Fortune Business Planning Company- Cookie Package Size Decision

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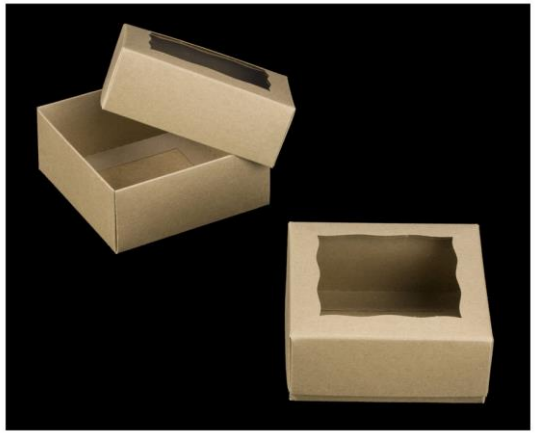
Explaining my problem background

- Contacted by cookie manufacturing store owner who does produce best chocolate chip cookies and distribute them to the giant distributors like Walmart, Giant eagle etc. in Pittsburgh
- The owner has been doing this business from the past two years and have not made good profits from that time
- Client desires to know about the probabilities of packing cookies in various sizes
- Wants to know their demand over the market to maximize the profits
- Based on the data provided by him, created a Decision Support System considering three different scenarios (Small Size Package, Medium Size Package and Large Size Package)
- Need to do some analysis on several different scenarios with the data provided by the client, I strongly feel Scenario Manager will do the justification

Sample Sizes of Cookie Boxes

Small Size Package



Medium Size Package

Large Size Package

Solution Design

In my model there are four sections for all the three above mentioned scenarios.

- Constants
- Inputs
- Summary of Key results
- Calculations

And a final Scenario Summary will be generated to analyze the three cases.

Constants

- Store Rental Cost – The rent that my client has to pay to the store lease annually.
- Salary Per Worker Involved – The yearly salary of each worker employed in the store
- Number of Workers Required – Total number of workers needed to complete the task of making and packing cookies
- Store Equipment Costs – The cost of machinery involved for making and packing the cookies annually
- Insurance – The Insurance paid to the store annually for safety purposes
- Tax Rate – The tax includes state and federal tax applicable per annum is expected to be 10%
- Advertising Costs – The annual costs spend on advertising the packaged products

CONSTANTS	
Store Rental Cost	$50,000
Salary Per Worker Involved	$30,000
Number of Workers Required	15
Store Equipment Costs	$30,000
Insurance	$8,000
Tax Rate	10%
Advertising Costs	$800

Inputs

- Electricity Charges – Enter the dollar value for the annual electric expenses of the cookie store
- Water Supply Charges – Enter the dollar value of annual water charges that are being supplied to the store
- Material Cost for Product Preparation – Enter the dollar amount for the annual cost of the ingredients like flour, sugar, chocolate chips, milk etc. to make the products (cookies)
- Material Transportation Charges – Enter the dollar value for the annual cost to transport the ingredients from the market to the cookie making store.
- Packing Costs – Enter the dollar amount for the annual cost to pack the cookies in the decorative boxes of various sizes
- Shipping Charges – Enter the dollar amount for the annual cost to ship the final packed products to the distributors over the market.
- Price of Each Package – Enter the assumed final price for each package
- No of Packages Sold to Distributor – Enter the count of the total packages that will be supplied to each distributor annually.
- Number of Distributors – Enter the count of the total number of distributors in the Pittsburgh city that the final packed product will be supplied to.

INPUTS	
Electricity Charges	$9,000
Water Supply Charges	$6,000
Material Cost for Product Preparation(Flour, Sugar, Chocolate chips, Milk, etc)	$14,000
Material Transportation Charges	$5,000
Packing Costs	$5,500
Shipping Charges	$7,000
Price of Each Package	$45
No of Packages Sold to Each Distributor	4,000
Number of Distributors(Eg: Walmart, Giant Eagle)	5

Summary of Key Results

- For each scenario, my spreadsheet will compute total expenses after taxes = Total Expense Before Taxes + Income Tax Expense
- Total revenue generated from the product sales after taxes = Total Revenue Before Taxes - Income Tax Expense
- The profit or loss margin = Total Revenue After Taxes - Total Expense After Taxes
- Positive values represent profits and negative values represent loss margin

SUMMARY OF KEY RESULTS	
Total Expenses After Taxes	$643,830
Total Revenue After Taxes	$810,000
Profit or Loss Margin	$166,170

Calculations

- Total cost for salaries of workers= Number of workers * Salary Per Worker involved
- Utility Expenses = Electricity Charges + Water Supply Charges
- Material Expenses = Material Cost for Product Preparation + Material Transportation Charges
- Store Maintenance Costs= Store Rental Cost + Store Equipment Costs + Insurance
- Total Expense Before Taxes= Total Cost for Salaries of Workers +Utility Expenses + Packing and Shipping Charges + Material Expenses + Store Maintenance Costs + Advertising Costs
- Income Tax Expense = Total Expense Before Taxes * Tax Rate
- Total Revenue from Products Sold (Revenue before taxes) = Price of Each Package* No of Packages Sold to Each Distributor * Number of Distributors

