

Taos Museum of Southwestern Arts and Crafts

The Taos Museum of Southwestern Arts and Crafts (TMSAC) presents rotating exhibits of the works of artists and artisans from the Southwestern United States. Historically, the museum has derived its funding from three sources: grants, annual memberships, and visitor revenues. For its next fiscal year, TMSAC expects to receive \$564,000 in grants from various sources. It also expects 1,255 people to be supporting members of the museum. On average, supporting members each give TMSAC \$125 per year. The museum expects the following mix of visitors during its next fiscal year, each paying the amount shown in the right column of the schedule.

Type of Visitor	% of Total	Price
Regular	65	\$10.00
Group	15	\$ 6.00
Senior Citizen	10	\$ 5.00
Student	10	\$ 2.00

TMSAC has \$1,125,000 in fixed expenses each year. In addition, the museum spends an average of \$1.25 per visitor for handouts that describe the exhibits on display. TMSAC estimates that it has variable electric costs of \$.25 per visitor. Plus, the museum offers each visitor the option of receiving an audio flash drive that describes the featured exhibit of the month. Visitors are allowed to keep the flash drive as a memento of their visit. Historically, these flash drives have cost the museum \$3.00 each to produce and replicate. On average, 30 percent of the people visiting the museum have taken advantage of the free flash drive offer.

Question 1: The executive director of the museum has asked you to tell her the minimum number of visitors who must come to the museum each year in order for TMSAC to break even. Using the information given above, what is TMSAC's break-even visitor volume?

Because of Taos's location in the mountains of the southwest, the museum tends to have a seasonal pattern to its visitor flow with proportionally more people visiting TMSAC in the summer than in the winter. In addition, revenue from

grants and memberships tends to flow into the museum unevenly throughout the year. The seasonal flow of visitor, grants, and membership revenues is distributed throughout the year as follows:

	Quarter	Quarter	Quarter	Quarter
Visitor Revenue	15%	25%	45%	15%
Membership Revenue	40%	20%	20%	20%
Grant Revenue	25%	50%	10%	15%

Fixed expenses are distributed evenly throughout the year, that is, 25 percent per quarter. The museum's marketing director forecasts that 80,000 people will visit the museum during the coming fiscal year.

TMSAC's director of marketing has convinced the executive director that a museum shop can be operated profitably in a small space just off the main entrance. She agrees, and the shop is scheduled to open on the first day of the second quarter. The marketing director estimates that 5 percent of the people who visit the museum will make purchases from the shop. Based on his experience, he expects the average purchase to be \$40. TMSAC's business manager estimates that the cost of goods sold will be 75 percent of the museum shop's sales revenue. The shop will be staffed by volunteers at no cost to TMSAC for the upcoming fiscal year.

Question 2. Using the information above, including the gift shop, prepare a budget of revenues, support, and expenses for TMSAC for each of the four quarters of the fiscal year, and summarize the budget for the full year.

Question 3. What impact would the inclusion of the gift shop have on TMSAC's expected break-even volume during a normal full year of operation? You may assume that all other costs remain the same.

At the end of the third quarter, the executive director learned that the museum

hosted 42,000 visitors for the quarter, as shown in the table below.

Type of	Actual Visitor
Regular	17,640
Group	7,560
Senior	9,660
Student	7,140
Total	42,000

Her expense report showed that TMSAC spent \$45,570 on flash drives for the period and that 14,700 flash drives were distributed. She knows that some unexpected things must have happened during the quarter because the numbers on the budget you prepared for her and the actual results that she sees on her third-quarter financial statements don't match. She wants you to tell her why these differences have occurred.

Question 4. Using the information above and the TMSAC budget that you prepared for the third quarter, prepare two variance analyses. Be sure to indicate whether each of the variances was favorable or unfavorable.

- In the first variance analysis, look into the differences between budgeted and actual visitor revenues during the third quarter. You may assume that each type of visitor paid the amount they were expected to pay.*
- Focus the second analysis on the variance in flash drive expenses.*
- Explain to the executive director what has caused each of these third-quarter differences between the budgeted and actual revenues and expenses. Provide her with as much detail as you can given the available information; that is, calculate the volume, price, and quantity variances for both visitor revenues and flash drive expenses.*
- Are these variances large enough to have a significant impact on TSMAC's operations?*

TMSAC has just been approached by the curator of special exhibits at the Smithsonian Museum. The Smithsonian has offered to lend TMSAC a rare collection of nineteenth- century Navaho crafts. The collection would remain at

the museum for a five-year period after which it would be returned to the Navaho nation. To house the exhibit, TMSAC will have to upgrade its environmental and security systems at a one-time cost of \$300,000.

Since this may be the last time that this collection will be exhibited in its entirety, the executive director is enthusiastic about the impact that it will have on visitor volume and the reputation of the museum. The marketing director forecasts that 700 incremental visitors are likely to be drawn to the museum each month that the exhibit is at TMSAC.

The executive director wants you to tell her if the exhibit is financially self-sufficient or if she will need to get a grant to support it. You know that TMSAC's cost of capital is 9 percent. You also know the marginal contribution generated by each incremental visitor to the museum from your work on the break-even analysis. Do not count on any gift shop purchases from the incremental visitors.

Question 5: What do you tell her? Can TMSAC afford to show the exhibit based solely on the marginal contribution from incremental visitors? If the exhibit is not financially self-sufficient, how large a grant will TMSAC need to get to meet the projected shortfall? Support your recommendation and present your findings in a way that the executive director will understand.