommend a definition for the value of future new business for Frenz.

Commentary on Question:

Candidates did average in answering this question. Some candidates were confused with the concept of value of future new business. Additionally, many candidates lost marks in part (ii) because they failed to apply the concept specifically to Frenz and instead gave only a general answer.

- (i) Value of Future New Business - Extended MCEV Definition
- Future new business is sale of future new contracts based on current projections.
 - The value of future new business includes the earnings and profits generated from future expected renewals and future expected sales.

7. Continued

(ii) Value of Future New Business - Frenz Definition

- By definition of a coffee company, Frenz does not have in-force business. However, the current coffee store locations can be considered their current in-force business.
- Therefore, for Frenz, the value of future new business would be the projected future cash flow from planned future expansion and new stores.

This question was not clear because of the reference to MCEV framework and not the extended MCEV. If candidates indicated that future new business was not part of the MCEV framework, that was an acceptable solution. For Frenz's definition, it was acceptable to develop a definition based on all new coffee sales if candidates provided a well-developed argument.

8. Learning Objectives:

2. The candidate will understand various approaches to measuring and managing credit and liquidity risk.
5. The candidate will understand the decision making process and the lessons learned from the risk taking activities and experiences of other organizations. In particular, the candidate will be able to apply the learning objectives of all the prior sections of the syllabus to the risk management principles embodied within the case studies explored in this section.

Learning Outcomes:

- (2a) Apply credit and liquidity risk concepts.
 - Describe and analyze credit, counterparty, liquidity, and wrong-way risk.
 - Assess and critique results of various credit and liquidity models for their impact on decision making.
 - Assess credit value adjustment
- (2b) Assess and critique credit and liquidity risk metrics for their impact on risk strategies, their uses in risk management and decision making.
- (5b) Evaluate the robustness and flexibility of the risk management framework and recommend approaches for continual improvement in the framework and processes.

Sources:

SDM-108-13 (p.17-26)

SDM-125-13 (p.9-10)

Commentary on Question:

This question aimed to test candidates' understanding of liquidity risk assessment and management. Candidates were expected to apply the balance sheet and maturity mismatch approaches, which they showed a reasonable understanding of. Most candidates arrived at the correct conclusion when asked to choose between the two approaches, but they failed to justify it. Candidates were also expected to recall some specific lessons from J.P. Morgan's Private Bank. Only a few candidates were able to do that.

Solution:

- (a) Describe one trigger event that can lead to liquidity problems for banks. Justify your answer.

Commentary on Question:

Most Candidates received full marks on this question. A few candidates mixed up the causes and consequence of the liquidity risks with trigger events. Any of the trigger events identified below with reasonable explanations received full marks.

8. Continued

- The crystallization of market, credit, or operational losses in the bank.
 - Damages to the bank's reputation.
 - A market-wide liquidity stress.
 - Liquidity mismatches between assets and liabilities (assets being less liquid than liabilities).
 - Significant short options of the bank with respect to counterparties and customers (such as the right of holders of sight deposits to withdraw them at any time, or the right of providers of short-term money markets financing not to roll over that funding at the end of the contract).
 - Large losses in trading portfolios that can, after becoming known in the market, cause unsecured funding from other banks ceasing to be available.
 - A decline in the value of a derivative trading position, which initiates additional posting of collateral to the counterparty or triggers the liquidation of the position under adverse conditions.
 - The disclosure of large losses from credit portfolios (for example, large loan loss provision) or large losses due to operational risks (for example, wrong settlement processes).
- (b) Identify which bank has more liquidity risk based on the balance sheet liquidity analysis. Justify your answer.

Commentary on Question:

Most candidates did well on this question. Few candidates mapped balance sheet items to stable or volatile assets and liabilities incorrectly. Partial marks were awarded if candidates made minor calculation errors but arrived at the correct conclusion.

