BREAK EVEN ANALYSIS

MUNICIPAL POOL

RRES 489, Recreation Programming

Before one can conduct a BREAK EVEN analysis of a revenue operation such as a municipal pool, it is important to review some historical data on participation rates and fixed and variable costs.

Fixed costs are those that do not change no matter how many patrons use the pool.

Examples of fixed costs include:

* The pool manager s salary
* Basic utility costs (for electricity, water circulation, etc.)
* Initial filling (water) costs and draining
* A basic level of chemicals
* Pool maintenance staff (basic level)
* Lifeguards (minimal level)

Variable costs are expenses that change depending on the number of users. With an outdoor pool, there are a number of variable costs that change depending on the number of patrons. These include:

* Extra lifeguards, hired for peak use periods (above the minimum)
* Extra chemicals, water, utility costs and maintenance necessitated by use
* Instructors for special programs

To calculate a break even point, one must know both of these expense figures. For your use, assume that the **Fixed Costs for a pool are $70,000** for the season. This can be calculated very closely from past records. The **variable expenses** must also be calculated, but as a percent of every dollar of revenue generated. In one of the examples illustrated, we indicated this figure **was .60 per patron. Since the patrons average $2 each the variable cost per patron was 30%**. (or 30cents of every dollar).

Using the following formula

Break Even Sales = Fixed Expense/(1-(variable exp(as a ratio)

* BES = $ 70,000/.70
* BES = $100,000
* In other words $100,000 in sales would be needed to break even

This revenue figure was reached very early in week 13

To test this equation and value use the following:

BES - variable expense = fixed expense

* $ 100,000 - ($ 30,000) = $ 70,000
* Fixed expenses = $ 70,000
* Profit = $ 0.00

In example #2, the fixed costs were reduced to $40,000. Average revenue per patron remained at $2 as did the variable cost of $ .60 or (30%).

Because of the lower fixed costs, breakeven was reached much sooner, late in week 6

Break Even Sales = Fixed Expense/(1-(variable exp(as a ratio)

* BES = $40,000\ (1-.30)
* BES = $ 57,143

Test: Break Even - variable expense = fixed expense

* $ 57,143 - (57,143 x .30) = $ 40,000
* $ 57,143 - $ 17,143 = $ 40,000

In this last example breakeven was not reached during the 14 week summer season. The greatest barrier to profitability was the lower revenue achieved per person. Here the revenue achieved only averaged $ 1 per patron. Fixed costs were $70,000/season. Variable costs were 40% of sales or $ .40/dollar. Only $ 52,000 in revenue was generated during the summer. The city would have needed to subsidize the pool by $ 64,667 in tax support that season.

Break Even Sales = Fixed Expense/(1-(variable exp(as a ratio)

* BES = $ 70,000\ (1- .40)
* BES = $116,667