N.U.S.E. Hockey Association: Cost-volume-profit analysis for a non-profit banquet

Sean Fingland
Minnesota State University, Mankato

Steven Johnson
Minnesota State University, Mankato

ABSTRACT

After the New Ulm Sleepy Eye (N.U.S.E) Hockey Association ("the Association") was selected to be a host for two State Hockey Championships, Sean, the Association's president, was eager to get started on his analysis of the pricing options for the team banquets. Sean and Alissa, the Association's tournament coordinator, had collected all the necessary cost information and researched potential pricing options based on the history of other organizations. Sean's task was to determine the break-even point in banquet attendance for two separate banquets and perform sensitivity analysis around various pricing options.

Keywords: cost accounting, break-even analysis, sensitivity analysis, cost-volume-profit analysis
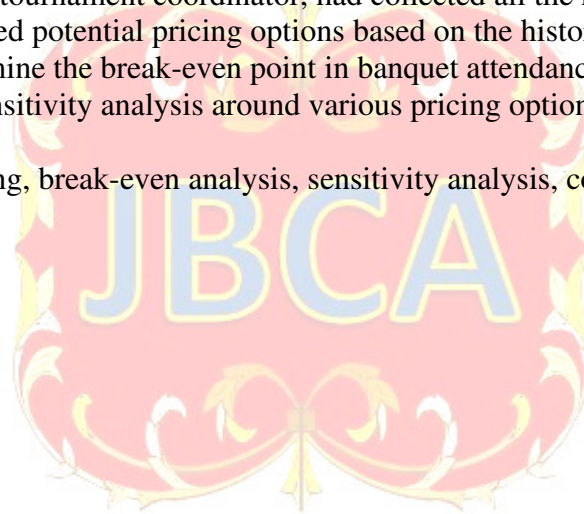
INTRODUCTION

After spending a month on his proposal, Sean was excited that the New Ulm Sleepy Eye Hockey Association ("the Association") had been selected to host two Minnesota State Hockey Championships for the 2019-2020 youth hockey season. The Association had an abundance of experience hosting large-scale tournaments, but these were the first two State Championships to be hosted by the Association since Sean had assumed the role of president on the Association's board. The major difference between hosting a State Championship and other tournaments was the expectation of hosting a banquet for all the tournament players, coaches, family and friends. Sean along with Alissa, the Association's tournament coordinator, had the responsibility of coordinating and running the banquet. The Association's Board of Directors ("the Board") wanted to provide a great banquet for the players, coaches, family, and friends. The selection of a tournament host was often based on the experiences observed and communicated from prior events. The banquet was an important component of that experience. The Association would observe a $15,000 to $20,000 windfall simply from team registration fees, ticket sales, and concessions. The event represented a significant boost to the Association's fundraising efforts for the year. The Board had no desire to make a significant profit or absorb significant losses from the banquet. The family and friends attending the tournament would already be responsible for purchasing game tickets, hotel rooms, meals and all other travel expenses. Providing a great banquet at a reasonable cost would enhance the overall attendee experience. If feasible, the Board also preferred to recognize the players and coaches that earned their spot in the State Championship by charging a reduced rate for their banquet attendance. Correspondingly, the Board turned to Sean and Alissa to accomplish their goals. The Board wanted Sean and Alissa to present their plan and recommendations at the next board meeting, less than four weeks away. Sean and Alissa collaborated to organize the banquet. Alissa was responsible for finding a venue and collecting the cost information to host the event. It was decided that Sean, a Certified Public Accountant, would be responsible for compiling the cost information and proposing pricing structure options with the goal of breaking even on the banquet. Sean knew that this would likely be more difficult than a standard break-even analysis as he suspected the Association would need to host two banquets at two separate venues due to the size of the available venues.

BACKGROUND INFORMATION

The New Ulm Sleepy Eye Hockey Association was a not-for-profit youth hockey organization. The Association was formed in 2011 after a decision was made to combine two hockey organizations from neighboring communities (New Ulm Hockey Association and Sleep Eye Hockey Association). The mission of the Association was to provide a quality program that offers boys and girls an opportunity to experience the game of hockey.

Although the Association supports two communities, it was always known that the New Ulm Civic Center, a dual rink complex in the City of New Ulm, would be the location of the State Championships. Correspondingly, it was quickly decided that since most teams and families would be staying in hotels in the immediate area, that any banquet should be located in the City of New Ulm.