Bank A is a typical universal bank with a strong security franchise and strong dependence on interbank and capital markets funding. Bank A perfectly matches assets with liabilities:

- \$90 of stable assets in loans and receivables is perfectly matched with stable liabilities of \$60 non-bank deposits, \$20 certified liabilities, and \$10 equity.
- Volatile assets of \$30 trading assets and \$30 reverse repos cover volatile liabilities of \$20 unsecured bank deposits, \$30 trading liabilities, and \$10 repos.

Bank B is a typical savings bank, which holds securities only as stand-by liquidity and relies mainly on deposit funding. Bank B cannot match assets with liabilities:

- \$130 of stable assets in loans and receivables is not matched with stable liabilities of \$90 non-bank deposits, \$20 certified liabilities, and \$10 equity.

8. Continued

- Volatile assets of \$20 trading assets cannot cover volatile liabilities of \$25 unsecured bank deposits and \$5 trading liabilities.

Therefore, Bank B has more liquidity risk in the balance sheet.

- (c) Identify which bank is more likely to survive a liquidity crisis based on a maturity mismatch approach.

Commentary on Question:

Most candidates did well on this question. Some candidates made the mistake of comparing the magnitude of net cumulative cash flow of Banks A and B. The question required candidates to compare the time period until net cumulative cash flow became negative for the two banks.

Even though both Banks A and B have the same initial balances of asset and liabilities, the expected future cash flows of assets and liabilities are different:

- For Bank A, the net cumulative cash flow turns negative between 1 to 3 months.
- For Bank B, the net cumulative cash flow turns negative between 3 months to 1 year.

Therefore, Bank A has more liquidity risk based on the maturity mismatch approach, and Bank B is more likely to survive a liquidity crisis.

- (d) Assess which bank is more likely to survive a liquidity crisis after consideration of parts (b) and (c). Justify your answer.

Commentary on Question:

Most candidates correctly concluded that the maturity mismatch approach of part (c) is superior to the balance sheet approach of part (b). However, most of them did not sufficiently justify their conclusion.

- Missing time dimension: The balance sheet liquidity analysis does not indicate when positions can be liquidated or become due.
- Impacts of accounting rules: Balance sheet figures do not necessarily reflect the economic cash flows of a bank.
- Off-balance sheet commitments: Off-balance sheet items may not be reflected on the balance sheet, but they can expose the bank to contingent liquidity risk.
- Marketability of securities: Security positions are shown in the balance sheet according to their current market or book value. For liquidity risk, this information is not sufficient, and the future collateral value or cash value when selling or pledging these positions is required.
- Commercial papers: Stable long-term capital market funding (bonds, private placements) and volatile short-term commercial papers are put together.

8. Continued

- Non-bank deposits: Significant differences in the stickiness of insured versus uninsured and secured versus unsecured deposits must be considered.
- (e) Identify and describe three lessons learned to mitigate liquidity risk considering J.P. Morgan's analysis in "J.P. Morgan Private Bank: Risk Management during the financial crisis 2008-2009."

Commentary on Question:

Candidates performed poorly on this question. Only a few candidates were able to recall specific lessons learned from J.P. Morgan's Private Bank during the financial crises of 2008-2009. No marks were awarded for answers not specific to J.P. Morgan's Private Bank.

- Enhance the ongoing assessment of the credit quality of the counterparties involved in transactions. Whenever two parties enter into a financial transaction, counterparty risk would occur, that is, not delivering the cash when required.
- Improve the ability to gain access to any collateral that was posted by counterparties as a requirement of trading. This process makes sure to know where the collateral is held, that the proper documentation is in place to take possession in the event of a default, and that there is an internal process for seizing the collateral if and when necessary.
- Understand the extent to which fund managers, both internal and external, have potentially drifted away from their respective investment mandates. Substantial market movements and liquidation requirements can move their portfolios out of the desired balance. It could also occur because managers might violate the mandate they are given by investors in search of gains in such tumultuous markets.

