2017

TAOS MUSEUM OF SOUTHWESTERN ARTS AND CRAFTS

Proposed Addition of Gift Shop and 19th Century Navajo Exhibit

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Introduction

The purpose of this report is to discuss the annual budget for 2016, before and after the addition of a gift shop in association with visitor break-even analysis, explanation of Q3 variances for visitor revenue and flash drive cost, as well as demonstrate the feasibility of the museum to house the 19th Century Navajo exhibit from the Smithsonian. This report will serve as an additional tool for consideration while creating future budgets, as well as answering important questions about cost variance. It will serve the executive team as a valuable tool for future strategic planning.

Annual Budget

The 2016 annual budget was based on 80,000 visitors with a fixed cost of $1,125,000 (split evenly across the entire fiscal year), membership revenue of $156,875, and grant revenue of $564,000. Distribution for revenue and cost can be found in tables 2 and 3. The overall budget surplus for the year was $51,875, with the museum having a budget deficit in Q1 ($9,100) and Q4 ($96,875) (see table 1). This coincides with those quarters having the lowest visitor rates at 15% each (see table 2). The fluctuation is attributed to seasonal visitation. The heaviest flow of visitors is during Q2 at 24% (20,000) and Q3 at 45% (36,000), with total corresponding costs of $329,250 (Q2) and $367,659 (Q3) (see table 1). Membership is greatest in Q1 with 40% of Membership revenue of $62,750 ($125 membership fee), while 50% ($282,000) of grant revenue occurs in Q2 (see table 1). This aids in a strong start to the year, and helps supplement the deficits found in Q1 and Q4. Before the addition of the gift shop, visitor breakeven will occur in the 4th quarter as demonstrated in the next section. Understanding the relationship between lower visitor rates and budget deficit can aid in budget planning as well as strategic fundraising efforts.

Break-Even Analysis

Before the addition of the museum gift shop, the visitor break-even was budgeted to take place in Q4 with 70,900 visitors. The difference between fixed cost ($1,125,000) and grants/donations ($720,875), results in a $404,125 deficit to be resolved by a break-even number of 70,900 visitors at an average variable revenue of $5.70 per visitor (see table 4). Average variable revenue was calculated from the average weighted price per visitor of $8.10 (derived from a breakdown of cost per variable visitor type) (see table 5), and average cost per visitor based of $2.40 (calculated using the cost of handouts, flash drives, and cost of electric per visitor) (see table 6). At the given average variable revenue per visitor, the museum will break even in Q4. The next section will demonstrate the difference in break-even and average variable cost with the addition of the gift shop.

Budget and Break Even Analysis with Addition of Gift Shop

At the suggestion of the museum's marketing director, the museum opened a gift shop on the first day of Q2. The forecast of additional revenue from the gift shop was 5% of all visitors spending an average of $40 on merchandise, with an additional 75% of total shop revenue going toward cost. As previously discussed, The annual budget, before the addition of the gift shop (see table 1), reveals deficits in Q1 and Q4, and a break-even visitor rate of 70,900 visitors at an average variable revenue of $5.70 to accommodate a $404,125 deficit. The addition of the gift shop did not entirely resolve the Q1 and Q4 deficits, but reduced the Q4 deficit by $6,000 (see table 10). More importantly, it allowed for the museum to break even in Q3 versus Q4 by increasing the average revenue per visitor to $10.10 (previously $8.10), and average cost per visitor of $3.90 (previously $2.40) (see tables 7 & 8). The new average variable revenue per customer is $6.20 (previously $5.70), which reduced the break-even to 65,181 visitors versus 70,900 before the gift shop (see table 9). This in turn increased the overall revenue from $51,875 to $85,875. It is worth noting that the museum did not open the shop until the beginning of the second quarter, which allows for greater Q1 revenue in the following years not accounted for in FY 2016. In Q3, the TMSAC experienced variances in revenue and expenses. The following section is a variance analysis conducted at the request of the executive director.

Q3 Analysis

Revenue Variance (see table 11)

In Q3, TMSAC received 42,000 visitors within the quarter, versus the budgeted 36,000. This 6,000-visitor variance is not enough to explain Q3 variance alone. This section will focus on the resulting revenue variance, while the following section will outline Q3 cost variance (see table 11).

The Q3 budgeted revenue was $363,600, while the actual revenue was $424,200, causing a $60,600 positive variance. Since the average cost per visitor is $3.90, the museum budgeted $140,400 for the visitor costs. The actual cost for the third quarter was $163,800, causing a negative variance of $23,400. The resulting marginal revenue per visitor reveals a$37,200 variance. While the costs of the visitors were out of budget, the revenue still provided a profit for the museum. Considering that the exact number of visitors that will attend the museum is unknown, this variance is uncontrollable. For future quarters, the director can look at what exhibits are being displayed and their popularity based on past visitor attendance, to account for the budgeted funding for the costs.