The two State Championships were for two different age groups. The Peewee B teams consisted of players aged 11-12. The Bantam B teams consisted of players aged 13-14. The Association assumed there would be an approximate total of 160 players/coaches for each of the tournaments for a total of 320 players and coaches. It was expected that all coaches and players would in attendance at the banquet regardless of cost. Based on discussions with other organizations that had hosted similar banquets, Alissa discovered that between 300 and 500 people would want to attend the banquet per level resulting in a total combined attendance of between 600 and 1,000 people for the two levels. Upon investigation, Sean and Alissa quickly learned that the City of New Ulm did not have any locations that could host a banquet of between 600 and 1,000 people. Correspondingly, they decided to host two separate banquets for the two separate levels.

The first banquet for the Bantam B teams was hosted at the Brown County Convention Center ("Convention Center"). Convention Center had a capacity of 500 attendees for an event. Convention Center had a set-up fee of $1,295. The cost of the meal was $18.83 per attendee and there was a $0.50 per attendee miscellaneous charge. The second banquet for the PeeWee B teams was hosted at New Ulm Banquet Hall ("Banquet Hall"). Banquet Hall had a capacity of 500 attendees for an event. Banquet Hall had a set-up fee of $1,550. The cost of the meal was $14.63 per attendee and there was a $0.50 per attendee miscellaneous charge.

In addition to the cost provided by the two facilities, the Association was responsible for providing table decorations and a guest speaker. Alissa recommended and Sean agreed that teenagers would be more excited by candy than fancy flowers or candles. Sean agreed and added that a fixed amount of candy would be easier to spread across the tables last minute if they happened to have more or less attendees than expected. It was decided that a fixed amount of $100 would be spent on candy for table decorations for each of the two events. As for a guest speaker, based on a recommendation from a peer, Alissa was able to book a renowned sports author and motivational speaker for a discounted rate of $2,000. The speaker provided a 45-minute motivational speech at each of the events. A summary of the cost information collected by Sean and Alissa is included in Table 1 (Appendix B).

In addition to collecting the cost information, Sean and Alissa needed to decide on a price for each of the banquets. In talking with other communities that had hosted similar banquets, they found a wide range of pricing options:

Option 1: Make the banquet free for the players and coaches and compensate with a high price ($35-$40 per attendee) for the family and friends.
Option 2: Charge a lower price for the players and coaches ($10-$15 per attendee) and compensate with a modest price ($25-$30 per attendee) for the family and friends.
Option 3: Charge the same price for all attendees.

After considering what other communities had done, Sean and Alissa decided to focus on three pricing structures as indicated in Table 2 (Appendix B). The table provides the three options considered. They also decided that they wanted both banquets to use the same pricing structure knowing that, if given equal attendance, one of the banquets might end up subsidizing the other. While it was reasonable to assume that all players and coaches would attend, Sean and

Alissa needed to recognize that the attendance of family and friends would be relatively price sensitive.

CONCLUSION

After reviewing the information collected by Alissa and himself, as well as the three pricing structure options, Sean was confident that he could determine how many attendees would need to attend the events for the Association to break-even. Sean also knew that it would be in his best interest to provide some sensitivity analysis around each of the three options given the Board's desire to avoid a significant profit or loss. Armed with all the necessary assumptions and cost information, Sean and Alissa had one week remaining before they were scheduled to present the Board with options and a recommendation by answering the following questions. How many people would need to attend each of the events for the event to break-even (no profit or loss)? What profit or loss would be observed at each of the banquets assuming that there were 300, 400 or 500 attendees per banquet? Assuming 400 people attend each of the banquets and an equal price for all attendees was used, what price would result in the combined banquets breaking even? What pricing structure would he and Alissa recommend? Will the recommendation align with the Association's mission?

INSTRUCTOR'S MANUAL

Case Overview

After the New Ulm Sleepy Eye Hockey Association ("the Association") was selected to be a host for two State Hockey Championships, Sean, the Association's president, was eager to get started on his analysis of the pricing options for the team banquets. Sean and Alissa, the Association's tournament coordinator, had collected all the necessary cost information and researched potential pricing options based on the history of other organizations. Sean's task was to determine the break-even point in banquet attendance for two separate banquets and perform sensitivity analysis around various pricing options. The case provided a description of the organization and information revealing the nature of its banquet cost and pricing structures.

The case was designed for an undergraduate intermediate managerial/cost accounting course but could also be used in a graduate level course. It expands upon a standard cost-volume profit analysis by requiring students to consider two events with one shared pricing structure. The tasks and solutions reflect the authors' interpretations. Instructors are encouraged to make modifications as necessary to create maximum value for their courses.

Research Methods

The facts of the case were obtained from field research coinciding with the actual analysis performed by one of the authors due to his role as a member of the board of directors with the subject firm of the case.

