

Gale Force Surfing

During mid-September 2015, the top managers of the Gale Force Corporation, a leading manufacturer of windsurfing equipment and surfboards, were gathered in the president's conference room reviewing the results of the company's operations during the past fiscal year (which runs from October 1 to September 30).

"Not a bad year, on the whole," remarked the president, 32-year-old Charles ("Chuck") Jamison. "Sales were up, profits were up, and our return on equity was a respectable 15 percent. In fact," he continued, "the only dark spot

I can find in our whole annual report is the profit margin, which is only 2.25 percent. Seems like we ought to be making more than that, don't you think, Tim?" He looked across the table at the vice president for finance, Timothy Baggit, age 28.

"I agree," replied Tim, "and I'm glad you brought it up, because I have a suggestion on how to improve that situation." He leaned forward in his chair as he realized he had captured the interest of the others. "The problem is, we have too many expenses on our income statement that are eating up the profits. Now, I've done some checking, and the expenses all seem to be legitimate except for interest expense. Look here, we paid over \$250,000 last year to the bank just to finance our short-term borrowing. If we could have kept that money instead, our profit margin ratio would have been 4.01 percent, which is higher than any other firm in the industry."

"But, Tim, we have to borrow like that," responded Roy ("Pop") Thomas, age 35, the vice president for production. "After all, our sales are seasonal, with almost all occurring between March and September. Since we don't have much money coming in from October to February, we have to borrow to keep the production line going."

"Right," Tim replied, "and it's the production line that's the problem. We produce the same number of products every month, no matter what we expect sales to be. This causes inventory to build up when sales are slow and to deplete when sales pick up. That fluctuating inventory causes all sorts of problems, including the excessive amount of borrowing we have to do to finance the inventory accumulation." (See Tables 1 through 5 for details of Gale Force's current operations based on equal monthly production.)

Table 1 Sales Forecast (in units)

First Quarter		Second Quarter		Third Quarter		Fourth Quarter	
October 2014	150	January	0	April	500	July.....	1,000
November	75	February	0	May.....	1,000	August	500
December.....	25	March.....	300	June	1,000	September.....	250

Table 2 Production Schedule and Inventory (equal monthly production)

	Beginning Inventory	Production		Sales	End Inventory	Inventory (\$2,000 per unit)		
		This Month	+					
October 2014	400	+	400	-	150	=	650	\$1,300,000
November	650		400		75		975	1,950,000
December.....	975		400		25		1,350	2,700,000
January.....	1,350		400		0		1,750	3,500,000
February.....	1,750		400		0		2,150	4,300,000
March.....	2,150		400		300		2,250	4,500,000
April.....	2,250		400		500		2,150	4,300,000
May.....	2,150		400		1,000		1,550	3,100,000
June.....	1,550		400		1,000		950	1,900,000
July.....	950		400		1,000		350	700,000
August.....	350		400		500		250	500,000
September.....	250		400		250		400	800,000

Table 3 Sales Forecast, Cash Receipts and Payments, and Cash Budget

	October 2014	November	December	January	February	March
<i>Sales Forecast</i>						
Sales (units).....	150	75	25	0	0	300
Sales (unit price: \$3,000).....	\$ 450,000	\$ 225,000	\$ 75,000	0	0	\$ 900,000
<i>Cash Receipts Schedule</i>						
50% cash	\$ 225,000	\$ 112,500	\$ 37,500			\$ 450,000
50% from prior month's sales* ...	\$ 375,000	\$ 225,000	\$ 112,500	\$ 37,500	0	0
Total cash receipts	\$ 600,000	\$ 337,500	\$ 150,000	\$ 37,500	0	\$ 450,000
<i>Cash Payments Schedule</i>						
Production in units.....	400	400	400	400	400	400
Production costs (each = \$2,000)	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000
Overhead	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Dividends and interest	0	0	0	0	0	0
Taxes.....	\$ 150,000	0	0	\$ 150,000	0	0
Total cash payments	\$ 1,150,000	\$ 1,000,000	\$ 1,000,000	\$ 1,150,000	\$ 1,000,000	\$ 1,000,000
<i>Cash Budget; Required Minimum Balance is \$125,000</i>						
Cash flow.....	\$ -550,000	-662,500	-850,000	-1,112,500	-1,000,000	-550,000
Beginning cash	125,000	125,000	125,000	125,000	125,000	125,000
Cumulative cash balance.....	-425,000	-537,500	-725,000	-987,500	-875,000	-425,000
Monthly loan or (repayment).....	\$ 550,000	\$ 662,500	\$ 850,000	\$ 1,112,500	\$ 1,000,000	\$ 550,000
Cumulative loan.....	\$ 550,000	\$ 1,212,500	\$ 2,062,500	\$ 3,175,000	\$ 4,175,000	\$ 4,725,000
Ending cash balance.....	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000	\$ 125,000

*September sales assumed to be \$750,000.

