

Twelve months ago, David opened a coffee shop, The Daily Grind, in Mercy Hospital's former gift shop. David was confident that he had the knowledge to make a success of this new business. He produced a quality product that people needed, had priced the product to be very competitive, and had a great location in a high-traffic area of the hospital.

### Material Costs

The Daily Grind uses a specialty brand of Kona coffee beans costing \$8 per pound. Each pound of coffee beans produces 256 ounces of coffee. Coffee is sold in three sizes: a small cup holding 8 ounces, a medium cup holding 12 ounces, and a large cup holding 16 ounces.

The cups needed to serve the coffee cost \$.05 for the small cup, \$.06 for the medium cup, and \$.07 for the large cup. Lids cost \$.03 per cup and are the same regardless of cup size. Sleeves cost an additional \$.04 per cup. On average, sugar and cream cost \$.02 per cup for small cups, \$.03 for medium cups, and \$.04 for large cups.

### Labor Costs

The Daily Grind is open 12 hours each day, 7 days a week (365 days per year), and is staffed with three employees during the morning shift (7:00–11:00), two employees from 11:00 until 3:00, and three employees from 3:00 to 7:00. Labor is a fixed cost, because the employees are paid regardless of whether coffee is sold. David worked 60 hours each week, on average, and was paid a salary of \$30,000 during

<sup>1</sup>This comprehensive case includes topics and concepts covered in Chapters 1 through 6 of the book, including product costing, cost behavior, and cost-volume-profit analysis. The case also includes a writing requirement. Ideally, it would be assigned after completion of Chapter 6.

the first year of operations. Fringe benefits for David, including health insurance and payroll taxes, accounted for an additional \$10,000 of costs for the company. Part-time employees work an average of 24 hours each week and are paid \$9 per hour. Payroll taxes and other costs average about \$1.00 per hour for part-time employees. As shown in the following table, part-time employees worked from 656 hours to 727 hours each month:

Month	Part-time Employee Labor Hours
January	722 hours
February	656 hours
March	727 hours
April	705 hours
May	727 hours
June	705 hours
July	727 hours
August	727 hours
September	705 hours
October	727 hours
November	705 hours
December	727 hours

### Overhead Costs

During the first year of operations, the hospital charged rent of \$2,000 per month. As part of the rental cost, the hospital provided furniture and fixtures for the shop, as well as nightly cleaning services. David leased a drip coffeemaker, refrigerator, coffee grinder, scale, and cash register for \$150 per month, total. David paid directly for his utilities (electricity and water). The costs of electricity include the costs of heating and cooling the shop, as well as the cost of running the electric appliances (refrigerator, coffeemaker, etc.).

For the first 12 months of operations, utility expenses were as follows:

Month	Utility Expense
January	\$472
February	\$510
March	\$524
April	\$460
May	\$440
June	\$460
July	\$452
August	\$430
September	\$535
October	\$570
November	\$580
December	\$600
Total	\$6033

## Selling and Administrative Costs

David incurred \$200 a month in accounting fees and spent \$500 on various promotional and advertising materials during the year. He also paid \$1,000 for liability insurance.

### Sales Revenue

During the first year of operations, David set the shop's prices to be slightly lower than their competitors'. The Daily Grind sells a small cup of coffee for \$1.25, a medium cup for \$1.65, and a large cup for \$1.95. Sales revenue was as follows:

Month	Sales in Cups of Coffee
January	9,300 cups*
February	9,800
March	10,850
April	9,500
May	9,300
June	9,000
July	8,800
August	8,600
September	11,000
October	11,620
November	12,000
December	12,400

\*Coffee sales average 10% small cups (8 ounces), 50% medium cups (12 ounces), and 40% large cups (16 ounces).

### Requirements

1. Calculate the cost of coffee beans per ounce of coffee sold.
2. Calculate the cost of cups, lids, sleeves, cream, and sugar per unit for small, medium, and large cups of coffee and in total.
3. Calculate the total labor costs for the year.
4. Prepare an income statement for The Daily Grind for the last year. You can assume that there are no inventories on hand at the end of the year. (All coffee and supplies purchased during the year are consumed.)
5. Determine whether the costs incurred by The Daily Grind are fixed, variable (with respect to number of cups of coffee sold), or mixed.
6. Use regression analysis and the high/low method to calculate the monthly fixed cost and the variable component of the utility expenses incurred by The Daily Grind. Use cups of coffee sold as the independent variable and utility expense as the dependent variable in your regression analysis. After calculating *both* numbers, round your final answers to two decimal places.
7. Compare the regression results with the high/low results. Which model would you suggest?
8. Calculate the contribution margin earned for each product (round to three decimal places) and the weighted-average contribution margin (round to four decimal places).
9. Assume the sales mix given in the problem. What is Daily Grind's break-even point in terms of the number of cups of coffee sold during the year?
10. David is contemplating adding a new 20-ounce product for the coming year and discontinuing sales of the small 8-ounce cup. The new cup, lid, and sleeve cost the same as the 16-ounce cup, but cream and sugar is expected to cost \$.06 per cup instead of \$.04 per cup. The new extra-large cup would be priced at \$2.40. David anticipates that the new sales mix would be 50% for the 12-ounce cup, 30% for the 16-ounce cup, and 20% for the new 20-ounce cup. Assume that material, labor, and overhead costs remain the

same in the upcoming year. How would this change in sales mix affect the company's break-even point?

11. David would like to increase sales in the second year of operations so that he may raise his salary to \$50,000 (not including \$15,000 of fringe benefits) while reducing his workload to 40 hours per week with two paid weeks of vacation during the year. Reducing his workload will require

increasing the number of hours worked by part-time employees by 1,080 hours per year. Assume the introduction of the extra-large cup and the new sales mix as discussed in requirement 10. What level of annual sales would be required in order for David to reach his goal?

12. Write a short memo to David and discuss whether you think he will be able to reach his goal during the second year of operations.