Learning Outcomes

In completing this assignment, students should be able to:

1. Apply the methods of cost-volume profit analysis to determine the break-even volume given a fixed pricing structure.
2. Apply sensitivity analysis to determine how volume changes impact expected profit or loss.
3. Apply the methods of cost-volume profit analysis to determine the break-even pricing given a fixed volume.
4. Compare the results of multiple pricing structures in order to make a recommendation that aligns with the organization's goals.
5. Explain how aligning with the organization's goals supports the organization's mission.

Discussion Questions

1. What is the break-even point in banquet attendees under each of the three proposed pricing structures? (LO 1)

2. What is the expected profit or loss under each of the three pricing structures given the three levels of attendee volumes? (LO 2)
3. What price will result in the combined banquets breaking even given an expected level of attendance? (LO 3)
4. Assume that you are an accounting consultant working on the Association's banquet pricing structure. What recommendation would you make that best meets the Association's stated goals? (LO 4)
5. How does your recommendation further support the Association's mission? (LO 5)

Answers to Discussion Questions

While most of the calculations necessary for answering the discussion questions will be straightforward for students, there are several issues in the case where the instructor may need to provide additional guidance. The most likely will be in relation to treating a portion of the revenue and expenses as fixed for the players and coaches. In the Instructor's Manual, it will be referred to as the "Players/Coaches Subsidy or Gain".

1. **What is the break-even point in banquet attendees under each of the three proposed pricing structures? (LO 1)**

The solution can be determined following a six-step process for each of the banquet and pricing structure combinations:

1. Determine which costs are variable vs. fixed for each of the banquets. The relationship will remain constant regardless of pricing structure.
2. Calculate the "Players/Coaches Subsidy or Gain".
3. Calculate the contribution margin per family/friend.
4. Calculate the total fixed cost including the "Players/Coaches Subsidy or Gain".
5. Calculate the break-even in attendees.
6. Prepare proforma income statements proving the break-even calculations.

The first step is to use the information provided in Table 1 (Appendix B) to determine which costs are variable vs. fixed for each of the banquets as indicated in Table 3 (Appendix C).
The second step is to calculate the "Players/Coaches Subsidy or Gain" for each of the banquet and pricing structure combinations as indicated in Table 4 (Appendix C). It is important to note, that since all players and coaches are expected to attend, their revenue and associate cost can be assumed to be fixed. Correspondingly, they can be excluded from any contribution margin per unit calculation.
The third step is to calculate the contribution margin per family/friend for each of the banquet and pricing structure combinations as indicated in Table 5 (Appendix C).

The fourth step is to calculate the total fixed cost including the "Players/Coaches Subsidy or Gain" for each of the banquet and pricing structure combinations that need to be covered by the contribution margin for the Association to break-even as indicated in Table 6 (Appendix C).

The fifth step is to calculate the break-even in attendees for each of the banquet and pricing structure combinations as indicated in Table 7 (Appendix C). In order to calculate the break-even in attendees, the students will first divide the total fixed cost by the contribution margin per unit. This will determine the number of family/friend attendees necessary for each of the two banquets to break-even. The students must remain aware that the break-even in attendees will be a combination of the player/coach attendees and the family/friend attendees.

The final step is to prepare a pro forma income statement proving the break-even calculations for each of the banquet and pricing structure combinations as indicated in Table 8 (Appendix C).

2. **What is the expected profit or loss under each of the three pricing structures given the three levels of attendee volumes? (LO 2)**

The revenue and cost information and its determination as fixed or variable will be the same as in Table 1 and 2. The students will use this information to prepare pro forma income statements for each of the attendee level (3), pricing structure (3), and banquets (2) combinations as indicated in Table 9 (Appendix C).

3. **What price will result in the combined banquets breaking even given an expected level of attendance? (LO 3)**

The solution can be determined following a four-step process:

1. Combine the costs of the two banquets to determine the average variable cost rate and the total fixed cost.
2. Calculate the contribution margin per attendee required in order to cover fixed cost.
3. Add the variable cost per attendee to the required contribution margin per attendee to determine the break-even price per attendee.
4. Prepare a pro forma income statement to confirm that the break-even price calculations.

The first step will be to combine the costs of the two banquets to determine the average variable cost rate and the total fixed cost as indicated in Table 10 (Appendix C). Given that the players and coaches price will be the same as the family and friends, there will be no need to separate the two group types.

The second step will be to calculate the contribution margin per attendee required in order to cover fixed cost at the set volume amount as indicated in Table 11 (Appendix C).

