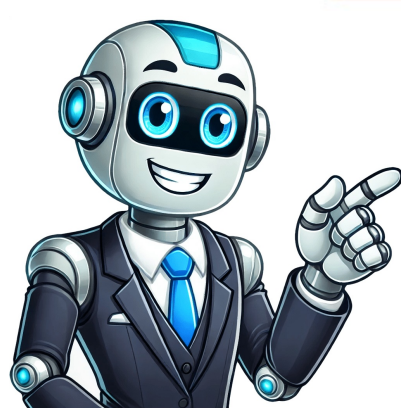


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Cvp analysis practice problems and solutions

Beta company sells blouses in Washington, USA, importing them from Pakistan at a profit. Salespersons earn a basic salary plus a \$14 commission per sale made by them. The selling price and expense data are as follows: To compute the break-even point in units and dollars, prepare a CVP graph (break-even chart), and determine the net operating income or loss if 18,500 blouses are sold in a year. Additionally, assess the effect on the company's break-even point of paying a manager a commission of \$6 per blouse (in addition to the salesperson's commission). As an alternative, consider paying the manager a \$6 commission on each blouse sold above the break-even point. Furthermore, examine the impact of eliminating commissions and increasing salaries by \$214,000 on the company's net operating income or loss when 23,500 blouses are sold in a year. Finally, calculate the break-even point if commission is entirely eliminated and salaries are increased by \$214,000. The break-even point in units is calculated as fixed expenses divided by contribution margin per unit: Break-even point = Fixed expenses/Contribution margin per unit = \$600,000/\$30 = 20,000 blouses Similarly, the break-even point can be computed using the CM ratio: Break-even point = Fixed expenses/CM ratio = \$600,000/0.375 = 20,000 blouses An alternative and simpler approach is to calculate the net operating loss as sales short of break-even multiplied by contribution margin per unit: Net operating loss = Sales short of break-even x Contribution margin per unit = 1,500 blouses x \$30 = \$45,000 If a commission of \$6 is paid to the manager in addition to the salesperson's commission, the variable expenses will increase and the contribution margin will decrease. The new variable expenses are: SpQ = VeQ + Fe \$80Q = \$56Q + \$600,000 \$80Q - \$56Q = \$600,000 \$24Q = \$600,000 Q = \$600,000/\$24 = 25,000 blouses The break-even point in units and dollars can be calculated using the new contribution margin per unit: Break-even point in units = Fixed expenses/Contribution margin per unit = \$600,000/\$24 = 25,000 blouses Alternatively, the break-even point can be computed using the CM ratio: Break-even point = Fixed expenses/CM ratio = \$600,000/0.30 = 2,000,000 blouses The net operating income of \$84,000 can also be calculated by multiplying the number of shirts sold above the break-even point by the contribution margin per shirt: 3,500 shirts x \$24 per shirt* = \$84,000 profit *[\$80 - (\$50 + \$6)] = \$24 If commissions are entirely eliminated and salaries are increased by \$214,000, the new variable expenses and fixed expenses become: SpQ = VeQ + Fe \$80Q = \$36Q + \$814,000 \$80Q - \$36Q = \$814,000 \$44Q = \$814,000 Q = \$814,000/\$44 = 18,500 blouses The break-even point in units and dollars can be calculated using the new contribution margin per unit: Break-even point in units = Fixed expenses/Contribution margin per unit = \$814,000/\$44 = 18,500 blouses Help Grow by Sharing Content The document provides examples of cost-volume-profit analysis problems and their solutions. It examines three cases: a bridal shop and a cold company. Process Costing is a method used when it's hard to identify separate units of production, due to the continuous nature of production processes. This method is often associated with continuous production, such as oil refining, foods and drinks, paper, and chemicals. The potential number of forthcoming projects suggests that fixed costs will be Rs. 300,000 within two years, with a variable unit cost of Rs. 15 per panel and a sale price of Rs. 25 per panel. To determine the break-even point in terms of the total number of panels, we need to calculate the breakeven in units, which is given as 30,000 panels. Additionally, there are three more scenarios: - A franchise business with