

Quick Start for Price Testing and Price Elasticity for One Product

How to use your Custom Excel Workbook

Quick Start Instructions

Here are simple, step by step instructions to get your Price Testing and Price Elasticity for One Product (Price Elasticity model for short) working for you as quickly as possible. Just follow the steps below in order and you'll be on your way.¹

A Note about Input Cells: Enter input data only in shaded blue cells. These input cells are found mostly on the 'Inputs' worksheet and also on the 'Labels' worksheet. Some blue input cells contain Excel formulas that copy data from adjacent input cells. (For example, 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 sometimes have repeated values. You can overwrite any formula in a blue input cell; they are just there to provide starting data to get you going quickly.

Step 1: Editing Names of Test Markets

Select the Labels worksheet.

1. Edit the names of Test Markets ("Tests") in the bottom section starting around row 40.

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 Reference Sales Information

Select worksheet 'Price Tests'.

1. Enter "Reference Price" – the price at which you sold the product in the total market before the market pricing tests.
2. Enter "Reference Sales Units" – the sales units that you sold in a given time period at the Reference Price. (All revenues and sales units are assumed to be expressed for time periods of the same length.)

Step 3: Enter Input Data Describing Test Markets

Select worksheet 'Price Tests'.

1. Enter the "Test Price" used in each test market.²
2. Enter the "Reference Sales Units" in each Test Market before performing market tests, when you sold the product at the Reference Price in all test markets.
3. Enter the "Test Sales Units" in each Test Market during the market test, when you sold the product at a test price that was different for each Test Market.

¹ You can find more explanation of how the model works in the section "Price Testing for One Product Explained in a NutShell" below.

² If you want to change the number of Test Markets, you should return to the ModelSheet customizer and re-customize the spreadsheet.

At this point, you can see the "price elasticity" at the bottom of the worksheet. The price elasticity tells you that, if you raise or lower the price by 1%, then the sales units will rise or fall by 1% time the price elasticity.³

Step 4: Enter Input Data for Sales Predictions

Select worksheet 'Sales Predictions'.

1. In Advanced versions only, you can specify that the model used the Generalized Elasticity method, by entering 'TRUE' in the cell for Generalized Elasticity. Otherwise, the model uses the Constant elasticity method.
2. Enter the "Prediction Prices" at which you want the model to predict sales units and revenue. (The fundamental results are the same no matter what you enter; these prices merely indicate what prices appear in the tables for predicted sales units versus price.)
3. In Advanced versions only, you can enter "Cost Parameters" that specify the cost per sales units as a function of sales volume.
 - The model uses the Reference Sales Units (on worksheet "Price Tests") as the reference volume for cost estimates. If you want to override this value, then enter the Reference Sales Units for determining costs.
 - Enter the Reference Cost for the number of units in Reference Sales Units above.
 - Enter a "Cost Elasticity" that answers this question "If I increase sales units by x%, then total costs of goods rises by x% times the cost elasticity. (For example, if costs rise proportionally with sales units, then the Cost elasticity is 1.00.)"

If these product costs are cost of goods, then the profit that is predicted is gross margin (revenue less cost of goods). The product cost that you specify need not be the cost of goods. They can include any costs whose response to changes in sales units are known. In this case, the profit is a contribution margin, which is a more general measure of profitability than gross margin.

Step 5: See Your Results!

Now that you've entered your data, take a look at these worksheets to see results.

- Worksheet 'Graphs' shows you a graph of the predicted curve of sales units versus price in the total market. It also shows you a graph of test results from the various test markets.
- Worksheet 'Sales Predictions' shows tables with predicted sales units and revenue over a range of prices. If your model includes profit predictions, then this worksheet also shows estimated margin amounts and percents as they depend on selling price.

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.

Price Testing for One Product Explained in a NutShell

Your Price Testing and Price Elasticity for One Product (Price Elasticity model for short) helps you answer two critical questions about pricing.

³ The price elasticity is usually negative because raising the price generally causes sales units to fall.

- How will revenues change when I change price? What price will optimize revenue?
- How will profits change when I change price? What price will optimize profits?

The Price Elasticity model uses data from test markets⁴ where you sell the product at different prices. It combines the test data to estimate sales units in the total market as you change the price, using of these two methods:

- Light and Standard version of the model use on the "Constant Elasticity."
 - "Constant Elasticity" means that sales units are estimated to fit a linear function of price.
 - This method can tell you how much sales units will change when you change prices, but it is not good for estimating prices that optimize revenue or profits.⁵
- Advanced versions of the model let you choose either "Constant Elasticity" or "Generalized Elasticity".
 - "Generalized Elasticity" means that sales units are estimated to fit a quadratic function of price.
 - This model is much better for estimating prices that optimize revenue and profits.⁶

In the Advanced version, If you enter some basic information about cost of goods over a range of sales volumes, then the model will predict gross margins at a range of prices.

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-price-elasticity-templates-user-guide.aspx>

The introductory webpage for Price Elasticity for One Product is

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

Please address queries to: customerservice@modelsheetsoft.com .

Please visit our website at: <http://www.modelsheetsoft.com> .

Copyright © 2010 ModelSheet Software, LLC

ModelSheet and the ModelSheet logo are registered trademarks of ModelSheet Software, LLC.

⁴ Test markets can be segments of the total market in which you sell the product. See the User Guide for conditions that the market tests should satisfy to ensure that analysis is valid for the total market.

⁵ More precisely, "Constant Elasticity" means estimating $\log(\text{sales units})$ as a linear function of $\log(\text{price})$. The slope is called the elasticity, and it is assumed to be constant across a range of prices.

⁶ More precisely, "Generalized Elasticity" means estimating $\log(\text{sales units})$ as a quadratic function of $\log(\text{price})$. The slope is called the elasticity, and it is assumed to be a linear function of price across a range of prices.