The third step will be to add the variable cost per attendee to the required contribution margin per attendee to determine the break-even price per attendee as indicated in Table 12 (Appendix C).

The final step is to prepare a pro forma income statement to confirm that the break-even price calculations for the total event consisting of two banquets as indicated in Table 13 (Appendix C).

4. Assume that you are an accounting consultant working on the Association's banquet pricing structure. What recommendation would you make that best meets the Association's stated goals? (LO 4)

The combination of break-even and sensitivity analysis provides the information necessary to align a pricing structure that best meets the Association's goals. The Association stated their goals as follows:

1. To provide a great banquet for the players, coaches, family, and friends.
2. To provide a banquet that does not cause the Association to earn a significant profit or absorb a significant loss.
3. Recognize the players and coaches that earned their spot in the State Championship by charging a reduced rate for their banquet attendance.

Meeting the first goal must be assumed by the activities of Sean and Alissa to coordinate the banquets. It is the second and third goal that closely associate with the selection of a pricing structure.

In the second goal, the Association desired to limit any significant profit or loss incurred by hosting the banquet. Based on discussions with other organizations that had hosted similar banquets, it was discovered that between 300 and 500 attendees would want to attend each banquet. In the review of break-even attendance for both banquet locations and all three pricing structures, only the Option 3 price ($25 per attendee) at the Banquet Hall location fell outside of the 300 to 500 attendee range. However, given that the break-even point fell below 300 attendees, it is more likely that the Association still would be willing to accept this pricing structure given that it would reduce the risk of a significant loss. However, when profit and loss are examined at three levels of attendance (300, 400 and 500 attendees), Option 1 ($0 for players and coaches/$40 for family and friends) becomes less attractive. Under Option 1, the two banquets combined would results in profit/(loss) of ($4,183), $371 and $4,925 for the attendance levels of 300, 400, and 500, respectively. Alternatively, Option 2 ($15 for players and coaches/$30 for family and friends) and Option 3 ($25 per attendee) would provide ranges that are more respectable. Under Option 2, the combined banquets would range from $2,183 loss to a $2,925 profit. Under Option 3, the combined banquets would range from $383 loss to a $2,725 profit. In addition, it was stated that all players and coaches would be in attendance and that the attendance of family and friends would be relatively price sensitive. In addition to Option 1 having the largest loss at a level of 300 attendees, it also has the highest price for family and friends. Due to this higher price, it is the option most likely to drive lower attendance due to price sensitivity. Correspondingly, when combining break-even with sensitivity analysis, it would suggest that eliminating Option1 due to the larger downside and upside risk would best align with the second goal.

In the third goal, the Association preferred to provide a reduced price for the players and coaches. While this goal is a preference, not absolute, it is clear that Option 1 and Option 2 are the only pricing structures that meet this goal.

In conclusion, the pricing structure provided by Option 2, ($15 for players and coaches/$30 for family and friends) best meets the goals of the Association. It is one of two options (Option 2 and Option 3) that provides a reasonable range for profit and loss. It is also one of two options (Option 1 and Option 2) that achieves a price discount for the players and coaches. Correspondingly, since Option 2 meets both of the goals related to the pricing structure, it would be the recommended option that best meets the Association's stated goals.

5. How does your recommendation further support the Association's mission? (LO 5)

The Association stated mission is "to provide a quality program that offers boys and girls an opportunity to experience the game of hockey".

As stated in the introduction to the case, an association's opportunity to host future events was often based on the experiences observed and communicated from prior events and that the banquet was an important component of that experience. It was also stated that the $15,000 to $20,000 raised was a significant boost to the annual fundraising efforts. The boost to fundraising in the current year and the potential boost in future years supports the Association's mission.

Key components of the mission statement tie directly to the Association's fundraising efforts. In order to provide a quality program, the Association needs to have quality coaching, training facilities and training equipment. These all come with an associated cost that can be directly linked to the availability of funds. Additionally, the opportunity to experience the game of hockey is correlated with affordability of the sport. With increased fundraising, the Association would be better positioned to lower or control the cost passed to the families. A lower cost for families would provide the opportunity to a larger range of family income levels.

Epilogue

Although some of the information in this case was simplified for teaching purposes, the overall outcomes were very similar to the real-world case. After reviewing the three options, the Board for the Association chose a dual pricing model where the players and coaches were charged significantly less ($12 per attendee) than their associated family and friends ($30 per attendee). This was the method recommended by Sean and Alissa to the Board. This model provided an acceptable range between the possible profit or loss while also recognizing that the players and coaches should receive preferential pricing in part as reward for their success. Additionally, due to the success of the overall event, the Association was selected to host two Minnesota Hockey Regional Hockey tournaments the following year.

