Demonstration Problems for Chapter 2

Demonstration Problem 2-1

Applying Cost Behavior Concepts to Business Decisions

Art On Tour, Inc. (AOTI) contracts with artists to exhibit their work to the public. AOTI has agreed to pay a well known artist a $20,000 commission for the right to exhibit his work for one month.

Required

Part a – Identifying Cost Behavior

1. Determine the total commission cost and the commission cost per person if 1,000, 2,000, or 4,000 people attend the exhibition. Is the commission cost fixed or variable?

2. AOTI sells to patrons books illustrating the artist's work. The books cost AOTI $5 each. Determine the total cost of books and the cost per person if 1,000, 2,000, or 4,000 people attend the exhibition and wish to purchase the books. Is the book cost fixed or variable?

Part b – Operating Leverage and Risk/Reward Relationship

1. AOTI pays an artist a $20,000 commission. It sells 4,000 tickets at $6 each. Prepare an income statement. Then prepare revised income statements assuming 10 percent more than 4,000 and 10 percent fewer than 4,000 patrons attend the exhibition. Calculate the percentage changes in revenue and net income if attendance increases or decreases 10 percent.

2. Alternatively, AOTI pays the artist a commission of $5 per ticket sold. It sells 4,000 tickets at $6 each. Prepare an income statement. Then prepare revised income statements assuming 10 percent more than 4,000 and 10 percent fewer than 4,000 patrons attend the exhibition. Calculate the percentage change in revenue and net income if attendance increases or decreases 10 percent.

Part c --Fixed and Variable Cost Definitions are Context Sensitive

1. AOTI pays the artist a commission of $20,000 per exhibition. What is the total commission cost and the commission cost per person if 1,000, 2,000, or 4,000 people attend the exhibition? (Same as part a.1.)

2. AOTI pays the artist a commission of $20,000 per exhibition. What is the total commission cost and the commission cost per exhibition if AOTI sponsors 1, 2, or 3 exhibitions?

Demonstration Problem 2-2 Effect of Cost Structure

My Company / Your Company

My Company and Your Company provide rafting tours on Big Bear River. My Company pays tour guides fixed salaries. It budgets salaries expense at $160,000 per year. Your Company pays tour guides $40 per rafter served. Rafters are charged $50 per tour. Both companies expect to carry approximately 4,000 rafters during the year.

Required

a. Prepare budgeted annual income statements for the two companies.
b. In an effort to lure rafters away from Your Company, My Company lowers the price per rafter to $39. Prepare revised income statements for both companies. Assume that My Company serves 6,000 rafters who each pay $39 per tour, while Your Company serves only 2,000 rafters who pay $50 per tour.
c. Assume you are president of Your Company. Offer defensive strategies.
d. Suppose Your Company matches the $39 price set by My Company. Prepare income statements for both companies assuming that each company serves 4,000 customers.

Demonstration Problem 2-3 Effect of Operating Leverage

Sharon Virgil owns a delivery service company. She charges customers $10 per delivery. The company's variable expenses average $2 per delivery and fixed costs are $600 per month. Ms. Virgil provided 100 deliveries during the most recent month.

Required

a. Prepare an income statement using a contribution margin format.
b. Determine the magnitude of operating leverage. Use your answer to determine the percentage change in net income if sales increase by 10%.
c. Assume that sales increase by 10% (deliveries increase to 110). Prepare a contribution margin format income statement assuming 110 deliveries. Calculate the percentage change in net income and compare your answer with your solution to part b.