

# Quick Start for Product Profitability Analysis

How to use your Custom Excel Workbook

## Quick Start Instructions

Here are simple, step by step instructions to get your Product Profitability Analysis working for you as quickly as possible. Just follow the steps below in order and you'll be on your way.<sup>1</sup>

Enter input data only in shaded blue cells. These input cells are found mostly on the 'Inputs' worksheet and also on the 'Labels' worksheet. For time-based input, if you enter data in the first period, the model will usually copy it to the other time periods to the right. This feature is a convenience for those inputs that do not change with time.

### Step 1: Enter Names of Products and Other Items

Select the Labels worksheet.

1. Edit the names of products, Engineering Staff Teams, Engineering Programs, Marketing Programs, Support Issues, and Job Levels in the bottom section starting around row 70 or 90. (These may already be correct from the customization process. If you want to increase the numbers of sub-projects or other items in the model, you must return to the ModelSheet website and customize a new spreadsheet.)

### Step 2: Enter Sales Input Information

Select the Inputs worksheet and go to the section 'Sales' near the top of the page. (You can remind yourself what each variable does by checking out the Excel comment. Just hover the mouse over the cell to see the comment.)

1. Enter sales units and prices for each product in each time period. You can either
  - Enter sales units manually in each time period.
  - Enter sales units in the first time period, and the growth rate for each time period compared to the previous period.

### Step 3: Enter Cost of Sales Input Data

Select the Inputs worksheet and go to the section 'Cost of Goods'

1. Enter Cost of Goods. This can have parts that are cost per unit, cost as a percent of revenue, and fixed cost per time period.
2. Enter Royalties Paid. This can have parts that are cost per unit, cost as a percent of revenue, and fixed cost per time period.

### Step 4: Enter Marketing Expense Input Data

Select the Inputs worksheet.

1. Enter manpower expenses for Marketing.
  - Enter how many marketing headcount are allocated to each product in each time period, by job level.

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<sup>1</sup> You can find more explanation of how the model works in the section "Product Profitability Analysis Explained in a NutShell" below.

- Enter the average annualized wage or salary expense for each person in each job level, by time period. You can enter this in either of two ways.
  - Enter wage or salary per person manually in each time period.
  - Enter wage or salary per person in the first time period, and the annualized growth rate for each time period compared to the previous period.
- 2. Enter marketing programs expenses for each program, allocated to each product.

### **Step 5: Enter Product Development Expense Input Data**

Select the Inputs worksheet.

1. Enter manpower expenses for product development.
  - Enter headcount, allocated to each product in each time period, by engineering team and by job level.
  - Enter the average annualized wage or salary expense for each person in each job level, by time period. You can enter this information in either of two ways.
    - Enter wage or salary per person manually in each time period.
    - Enter wage or salary per person in the first time period, and the annualized growth rate for each time period compared to the previous period.
  - Enter labor overhead expense as a percentage of wage and salaries.
2. Enter Engineering programs expenses for each program, allocated to each product.
3. Enter Engineering overhead expenses, segmented by product, length of support call, and support issue.

### **Step 6: Enter Customer Support Expense Input Data**

Select the Inputs worksheet.

1. Enter the number of support calls in each time period, segmented by product, by call length, and by support issue.
2. Enter the average call length (man-hours) for calls in each call length category.
4. Enter manpower expenses for customer support.
  - Enter target hours of support load per person in each time period, by job level.
  - Enter the average wage or salary expense for each person in each job level, by time period. You can enter this information in either of two ways.
    - Enter wage or salary per person manually in each time period.
    - Enter wage or salary per person in the first time period, and the annualized growth rate for each time period compared to the previous period.
  - Enter labor overhead expense as a percentage of wage and salaries.
  - The model computes support staff headcount from the workload and target utilization percent. If you want to override these default values, then enter the support staff headcount by time period.