REFERENCES

Jaedicke, R. K., & Robichek, A. A. (1964). Cost-Volume-Profit analysis under conditions of uncertainty. Accounting Review, 39(4), 917.

Manes, R. (1966). A new dimension to breakeven analysis. Journal of Accounting Research, 4(1), 87-100. doi:10.2307/2490143

Said, H. A. (2016). Using different probability distributions for managerial accounting technique: The Cost-Volume-Profit Analysis. Journal of Business & Accounting, 9(1), 3–24.

Stettler, H. F. (1962). Break-even analysis: Its uses and misuses. Accounting Review, 37(3), 460.

Warren, C. S., & Tayler, W. B. (2020). Managerial accounting. Cengage.

APPENDIX A: A PRIMER ON COST-VOLUME-PROFIT ANALYSIS

Cost-Volume-Profit analysis, commonly referred to as break-even analysis, is the evaluation of the relationships between sales and production volume, sales prices, costs, expenses, and profitability (Warren & Taylor, 2020). While the origins of break-even analysis can be traced to the mid-1800's, it did not gain wide acknowledgement until after World War II in the 1940's (Manes, 1966). For several decades after, scholars and practitioners debated the value of using break-even analysis as an effective instrument for decision making (Stettler, 1962). It was the seminal work of Jaedicke and Robicher in 1964 that is generally attributed to providing the foundation for the Cost-Volume-Profit framework that is still used today (Said, 2016).

An organization's break-even point refers to the operational level at which revenues equal expenses, resulting in operating income of zero (Warren & Taylor, 2020). Break-even can be represented as a graph, where the break-even point is the intersection of two line (total sales and total cost). Alternatively, it can be calculated using the following mathematical equations (Warren & Taylor, 2020):

Equation 1

$$\text{Contribution Margin per Unit} = \text{Sales per Unit} - \text{Variable Costs per Unit}$$

Equation 2

$$\text{Contribution Margin Ratio} = \frac{\text{Contribution Margin per Unit}}{\text{Selling Price per Unit}}$$

Equation 3

$$\text{Break-Even Sales (in dollars)} = \frac{\text{Fixed Cost}}{\text{Contribution Margin Ratio}}$$

Equation 4

$$\text{Break-Even Sales (in units)} = \frac{\text{Fixed Cost}}{\text{Contribution Margin per Unit}}$$

The following examples illustrate the use of these equations in calculating break-even points in terms of dollars and units.

Example 1 (break-even sales in dollars):

ABC Company provided the following information in relation to one of its products:

Sales (10,000 units at $40 per unit)	$400,000
Variable costs (10,000 units at $24 per unit)	240,000
Contribution margin	160,000
Fixed costs	100,000
Operating income	60,000

Given this information, it is obvious that the organization is operating at above the break-even point since operating income is greater than zero. Using Equations 1, 2, and 3, the break-even sales in dollars can be calculated as follows:

Equation 1

$$\text{Contribution Margin per Unit} = \$40 - \$24 = \$16 \text{ per Unit}$$

Equation 2

$$\text{Contribution Margin Ratio} = \frac{\$16}{\$40} = 0.40$$

Equation 3

$$\text{Break-Even Sales (in dollars)} = \frac{\$100,000}{0.40} = \$250,000$$

In this example, the break-even in terms of sales dollars is $250,000, providing ABC Company the amount of sales of this particular product that would be necessary to cover all fixed costs using the contribution margin provided by the sale of the products.

Example 2 (break-even sales in units):

Using the same information from Example 1, the break-even sales in units can be calculated as follows using information from Example 1 and Equation 4:

Equation 4

$$\text{Break-Even Sales (in units)} = \frac{\$100,000}{\$16} = 6,250 \text{ units}$$

These examples can be reconciled by simply converting the break-even number of units to break-even sales by multiplying 6,250 break-even units by the sales price per unit ($40), yielding break-even sales dollars of $250,000.

While perhaps simple on the surface, break-even analysis provides critical information about the sales volume necessary to produce profitability at a particular level (i.e., by product, business unit, organization, or other segment). There are several challenges associated with break-even analysis inherent in the case. First, to effectively use break-even analysis, fixed and variable costs must not only be accurately calculated, but they must also be correctly defined as either fixed or variable. As can be seen from the examples above, a miscalculation in the amounts or classification of any of the variables would result in an inaccurate calculation of the break-even point. Second, the above calculations assume a single product. Most organizations sell more than one product or service, which would require the company to calculate the break-even point using a weighted sales mix. Finally, the general break-even analysis model assumes that the sales price and variable cost of these products remain unchanged, which is unrealistic. In most cases, sales prices and variables costs change, often in short periods of time.

