

Mead Meals on Wheels Center

The Mead Meals on Wheels Center (MMWC) provides meals every day to the homebound elderly. There is no shortage of demand for MMWC's services among the elderly citizens of Wabash, and MMWC can find qualified recipients for as many meals as it can deliver. Each person helped by MMWC receives two hot meals per day, seven days per week, for a total of 14 meals every week. For each person MMWC serves per week (that is, for each elderly resident that is served 14 meals per week), the city of Wabash pays MMWC \$32.

To service the contract, MMWC has a central kitchen that has the capacity to produce a maximum of 9,600 meals per day. It costs MMWC an average of \$36,000 per week to operate the kitchen and other central facilities regardless of the number of meals that MMWC serves. This covers *all* of MMWC's fixed costs (e.g., rent, equipment costs, and its personnel including administrative staff) as well as its fixed seasonal service contract costs (utilities, snow removal, etc.).

The first problem that MMWC faces is figuring out how much it can afford to spend per person, per week for food to supply the program. Food is MMWC's only variable expense. You are MMWC's only program analyst.

Question 1: The executive director has come to you to calculate how much MMWC can spend per week, per person and still break even. What do you tell the executive director?

Using your work to define MMWC's spending limit, the executive director prepared a request for bids and sent it to all of the food purveyors in and near Wabash. The best bid came in at \$.50 (fifty cents) below the number that you have calculated as MMWC's break-even per person per week. Using the lowest bid and the information given earlier, the executive director wants you to prepare a budget for MMWC in a format that will allow her to monitor MMWC's performance on a quarterly basis for the coming year.

For budgeting purposes, the executive director has told you to assume that there are 13 weeks in each quarter. You know from your experience that the fixed expenses for the organization vary by season. Fixed costs average \$38,000 per week in the winter (1st

quarter), \$34,000 per week in the second quarter, \$35,000 in the third quarter, and \$37,000 in the fourth quarter.

Question 2: Prepare a budget for the next four quarters of operation for the executive director and summarize it for the full year.

The first quarter of operation was in the midst of a very severe winter. As a result, MMWC was only able to get food to 4,600 people per week on average. In addition, the cold weather and snow caused MMWC to exceed the limits of its snowplowing and heating oil contracts. As a result, MMWC's fixed costs were \$2,000 per week above what you had forecast. Luckily, a food purveyor from outside the Wabash city limits responded to MMWC's request for bids just before the quarter began and gave MMWC a bid that was \$.75 (seventy-five cents) per person-week below the quote that was used in your budget. That is a full \$1.25 below the break-even level that you calculated.

The executive director knows that something has happened because the budgeted numbers and the actual results that she sees on her quarterly operating statement don't match. She wants you to tell her why.

Question 3: Prepare an analysis of variances for the first quarter of the year to help her understand what caused the differences between the results. Provide her with as much detail as you can given the available information, that is, volume variance, price variance, and quantity variance. Be sure to indicate whether those variances were favorable or unfavorable. Don't forget to look at the fixed-cost variance as well.

- a. Prepare a revenue variance analysis.
- b. Prepare a food expense variance analysis.
- c. Calculate the net impact of the severe winter weather and lower food prices on MMWC's first quarter result. Was MMWC better off or worse off?
- d. Was the overall aggregate variance large enough to have a significant impact on MMWC during the first quarter? Is it significant when compared to projected annual profits or losses?

During the year, you conducted an analysis of MMWC's kitchen operations and

determined that you could increase the capacity of the kitchen from 9,600 to 10,400 meals per day. You see a chance to increase the number of meals that MMWC can deliver to the elderly, as well as a way to increase your weekly revenue. However, expanding the kitchen's capacity will require you to purchase \$700,000 worth of equipment. The equipment has a useful life of five years. The executive director is interested in any idea that will expand service delivery. But, she is concerned about being able to pay for the equipment. She tells you that MMWC's cost of capital is 9 percent and asks if MMWC should purchase the equipment.

Question 4: What do you tell her? Support your recommendation and present your findings in a way that the executive director will understand.

- a. Assuming that you pay your suppliers quarterly and that you are paid by Wabash quarterly, what would you recommend doing?
- b. Would your answer be different if you were paid by Wabash and pay your suppliers weekly? Annually?

You finish your capital budget analysis just in time to prepare the operating budget for the coming year. The executive director wants you to use last year's budget as a starting point but to update it to reflect the higher fixed costs that occurred during this year's winter operations (i.e., the first quarter). In addition, she has decided to accept your recommendation about the equipment. If you decide to go ahead with the purchase, a local bank will lend MMWC the full purchase price of the equipment and only charge MMWC for interest during the first year of the loan. Interest on the loan would be set at 8 percent per year. MMWC's normal policy is to assume a 10 percent residual value on all kitchen equipment and to depreciate it over five years on a straight-line basis.

Question 5: Incorporating all of the things that have happened during the year, as well as your capital budgeting recommendation, prepare a new quarterly budget and an annual summary for MMWC for the coming year.

Question 6: Given the profits that MMWC expects to produce in the next fiscal year,

should it expand and feed more people? Why has it chosen not to feed more than 5,200 people? What would be required to expand MMWC beyond its current level of operations?