

Aggregate planning Study

The president of Hill Enterprises, Terri Hill, projects the firm's aggregate demand requirements over the next 8 months as follows

Month	demand	Month	demand
January	1,400	May	2,200
February	1,600	June	2,200
March	1,800	July	1,800
April	1,800	August	1,400

Her operations manager is considering a new plan, which begins in. Stockout cost of lost sales is \$100 per unit. Inventory holding cost is \$20 per unit per month. Ignore any idle-time costs.

The plan is called plan A.

Plan A : Vary the workforce level to execute a 'chase' strategy by producing the quantity demanded in the prior month. The December demand and rate of production are both 1,600 units per month. The cost of hiring additional workers is \$5,000 per 100 units. The cost of laying off workers is \$7,500 per 100 units. Evaluate this plan.

Using the information, develop plan B.

Produce at a constant rate of 1,400 units per month, which will meet minimum demands. Then use subcontracting, with additional units at a premium price of \$75 per unit. Evaluate this plan by computing the costs for January through August.

Hill is now considering plan C. Beginning inventory, stockout costs, and holding costs are provided previously.

Plan C : Keep a stable workforce by maintaining a constant production rate equal to the average requirements and allow varying inventory levels.

Hills operations manager is also considering two mixed strategies for January – August :

Plan D : Keep the current workforce stable at producing 1,600 units per month. Permit a maximum of 20% overtime at an additional cost of \$50 per unit. A warehouse now constraints the maximum allowable inventory on hand to 400 units or less.

Plan E : Keep the current workforce, which is producing 1,600 units per month, and subcontract to meet the rest of the demand.

Evaluate plans D and E and make a recommendation.