Packed with practical steps and real life Excel tips for owners and marketing professionals to use every day.   A MUST HAVE for better marketing decisions!
— *Norma J. Rist, author Small Business Savvy*

By Marketers for Marketers

Competitive Analysis

Research

Lead Tracking

Trade Shows

Forecasting

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Sales Reports

New Markets

Growth Rates

Segmentation

Targeting

Positioning

Charting

Metrics

Goal Seek

Customer Satisfaction

Excel for MARKETING MANAGERS

Ivana Taylor & Bill Jelen

Excel for Marketing Managers

Ivana Taylor and Bill Jelen

Holy Macro! Books

Excel for Marketing Managers

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Dedications

Ivana Taylor:

Dedicated to Alexander.

Bill Jelen:

Dedicated to Josh and Zeke Jelen.

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Ivana Taylor is the President of Third Force Marketing, a company that develops turnkey marketing programs that identify and re-connect you to your ideal, most profitable customers and make you the one they choose – every time. She co-developed an applied, real-world course for marketing managers that won the 2005 Ohio Continuing Higher Education Association's Most Innovative Course Award.

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What's in This Book and What Isn't?

This book is about how Excel can help you to do the basic job of marketing management. It is NOT an exercise in putting together a comprehensive list of tools and templates.

What this book tries to do is to weed through the myriad information resources and to give you the quickest and dirtiest tricks to get you out of the drudgery of analysis and into the fun and excitement of building your business.

Everyone has his or her own way of looking at marketing. This is mine:

The Mission of Marketing is to get Chosen

Consumers have so much access to information that I believe our mission as marketers has changed from meeting and exceeding customer needs to simply becoming the obvious choice for our ideal customer – in other words – to get CHOSEN.

As marketers, our job is fairly simple: to get and keep customers.

This book outlines a process for doing this and then gives you tools and templates you can use to get the job done. And if that isn't enough, and you'd rather just read the book – we'll give you resources of people and companies that can get it done for you.

As you already know, the marketing function and process includes much more than advertising and going to trade shows. Before any of those communication activities take place, we need to know whom we're talking to and what to tell them that will make them want to buy our product instead of someone else's.

This book is written for you – the marketing person who has had enough of theory and is ready to put all that knowledge into practice – to make you successful and to make your company profitable. It's loaded with tools and techniques that will help you to manage your marketing process and will keep you from losing your mind over the data and the details.

Don't look for any fancy marketing theories here. You won't find them. We'll cover what needs to be covered so that you can get the job done, but there are already more than enough marketing books out there to drive your brain – this book is written to help you drive your marketing function.

Intro

How to Use Excel to Become a Marketing Genius

This might be a slight exaggeration, but then again, it may not be. I've heard it said that genius is the ability to spot the obvious. And that is exactly what Excel helps you to do. The problem most of us have when looking at data is seeing the information that's hidden within.

Successful marketing people know what information is important and how to pull that information together in order to get what they want from all of their constituencies: their customers, their CEO's, their service providers and the members of their teams. Don't be fooled, these people aren't any bigger, better or brighter than you are, they're just very resourceful and they know and understand the tools that are at their disposal.

One such tool is Microsoft Excel. Excel is an amazingly powerful tool and it isn't just for accounting or financial professionals. Marketing people can use it too.

As marketers, our primary job is to get and keep customers for our organizations. To do this, we follow a fairly simple process that looks something like this:

Figure 1

Marketing process

Research | Segment Target Position | Offering Price Communication Distribution | Implement
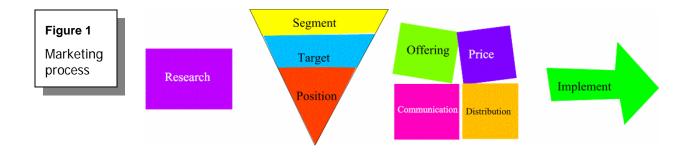
Table 1   This table describes the marketing process in more detail.

Step	Description
Research	This is the first step of the process and can include both primary data (such as customer interviews or focus groups or even on-line surveys) and secondary data (such as research articles or statistics). Secondary data also includes your own company's customer sales data and sales history. This is a goldmine of marketing strategy information!
Segmentation	This part of the process means to actually group customers (or prospects) into categories or segments. This is where your internal sales data is absolutely vital. Your company already has some basic segments such as geography or industry, but real marketing power and success comes from looking at this data differently so that you can create new and more profitable segments.