Cost Variance (see table 12)

The museum budgeted $0.90 for each flash drive per visitor, but after further analysis, the average cost per drive per visitor increased to $1.09 ($1.85 before rounding). This affected the overall drive cost for the quarter making the actual cost $45,570, although the museum budgeted for $32,400. The impact of the increased flash drive costs caused a negative variance of $13,170. This also resulted in a new average cost per drive of $1.085 (before rounding), calculated from total cost divided by total visitors. Considering the previous variance in visitors (6,000), an analysis into drive cost by volume was conducted. In terms of volume based on budgeted drive cost and usage ($32,400) and what should have resulted based on a drive cost of $.90 ($37,800), there was a resulting negative $5,400 variance. Further, when considering the adjusted average cost per drive to budgeted cost, a negative $7,700 variance results. This was calculated from the difference of budgeted cost per flash-drive of $.90 associated with volume for Q3 ($37,800) and compared to actual cost for the drives ($45,570). If additional cost per drive continues, it could result in a significant loss in following years. If similar results continue, TMSAC will incur a $14,800 loss for FY 2017, and a loss of $2,200 for the remainder of FY 2016.

The price variance can be influenced by the actual pricing of the flash drive, based on supplies bought in bulk, instead of price based on use. If the cost is dependent on how often the drives are utilized, the director would need to assess the percentage of people who use the drives as opposed to the price per drive. These changes in variance can show underlying causes, such as differing prices based on supply needs, the company from which the drives were purchased and the overall needs of the museum. Additionally, the volume of the visitors could have added to the flash drive costs, and thus, affecting the need for more supplies. If there were defects or anomalies, such factors would add to the increased need for more flash drives, as well. Without considering the possible factors, this loss can affect possible funding for the museum. It can also affect customer satisfaction, in the long run. Both results would affect TMSAC negatively and possibly force the museum to close.

By reviewing the variance analysis, one can gain a better understanding of the differences that occurred in the third quarter. There are several reasons for utilizing variance analysis. For one, it reviews the budgeting process to plan better for current and future plans for the organization. This tool also aids in avoiding possible variances, if they are currently occurring. Additionally, it provides management insight covering what may be controlling identified variances, whether they are controllable or not.

Feasibility of Navajo Exhibit

With every museum, new attractions are offered by different curators. Choosing the right additions to the exhibits implies discernment for the management team. The TMSAC was offered a rare collection of nineteenth-century Navajo crafts from the Smithsonian Museum. The exhibit would stay in-house for a period of five years, and due to the value of the exhibit, the museum would need to upgrade security at a cost of $300,000. Additionally, the exhibit would create an estimated increase of 700 monthly visitors over the five-year period. This would mean there would be $42,000 of additional revenue at a marginal revenue per visitor of $5.70, and resulting in additional revenue of $239,400 for the museum over the span of five years (see table 13). The upgrade for the security system requires an initial outlay of $300,000, but will be secured at a zero percent interest rate. The difference of the security upgrade cost ($300,000) and $239,400 in additional visitor revenue, results in a budget shortfall of $60,600 (see table 13). If the museum acquires the exhibit, a grant is suggested to make up the budget shortfall. Despite the exhibit not being feasible on its own, the exhibit will greatly impact the reputation of the museum, and it is in the best interest of the executive director to find possible grant funding to bridge the budget shortfall.

Tables

Table 1: Fiscal Year 2016 Annual Budget

	Q1	Q2	Q3	Q4	Total
REVENUES					
Tickets	97,200	162,000	291,600	97,200	***648,000***
Membership	62,750	31,375	31,375	31,375	***156,875***
Grants	141,000	282,000	56,400	84,600	***564,000***
Total	***300,950***	***475,375***	***379,375***	***213,175***	***1,358,975***
EXPENSES					
Fixed	(281,250)	(281,250)	(281,250)	(281,250)	**(1,125,000)**
Variable	(28,800)	(48,000)	(86,400)	(28,800)	**(192,000)**
Total	***(310,050)***	***(329,250)***	***(367,650)***	***(310,050)***	***(1,317,000)***
Totals	***(9,100)***	***146,125***	***11,725***	***(96,875)***	***51,875***

Table 2: Revenue Distribution

	Q1	*Q2*	*Q3*	*Q4*
Visitor Revenue	15%	25%	45%	15%
Membership Revenue	40%	20%	20%	20%
Grant Revenue	25%	50%	10%	15%