It is important to understand these limitations to recognize that while break-even analysis is an excellent tool for understanding required sales dollars and volume, it must also be viewed with a critical eye to determine if adjustments might need to be made. In this case, both options take place at a single point in time, meaning that there is need to contemplate the possibility of changes prices or costs. In addition, both options are presented as a single "product" or event, removing the necessity of calculating a break-even point using multiple products. It is vital in this case, however, to make sure to correctly identify the amounts and types of each cost associated with each option.

APPENDIX B

Table 1 Summary of Cost Information		
	Convention Center	Banquet Hall
Facility Costs:		
Set-up Fee	$1,295.00	$1,550.00
Meal Cost per Attendee	18.83	14.63
Misc. Variable Cost per Attendee	0.50	0.50
Other Costs:		
Speaker (Allocated)	$1,000	$1,000
Decorations	100	100

Table 2 Banquet Pricing Options per Attendee		
	Players and Coaches	Family and Friends
Pricing Structures:		
Option 1:	$0.00	$40.00
Option 2:	15.00	30.00
Option 3:	25.00	25.00

APPENDIX C
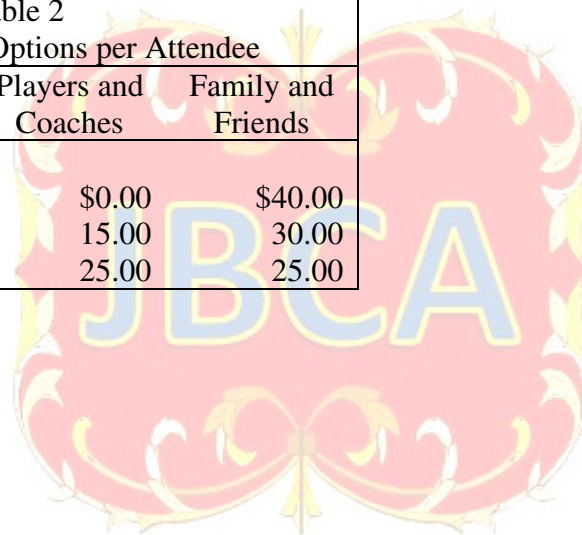
Table 3 Summary of Variable and Fixed Costs		
	Convention Center	Banquet Hall
Variable Costs:		
Meal Cost per Attendee	$18.83	$14.63
Misc. Variable Cost per Attendee	0.50	0.50
Fixed Costs:		
Set-up Fee	$1,295	$1,550
Speaker (Allocated)	1,000	1,000
Decorations	100	100

Table 4 Calculation of Players/Coaches Subsidy or Gain			
	Convention Center		
	Option 1	Option 2	Option 3
Price	$0.00	$15.00	$25.00
Less:			
Meal Cost per Attendee	(18.83)	(18.83)	(18.83)
Misc. Variable Cost per Attendee	(0.50)	(0.50)	(0.50)
	$(19.33)	$(4.33)	$5.67
# of Players/Coaches	160	160	160
Players/Coaches Subsidy or Gain	$(3,092.80)	$(692.80)	$907.20
	Banquet Hall		
	Option 1	Option 2	Option 3
Price	$0.00	$15.00	$25.00
Less:			
Meal Cost per Attendee	(14.63)	(14.63)	(14.63)
Misc. Variable Cost per Attendee	(0.50)	(0.50)	(0.50)
	$(15.13)	$(0.13)	$9.87
# of Players/Coaches	160	160	160
Players/Coaches Subsidy or Gain	$(2,420.80)	$(20.80)	$1,579.20

Table 5 Calculation of Contribution Margin Per Family/Friend			
	Convention Center		
	Option 1	Option 2	Option 3
Price	$40.00	$30.00	$25.00
Less:			
Meal Cost per Attendee	(18.83)	(18.83)	(18.83)
Misc. Variable Cost per Attendee	(0.50)	(0.50)	(0.50)
Contribution Margin per Family/Friend	$20.67	$10.67	$5.67
	Banquet Hall		
	Option 1	Option 2	Option 3
Price	$40.00	$30.00	$25.00
Less:			
Meal Cost per Attendee	(14.63)	(14.63)	(14.63)
Misc. Variable Cost per Attendee	(0.50)	(0.50)	(0.50)
Contribution Margin per Family/Friend	$24.87	$14.87	$9.87