“Now, here’s my idea,” said Tim. “Instead of producing 400 items a month, every month, we match the production schedule with the sales forecast. For example, if we expect to sell 150 windsurfers in October, then we only make 150. That way we avoid borrowing to make the 250 more that we don’t expect to sell, anyway. Over the course of an entire year the savings in interest expense could really add up.”

“Hold on, now,” Pop responded, feeling that his territory was being threatened. “That kind of scheduling really fouls up things in the shop where it counts. It causes a feast or famine environment—nothing to do for one month, then a deluge the next. It’s terrible for the employees, not to mention the supervisors who are trying to run an efficient operation. Your idea may make the income statements look good for now, but the whole company will suffer in the long run.”

Chuck intervened. “OK, you guys, calm down. Tim may have a good idea or he may not, but at least it’s worth looking into. I propose that you all work up two sets of figures, one assuming level production and one matching production with sales. We’ll look at them both and see if Tim’s idea really does produce better results. If it does, we’ll check it further against other issues Pop is concerned about and then make a decision on which alternative is better for the firm.”

Table 3 (continued)

	April	May	June	July	August	September
<i>Sales Forecast</i>						
Sales (units)	500	1,000	1,000	1,000	500	250
Sales (unit price: \$3,000)	\$1,500,000	\$3,000,000	\$3,000,000	\$3,000,000	\$1,500,000	\$ 750,000
<i>Cash Receipts Schedule</i>						
50% cash.....	\$ 750,000	\$1,500,000	\$1,500,000	\$1,500,000	\$ 750,000	\$ 375,000
50% from prior month’s sales.....	\$ 450,000	\$ 750,000	\$1,500,000	\$1,500,000	\$1,500,000	\$ 750,000
Total cash receipts.....	\$1,200,000	\$2,250,000	\$3,000,000	\$3,000,000	\$2,250,000	\$ 1,125,000
<i>Cash Payments Schedule</i>						
Production in units	400	400	400	400	400	400
Production costs (each = \$2,000)	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000	\$ 800,000
Overhead.....	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000
Dividends and interest.....	0	0	0	0	\$1,000,000	0
Taxes	\$ 150,000	0	0	\$ 300,000	0	0
Total cash payments.....	\$1,150,000	\$1,000,000	\$1,000,000	\$1,300,000	\$2,000,000	\$1,000,000
<i>Cash Budget; Required Minimum Balance is \$125,000</i>						
Cash flow	50,000	1,250,000	2,000,000	1,700,000	250,000	125,000
Beginning cash.....	125,000	125,000	125,000	125,000	400,000	650,000
Cumulative cash balance	175,000	1,375,000	2,125,000	1,825,000	650,000	775,000
Monthly loan or (repayment).....	(\$ 50,000)	(\$1,250,000)	(\$2,000,000)	(\$1,425,000)	0	0
Cumulative loan.....	\$4,675,000	\$3,425,000	\$1,425,000	0	0	0
Ending cash balance	\$ 125,000	\$ 125,000	\$ 125,000	\$ 400,000	\$ 650,000	\$ 775,000

Required Activities:

1. Reference tables 1 through 5 to complete the following:
 - A. Reproduce these tables if Tim's suggestion were implemented; that is, change the *Production This Month* column in Table 2 from 400 each month to 150, 75, 25, and so on, to match *Sales* in the next column.
 - B. Recompute the remainder of Table 2, and Tables 3, 4, and 5 based on the new production numbers. Note: Beginning inventory is still 400 units. Beginning cash is still \$125,000 and that remains the minimum required balance.
 - C. Write a one paragraph summary of what the new computations reflect and what you would suggest as a result of your findings.

2. Reference table 5 to calculate how much Tim's suggestion would save in interest expense in a year.
 - A. Use your recomputed figures in Table 5 from question 1 to summarize what the change would offer as a savings from the total interest expense. Justify your perspective on whether those findings would be a positive point for Tim's suggestion or a positive point for Roy ("Pop").

3. Assume that there is an added expense for each sales dollar of .5 percent (.005). Based on this fact and the information computed in question 2, is seasonal production justified?
 - A. Compute the total sales using table 3 (original or recomputed table can be sued)
 - B. Apply the added expense and identify what the expense amount will do (increase/decrease and by how much).
 - C. Compare the rate of the added expense burden to the interest savings computed in question 2 of table5.
 - D. Write a one paragraph summary of your findings. Include if you feel the seasonal production plan is justified or not and why you are making the formal recommendation to implement the change or not.