9. Learning Objectives:

1. The candidate will understand measures of corporate value and their uses in risk management

Learning Outcomes:

- (1a) Apply basic accounting concepts used in producing financial statements.
- (1b) Explain how economic capital can be used as a value measure by financial institutions.

Sources:

SDM-302-14 (p. 12-16)

Commentary on Question:

Commentary listed underneath question component.

Solution:

- (a) Describe examples of two risks and two rewards as a result of Frenz vertically integrating the production of tea leaves and coffee beans.

Commentary on Question:

Simply listing generic statements like “sustainable above-average returns” or “competitive advantage” was not a specific enough response for a candidate to earn marks on this question as these are simply a benefit of all of the rewards.

The following are examples of acceptable risks:

- Operational risk – The company is not equipped to handle the expansion.
- Foreign currency exchange risk – Depends on where the suppliers are located.
- Relationship risk - Damage to relationships with outside trading companies, suppliers, and exporters (if by integrating the supply process these are cut out in some way).
- Capital risk – The expansion will require a significant investment which may negatively impact Frenz’s credit rating.
- Political risk

The following are examples of acceptable rewards

- Brand improvement (favorable response to supporting production vertically) which helps leverage Frenz’s relationship with sister companies.
- Furthering its mission statement (“One person, one cup, one community, one world”).
- Reducing commodity price risk.
- Ability to develop specialized niche products.

9. Continued

- (b) Evaluate which vertical integration: tea only, coffee only, neither or inconclusive, Kaplan should pursue solely based on the information provided above. Justify your answers.

Commentary on Question:

Consideration of the primary and secondary goals is core to this question. In order to demonstrate understanding of the syllabus material and the objective of the question, candidates needed to evaluate the vertical integration options based on the goals. No marks were lost for not explicitly stating that the primary goal could not be evaluated with the information provided.

In order to receive full marks for this question, candidates needed to select one of the integration options or state that there was not enough information (i.e., inconclusive) as this was the criteria for the question. Partial marks were awarded for a recommendation of no integration if the candidates provided justification using information beyond simply the goals.

Coffee

- Primary Goal: Cannot be determined based on given information.
- Secondary:
 - The mean COGS increases from 201.1 to 205.8 as a result of vertical integration → Does not meet the secondary goal.
 - The standard deviation of COGS decreases from 23.6 to 21.7 as a result of vertical integration → Does meet the secondary goal.

Tea

- Primary Goal: Cannot be determined based on given information.
- Secondary:
 - The mean COGS decreases from 617.7 to 582.6 as a result of vertical integration → Does not meet the secondary goal.
 - The standard deviation of COGS increases from 253.72 to 288.8 as a result of vertical integration → Does meet the secondary goal.

Without information on the impact of vertically integrating both tea and coffee, it is inconclusive as to which strategy is preferable.

- (c) Recommend which vertical integration strategy, if any, Kaplan should pursue, based on Figures I to IV. Justify your recommendation.

9. Continued

Commentary on Question:

Full marks were only awarded to candidates who considered both the primary and secondary goals when making a recommendation, even though no conclusion can be made about the secondary goals. Full marks were awarded for recommending any one of integration of coffee, tea, or both, provided the justification was based on Kaplan's goals.

Similar to part (b), partial marks were awarded for recommending against any integration, provided sufficient justification was given by the candidate.

Primary goal: Only vertically integrating tea or integrating both tea and coffee offer fewer years of negative earnings.

Secondary goal – Reducing operational costs: Vertical integration of tea only reduces the average cost of goods sold for tea from 617.7 to 582.6.

Secondary goal – Reducing the volatility of cost of goods sold: Vertical integration of coffee only reduces the standard deviation of cost of goods sold for coffee from 23.6 to 21.7.

Vertical integration of tea alone satisfies the primary and one of the secondary goals while other options are only satisfying one of the primary or secondary goals. Based on this, the best option would be to vertically integrate tea only.