Table 3: Cost Distribution

	Q1	Q2	Q3	Q4
Fixed Cost	25%	25%	25%	25%
Average Variable Cost	15%	25%	45%	15%

Table 4: Break Even Analysis Without Gift Shop

Fixed Costs	($1,125,000)
Grants	$564,000
Donations	$156,875
Total	**($*404,125*)**
Weighted Price	$8.10
Weighted Cost	$2.40
Total	**$5.70**
Break Even	**70,900 Visitors**

Table 5: Weighted Average Price Per Visitor

Type of Visitor	**Percent of Total**	**Price**	**Weighted Average Price**
General	65	$10	$6.50
Group	15	$6	$0.90
Senior	10	$5	$0.50
Student	10	$2	$0.20
Average			**$8.10**

Table 6: Weighted Average Cost per Visitor

Type of Cost Per Visitor	**Percent of Total**	**Unit Variable Cost**	**Weighted Average Variable Cost**
Handouts	100	$1.25	$1.25
Electric Costs	100	$0.25	$0.25
Flash Drives	30	$3.00	$0.90
Average			**$2.40**

Table 7: Weighted Average Price per Visitor *with Gift Shop*

Type of Visitor	**Percent of Total**	**Price**	**Weighted Average Price**
General	65	$10	$6.50
Group	15	$6	$0.90
Senior	10	$5	$0.50
Student	10	$2	$0.20
Shop	*5*	*$40*	*$2.00*
		Average Price	**$10.10**

Table 8: Weighted Average Cost per Visitor *with Gift Shop*

Type of Cost Per Visitor	**Percent of Total**	**Price**	**Weighted Average Cost**
Handouts	100	$1.25	$1.25
Electric Costs	100	$0.25	$0.25
Flash Drives	30	$3.00	$0.90
Shop	*5*	*$30.00*	*$1.50*
		Average Cost	**$3.90**

Table 9: Break Even Analysis with Gift Shop

Fixed Cost	(1,125,000)
Grants	564,000
Donations	156,875
Total	***($404,125)***
Weighted Price	$10.10
Weighted Cost	$3.90
Total	***$6.20***
Break Even	**65,181 Visitors**

Table 10: Annual Budget *with Addition of Gift Shop*

	Q1	Q2	Q3	Q4	Total
REVENUES					
Tickets	**$97,200**	**$162,000**	**$291,600**	**$97,200**	**$648,000**
Membership	**$62,750**	**$31,375**	**$31,375**	**$31,375**	**$156,875**
Grants	**$141,000**	**$282,000**	**$56,400**	**$84,600**	**$564,000**
Total	**$300,950**	**$475,375**	**$379,375**	**$213,175**	**$1,368,875**
EXPENSES					
Fixed	**($281,250)**	**($281,250)**	**($281,250)**	**($281,250)**	**($1,125,000)**
Variable	**($28,800)**	**($48,000)**	**($86,400)**	**($28,800)**	**($192,000)**
Total	**($310,050)**	**($329,250)**	**($367,650)**	**($310,050)**	**($1,317,000)**
Totals	**($9,100)**	**$146,125**	**$11,725**	**($96,8750**	**$51,875**
		GIFT SHOP			
Revenue		**$40,000**	**$72,000**	**$24,000**	**$136,000**
Expenses		**($30,000)**	**($54,000)**	**($18,000)**	**($102,000)**
Total		**$10,000**	**$18,000**	**$6,000**	**$34,000**
Totals	**($9,100)**	**$156,125**	**$29,725**	**($90,875)**	**$85,875**

Table 11: Q3 Visitor Revenue Variance

	Budgeted	Actual	Variance
Visitors	36,000	42,000	***6,000***
Revenue ($10.10/visitor)	$363,600	$424,200	***$60,600***
Cost ($3.9/Visitor)	($140,400)	($163,800)	***($23,400)***
Marginal Revenue/Visitor	223,200	260,400	***$37,200***

Table 12: Q3 Flash Drive Variance

	Budgeted	Actual	Variance
Flash Drive Cost	$32,400	$45,570	***($13,170)***
Drive Cost by Volume	$32,400	$37,800	***($5,400)***

	Budgeted	Actual	Variance
Flash Drives Distributed	12,600	14,700	***2,100***
Drive Cost/Visitor	$0.9	$1.09	***($0.19)***
Drive Cost Total	$37,800	$45,570	***($7,700)***

Table 13: Navajo Exhibit Feasibility

Additional Visitors	
Visitors	**42,000**
Marginal Revenue	**$5.70**
Total	**$239,400**
Feasibility	
Initial Capital	**($300,000)**
Additional Revenue	**$239,400**
Budget Shortfall	***($60,600)***