Table 6 Calculation of Fixed Cost Including "Players/Coaches Subsidy or Gain"			
	Convention Center		
	Option 1	Option 2	Option 3
Player/Coach Subsidy or Gain	$3,092.80	$692.80	$(907.20)
Set-up Fee	1,295.00	1,295.00	1,295.00
Speaker (Allocated)	1,000.00	1,000.00	1,000.00
Decorations	100.00	100.00	100.00
Total Fixed Cost	$5,487.80	$3,087.80	$1,487.80
	Banquet Hall		
	Option 1	Option 2	Option 3
Player/Coach Subsidy or Gain	$2,420.80	$20.80	$(1,579.20)
Set-up Fee	1,550.00	1,550.00	1,550.00
Speaker (Allocated)	1,000.00	1,000.00	1,000.00
Decorations	100.00	100.00	100.00
Total Fixed Cost	$5,070.80	$2,670.80	$1,070.80

Table 7 Calculated Break-Even Attendees			
	Convention Center		
	Option 1	Option 2	Option 3
Fixed Cost	$5,847.80	$3,087.80	$1,487.80
Div. by Contribution Margin per Family/Friend	20.67	10.67	5.67
Break-even Family/Friends	265.50	289.39	262.40
Add: Players/Coaches	160.00	160.00	160.00
Total Attendees	425.50	449.39	422.40
	Banquet Hall		
	Option 1	Option 2	Option 3
Fixed Cost	$5,070.80	$2,670.80	$1,070.80
Div. by Contribution Margin per Family/Friend	24.87	14.87	9.87
Break-even Family/Friends	203.89	179.61	108.49
Add: Players/Coaches	160.00	160.00	160.00
Total Attendees	363.89	339.61	268.49

Table 8			
Pro Forma Income Statement Proving Break-Even Attendee Calculations			
	Convention Center		
	Option 1	Option 2	Option 3
Revenue			
Family/Friends	$10,619.84	$8,681.72	$6,559.96
Players/Coaches	0.00	2,400.00	$4,000.00
Total Revenue	$10,619.84	$11,619.84	$10,559.96
Expenses			
Meal Cost	$8,012.09	$8,462.03	$7,953.77
Misc. Variable Cost	212.75	224.70	211.20
Set-up Fee	1,295.00	1,295.00	1,295.00
Speaker (Allocated)	1,000.00	1,000.00	1,000.00
Decorations	100.00	100.00	100.00
Total Expense	$10,619.84	$11,081.72	$10,559.96
Net Income (Loss)	$0.00	$0.00	$0.00
	Banquet Hall		
	Option 1	Option 2	Option 3
Revenue			
Family/Friends	$8,155.69	$5,388.30	$2,712.26
Players/Coaches	0.00	2,400.00	$4,000.00
Total Revenue	$8,155.69	$7,788.30	$6,712.26
Expenses			
Meal Cost	$5,323.74	$4,968.49	$3,928.01
Misc. Variable Cost	181.95	169.80	134.25
Set-up Fee	1,550.00	1,550.00	1,550.00
Speaker (Allocated)	1,000.00	1,000.00	1,000.00
Decorations	100.00	100.00	100.00
Total Expense	$8,155.69	$7,788.30	$6,712.26
Net Income (Loss)	$0.00	$0.00	$0.00

Table 9
Sensitivity Analysis of Pricing Structures using Pro Forma Income Statements, Option 1

	Convention Center		
Attendees	300	400	500
Revenue			
Family/Friends	$5,600	$9,600	$13,600
Players/Coaches	0	0	0
Total Revenue	$5,600	$9,600	$13,600
Expenses			
Meal Cost	$5,649	$7,532	$9,415
Misc. Variable Cost	150	200	250
Set-up Fee	1,295	1,295	1,295
Speaker (Allocated)	1,000	1,000	1,000
Decorations	100	100	100
Total Expense	$8,194	$10,127	$12,060
Net Income (Loss)	$(2,594)	$(527)	$1,540
	Banquet Hall		
Attendees	300	400	500
Revenue			
Family/Friends	$5,600	$9,600	$13,600
Players/Coaches	0	0	0
Total Revenue	$5,600	$9,600	$13,600
Expenses			
Meal Cost	$4,389	$5,852	$7,315
Misc. Variable Cost	150	200	250
Set-up Fee	1,550	1,550	1,550
Speaker (Allocated)	1,000	1,000	1,000
Decorations	100	100	100
Total Expense	$7,189	$8,702	$10,215
Net Income (Loss)	$(1,589)	$898	$3,385
Combined Net Income (Loss)	$(4,183)	$371	$4,925