average prices and costs of operating the store, where the break-even point in rupees is Rs. 11,000. - A manufacturing company supplying products to construction job sites, where the monthly breakeven volume is 300 units. - A store selling t-shirts, where the fixed costs are Rs. 100,000 per year and the break-even point in units is 16,667, with a desired profit of Rs. 25,000. The key concept of cost-volume-profit analysis (CVP Analysis) highlights the importance of understanding the relationship between sales volume and financial results to make informed decisions about business operations. Given article text here To calculate the break-even point, we can use one of two methods: mathematical or graphical. Using the mathematical method, we first need to determine the Unit Contribution Margin (UCM). The UCM is calculated by subtracting the Unit Variable Cost (UVC) from the Unit Selling Price (USP): UCM = USP - UVC. Once we have the UCM and fixed costs (FC), we can use the formula: Q = FC ÷ UCM, where Q represents the quantity at break-even point. For example, let's consider Company ABC Inc. with an UMC of 20, FC of \$200,000, and a profit of \$0. Plugging these values into our equation gives us: Q = \$200,000 ÷ \$20, resulting in Q = 10,000 units. The graphical method involves plotting the total costs and total revenue lines on a graph, with cost on the y-axis and quantity on the x-axis. The point where these two lines intersect represents the break-even point (BEP). Requirement (b): If uses the periodic FIFO inventory method, what would be the cost of goods sold for June? Solution: The value of the ending inventory on June 30 is? Malik Company uses a periodic inventory system. The beginning inventory and purchases during the current year were as follows: January 1 Beginning inventory.....60 units @ Rs. 105 = Rs. 6,300 March 8 Purchase.....30 units @ 115 = 3,450 August 11 Purchase.....90 units @ 125 = 11,250 October 23 Purchase20 units @ 135 = 2,700 Total available for sale.....200 units Rs. 23,700 At December 31, the ending inventory of this product consisted of 55 units and selling price during year was Rs. 150. Malik Company uses a periodic inventory system. The beginning inventory of a particular product, and the purchases during the current year, were as follows: Jan. 1 Beginning inventory.....60 units @ Rs. 105 = Rs. 6,300 Mar. 8 Purchase.....30 units @ 115 = 3,450 Aug. 11 Purchase.....90 units @ 125 = 11,250 Oct. 23 Purchase20 units @ 135 = 2,700 Total available for sale.....200 units Rs. 23,700 At December 31, the ending inventory of this product consisted of 55 and selling price during year was Rs. 150. Malik Company uses a periodic inventory system. The beginning inventory of a particular product, and the purchases during the current year, were as follows: Jan. 1 Beginning inventory.....60 units @ Rs. 105 = Rs. 1. Gross Profit/Loss under Perpetual Inventory System using FIFO: * Cost of Goods Sold (COGS): Purchases + Opening Stock = Rs. 5,600 + Rs. 12,000 = Rs. 17,600 * COGS - Sales = Rs. 17,600 - Rs. 6,250 = Rs. 11,350 * Gross Profit = Sales - COGS = Rs. 6,250 - Rs. 11,350 (Loss) = Rs. 4,900 (Loss) 2. Gross Profit/Loss under Perpetual Inventory System using LIFO: * COGS: Purchases + Opening Stock = Rs. 5,600 + Rs. 12,000 = Rs. 17,600 * COGS - Sales = Rs. 17,600 - Rs. 6,250 = Rs. 11,350 * Gross Profit = Sales - COGS = Rs. 6,250 - Rs. 11,350 (Loss) = Rs. 4,900 (Loss) 3. Gross Profit/Loss under Perpetual Inventory System using Weighted Average: * Cost of Goods Sold (COGS): (Purchases x Weighted Average Price) + (Opening Stock x Unit Price) = (200 units x Rs. 28) + (400 units x Rs. 30) = Rs. 5,600 + Rs. 12,000 = Rs. 17,600 * COGS - Sales = Rs. 17,600 - Rs. 6,250 = Rs. 11,350 * Gross Profit = Sales - COGS = Rs. 6,250 - Rs. 11,350 (Loss) = Rs. 4,900 (Loss) Note: Since the weighted average method is not explicitly defined in the given text, I assumed it to be the same as the FIFO method for simplicity.