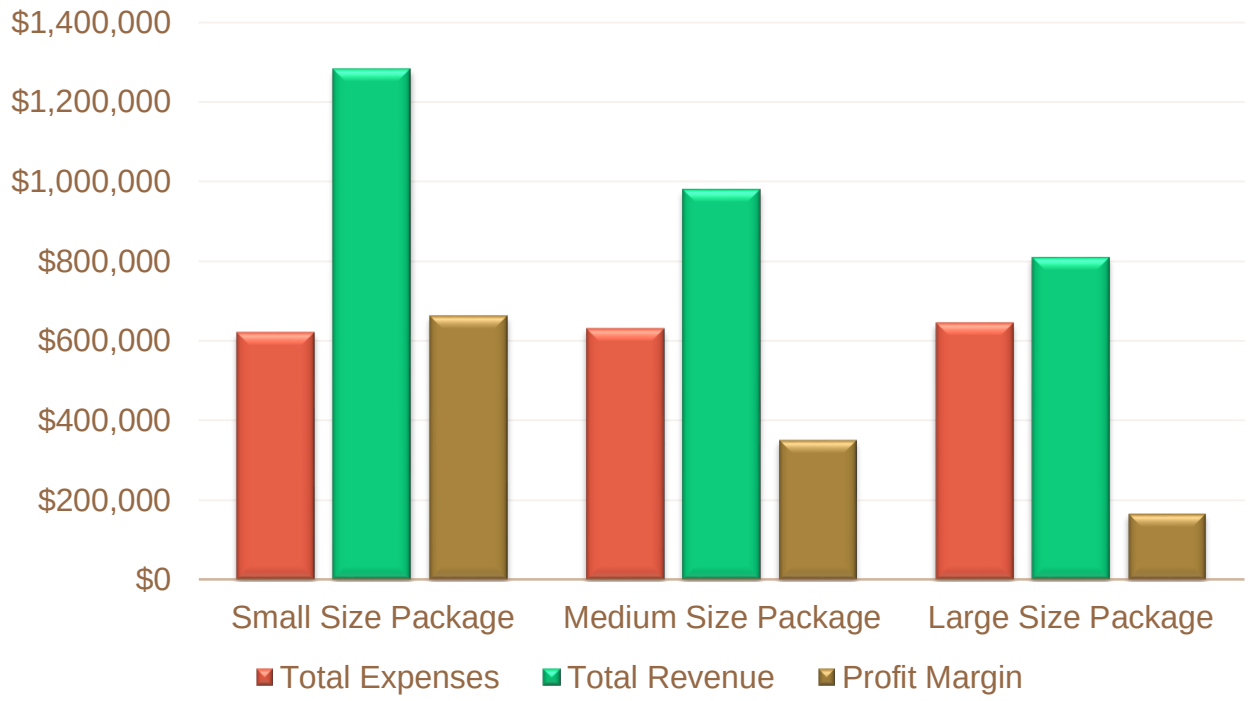
Calculations	
Costs	
Number of Workers Required	15
Total Cost for Salaries of Workers	$450,000
Utility Expenses	$15,000
Packing and Shipping Charges	$12,500
Material Expenses	$19,000
Store Maintenance Costs	$88,000
Advertising Costs	$800
Total Expense Before Taxes	$585,300
Income Tax Expense	$58,530
Total Expense After Taxes	$643,830
Revenue	
Total Revenue from Products Sold	$900,000
Total Revenue Before Taxes	$900,000
Income Tax Expense	$90,000
Total Revenue After Taxes	$810,000
Profit or Loss Margin	$166,170

Results

Scenario Summary	Current Values:	Small Size Package	Medium Size Package	Large Size Package
Changing Cells:				
Electricity Charges	$9,000	$5,000	$7,000	$9,000
Water Supply Charges	$6,000	$2,000	$3,500	$6,000
Material Cost for Product Preparation	$14,000	$8,600	$10,500	$14,000
Material Transportation Charges	$5,000	$2,200	$3,000	$5,000
Packing Costs	$5,500	$2,500	$3,500	$5,500
Shipping Charges	$7,000	$4,200	$5,800	$7,000
Price of Each Package	$45	$10	$22	$45
No of Packages Sold to Each Distributor	4,000	9,500	5,500	4,000
Number of Distributors	5	15	9	5
Result Cells:				
Total Expense After Taxes	$643,830	$619,630	$629,310	$643,830
Total Revenue After Taxes	$810,000	$1,282,500	$980,100	$810,000
Profit or Loss Margin	$166,170	$662,870	$350,790	$166,170

Notes: Current Values column represents values of changing cells at time Scenario Summary Report was created. Changing cells for each scenario are highlighted in gray.

Results Dashboard



Recommendation

- Profits from all the three cases are positive and gives good returns
- Would recommend considering Small Size Package compared to other package sizes
- Small size packages will produce maximum profits with minimal expenses which is the best indication to any business