Table 9, Continued Sensitivity Analysis of Pricing Structures using Pro Forma Income Statements, Option 2			
	Convention Center		
Attendees	300	400	500
Revenue			
Family/Friends	$4,200	$7,200	$10,200
Players/Coaches	2,400	2,400	2,400
Total Revenue	$6,600	$9,600	$12,600
Expenses			
Meal Cost	$5,649	$7,532	$9,415
Misc. Variable Cost	150	200	250
Set-up Fee	1,295	1,295	1,295
Speaker (Allocated)	1,000	1,000	1,000
Decorations	100	100	100
Total Expense	$8,194	$10,127	$12,060
Net Income (Loss)	$(1,594)	$(527)	$540
	Banquet Hall		
Attendees	300	400	500
Revenue			
Family/Friends	$4,200	$7,200	$10,200
Players/Coaches	2,400	2,400	2,400
Total Revenue	$6,600	$9,600	$12,600
Expenses			
Meal Cost	$4,389	$5,852	$7,315
Misc. Variable Cost	150	200	250
Set-up Fee	1,550	1,550	1,550
Speaker (Allocated)	1,000	1,000	1,000
Decorations	100	100	100
Total Expense	$7,189	$8,702	$10,215
Net Income (Loss)	$(589)	$898	$2,385
Combined Net Income (Loss)	$(2,183)	$371	$2,925

Table 9, Continued Sensitivity Analysis of Pricing Structures using Pro Forma Income Statements, Option 3			

	Convention Center		
Attendees	300	400	500
Revenue			
Family/Friends	$3,500	$6,000	$8,500
Players/Coaches	4,000	4,000	4,000
Total Revenue	$7,500	$10,000	$12,500
Expenses			
Meal Cost	$5,649	$7,532	$9,415
Misc. Variable Cost	150	200	250
Set-up Fee	1,295	1,295	1,295
Speaker (Allocated)	1,000	1,000	1,000
Decorations	100	100	100
Total Expense	$8,194	$10,127	$12,060
Net Income (Loss)	$(694)	$(127)	$440
	Banquet Hall		
Attendees	300	400	500
Revenue			
Family/Friends	$3,500	$6,000	$8,500
Players/Coaches	4,000	4,000	4,000
Total Revenue	$7,500	$10,000	$12,500
Expenses			
Meal Cost	$4,389	$5,852	$7,315
Misc. Variable Cost	150	200	250
Set-up Fee	1,550	1,550	1,550
Speaker (Allocated)	1,000	1,000	1,000
Decorations	100	100	100
Total Expense	$7,189	$8,702	$10,215
Net Income (Loss)	$311	$1,298	$2,285
Combined Net Income (Loss)	$(383)	$1,171	$2,725

Table 10 Calculated Combined Variable and Fixed Costs for Break-Even Price Analysis			
	Convention Center	Banquet Hall	Combined
Variable Costs:			
Meal Cost per Attendee	$18.83	$14.63	$16.73
Misc. Variable Cost per Attendee	0.50	0.50	0.50
Average Variable Cost per Attendee			$17.23
Fixed Costs:			
Set-up Fee	$1,295	$1,550	$2,845
Speaker (Allocated)	1,000	1,000	2,000
Decorations	100	100	200
Total Fixed Cost			$5,045

Table 11 Calculated Contribution Margin per Attendee	
Total Fixed Cost	$5,045
Divided by: Estimate Attendees	800
Required Contribution Margin per Attendee	$6.31

Table 12 Calculated Break-even Attendee Pricing	
Required Contribution Margin per Attendee	$6.31
Add: Variable Cost per Attendee	17.23
Break-Even Price per Attendee	$23.54

Table 13 Pro Forma Income Statement Proving Break-Even Attendee Pricing Calculations			
	Convention Center	Banquet Hall	Total
Revenue			
Family/Friends	$5,468.70	$5,468.70	$11,297.40
Players/Coaches	3,756.80	3,756.80	$7,531.60
Total Revenue	$9,414.50	$9,414.50	$18,829.00
Expenses			
Meal Cost	$7,532.00	$5,852.00	$13,384.00
Misc. Variable Cost	200.00	200.00	400.00
Set-up Fee	1,295.00	1,550.00	2,845.00
Speaker (Allocated)	1,000.00	1,000.00	2,000.00
Decorations	100.00	100.00	200.00
Total Expense	$10,127.00	$8,702.00	$18,829.00
Net Income (Loss)	$(712.50)	$712.50	$0.00