### **Step 7: Enter General Overhead Expense Input Data**

If you included general overhead expense in your model (which comes with breakeven analysis for each product), then select worksheet 'Inputs' and go to the section "General Overhead Expense" at the bottom.

1. Enter the fixed part of annualized general overhead expense for each product and time period. ("Fixed" means that this expense does not vary with sales volume, though it can vary with time period.)
2. Enter the variable part of fixed general overhead expense for each product and time period. ("Variable" means that this expense is proportional to the number of units sold.)

If you enabled this feature, then you will see breakeven sales units and breakeven revenue for each product at the bottom of the worksheet (or worksheets) 'Product'.

## Step 8: See Your Results!

Now that you've entered your data, take a look at worksheet 'Product CM', where you can see the profitability (actually the contribution margin) for each product. This worksheet contains summaries and breakdowns of costs and expenses for each product.

Each product has its own worksheet that summarizes the same information for one product only.

The remaining worksheets (Cogs, Royalties Paid, Marketing, Product Dev, and Support) provide information for each type of cost or expense across all products.

If you want to learn more what these quantities mean, read the comment on the table by hovering the mouse over the cell with the small red triangle (which is Excel's way of telling you that cell has a comment). There you'll also find a "formula name" that defines the table. You can look up that name on the 'Formulas' worksheet to see the human-readable formulas that are used to define the values in the table.

## Product Profitability Analysis Explained in a NutShell

Your Product Profitability Analysis model estimates the contribution margin dollars and percent (contribution to bottom line profits) for each product. The method allocates the expenses for three major business functions – product development, marketing, and customer support – to products. Then it computes contribution margin for each product as

$$\begin{aligned} \text{Contribution margin} &= \text{revenue} - \text{cost of goods} - \text{royalties paid} \\ &\quad - \text{allocated costs of product development, marketing and customer support} \end{aligned}$$

The rest of the model is details: the ways that the model provides for describing cost of goods and allocated costs in each business function.

Cost of Sales is composed of two parts: Cost of Goods and Royalties Paid.

- Specify Cost of Goods as a sum of cost per unit, percent of revenue, and fixed cost per time period.
- Specify Royalties Paid as a sum of cost per unit, percent of revenue, and fixed cost per time period.

You specify operating expenses with enough detail to capture the profit dynamics of each product.

- Track expenses in three functional departments. All expenses are allocated across products.
  - Product Development expense is a sum of manpower expense, Engineering Programs expense, and Engineering Overhead.
  - Marketing Expense is a sum of manpower expense, Marketing Programs expense.
  - Customer Support expense consists of manpower expense.
- You specify manpower expense in each department by specifying headcount by job level, and average pay level for each job level.

- You allocate Product Development manpower across products, by engineering team and by job level.
- You specify program expenses for each product. Programs that are not dedicated to a few products can be omitted from the analysis.
- The customer support expense model is a bit more detailed. The goal is to quantify how much each major support issue contributes to support expense for each product. This is valuable information for targeting development resources to improve products and documentation. The model includes:
  - The number of support calls and the distribution of length of support calls, allocated by product and by support issue (such as installation, training, bug response).
  - Support staff headcount by job level, and compensation for each job level.

That is basically all there is to it.

Not all features mentioned here are present in the Light and Standard versions of the model.

## Where to Get More Information

Read the Excel comment on each table on every worksheet. Each comment contains important information about what the table contains or what it does in the model.

Worksheet 'Formulas' contains a list of the named variables in the model and formulas that define each variable in terms of other variables. This worksheet is often the best way to understand how the entire model fits together.

The user guide for this product contains more information. See

<http://templates.modelsheetsoft.com/modelsheettemplates/product-profitability-templates-user-guide.aspx>

The introductory webpage for the model is

<http://templates.modelsheetsoft.com/modelsheettemplates/product-profitability-templates.aspx>

Please address queries to: [customerservice@modelsheetsoft.com](mailto:customerservice@modelsheetsoft.com) .

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