Step	Description
Target	Now that you've grouped and segmented everyone – you will have to take a look at those groups' vital statistics (sales, profitability, products, etc.) and see which ones you will be most successful in. In other words – which of all these groups is your ideal customer? Once again – you can think about these things – but your internal customer data is much more reliable because it shows PAST behavior and PAST behavior is the best indicator of FUTURE behavior.
Positioning	Now we start getting into the fun stuff. You've gathered a lot of data and you've analyzed it to death (using the tools in this book of course). You're ready to actually go after the segment you've targeted (chosen) and now you want to position yourself in a way that will get you chosen – over any other alternative they may be considering when they're buying what you sell. Believe it or not – the data you've collected will tell you how to do that as well.
The Marketing Mix (Product, Price, Promotion, Place)	This is what we all grew up with. When in doubt over how you should tackle any marketing objective – just lay it out into these categories and start collecting information in each area. When you're asked to do a presentation – you got it – go to these four P's and turn that data into some lovely charts and Wham-BAM! Instant presentation.
	All kidding aside – these are the four ingredients in the marketing mix. If you're feeling overwhelmed – know that you should only be focusing on these four things and nothing else. These are the only four variables you need to think about. Another great way to think of Product, Price, Promotion, and Place is as an equalizer on a stereo. You need to manage these four areas to create beautiful music.
Implementation	Finally there is implementation of the strategy – This is where the beloved advertising, trade shows, and direct mail happen that everyone *thinks* is 90% of the marketing manager's job. Placing advertising, going to a trade show, sending direct mail, selling – what all these things have in common is that they start with VERBS – they are ACTIVITIES – they are IMPLEMEN-TATION STEPS. All of these things are supposed to happen AFTER you've done all the analysis and planning – NOT BEFORE.

Excel can help you at each stage of the marketing process. But can it help you do your job?

Excel Makes Your Job Easy

Excel can absolutely make your job easier. Here is a short list I've compiled of marketing positions and the responsibilities and tasks that Excel can help you to do.

- Marketing Management
  - ➢ Marketing Audit – Map a process
  - ➢ Budgeting
  - ➢ Competitive Analysis
  - ➢ Marketing Plan
  - ➢ Pricing Analysis and Strategy
  - ➢ Research
  - ➢ Find New Customers
  - ➢ Identify new markets
  - ➢ Monitor trends
  - ➢ Provide Justification for Strategies and Plans
  - ➢ Customer Satisfaction tracking and analysis
  - ➢ Opportunity Analysis

- Product Management
  - ➢ Pricing and Margins
  - ➢ Sales Estimates
  - ➢ Forecasting
  - ➢ Launch a product
  - ➢ Progress against Plan Report
  - ➢ Track and monitor product introductions
  - ➢ Sales Reports
  - ➢ Scheduling

- Marketing Communications
  - ➢ Lists (customer, prospect, purchased)
  - ➢ Campaign Analysis
  - ➢ Lead Tracking
  - ➢ Trade Shows
  - ➢ Media Choice and Management
  - ➢ Supplier choice and management (printers, designers, research firms)

Depending on which area of marketing you're in, you may have any or all of these on your job descriptions on your plate. Isn't it nice to know that you have a little extra help in doing them?

Get Wise Before You Analyze: Cool Things Excel Can Do So You Won't Have to

I don't know about you, but I'm one of those marketing people that want to see results yesterday. That means that I'll often jump right into doing some crazy analysis the long and hard way simply because I don't want to read an Excel book. Then sometime after I've literally wasted hours on a project, I'll learn about a function or tool that would have saved me a day of work and frustration.

Here are a few things that Excel can do that you won't have to:

- Forecast and calculate average growth rates with Goal Seek

- Calculate and format days, dates, and times
  Excel can do a launch countdown for product launch or days until a trade show.

- Copy your formula to the end of the database
  You'll love this if you've been scrolling down and end up over-scrolling hundreds of rows beyond your data.

- Quickly sort your whole database by clicking just clicking on one column

- Sort data in YOUR order, not just alphabetically

- See the sum by just highlighting an area

- Find a segment of your list with specific characteristics
  Examples: Find all companies in Texas; find all records with "Goodyear" in the field

- Calculate Sales over Plan

- Manage and customize mailing lists

- Segment, target, and position with Pivot Tables

- Calculate compound growth rates

- Join text and a date to create a "customized" message

Excel-lent Beginnings

Begin

If you use an Excel spreadsheet at least a couple of times a month, these are the basics.

Customizing Excel

Here's the Situation

Out of the box, Excel has some annoying features. First, Excel hides many powerful menu items and toolbar icons in order to make Excel seem less intimidating. This might be fine for beginners, but it is not fine for you.

Here's What to Do

1. From the menu, select Tools – Customize.
   If the Customize option is not initially visible, choose the double-down arrow at the bottom of the menu to completely expand the menu.

Figure 2
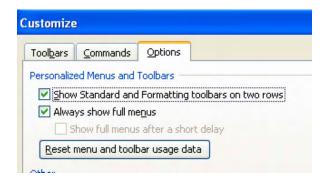
Using the double-down arrow at the bottom to expand a menu

2. The Customize dialog contains three tabs.
   Choose the third tab, which is the Options tab.

3. Choose the checkbox for "Show Standard and Formatting toolbars on two rows".

4. Also, choose the checkbox for "Always show full menus".

Figure 3

Displaying toolbars on two rows and showing all menu choices

Adding More Buttons to Your Toolbars

Now that the toolbars are displayed on two rows, you can drag more icons to the toolbars. Go back to Tools – Customize, but go to the center tab – the Command tab. When the Customize dialog is displayed, you can drag icons off of toolbars, rearrange icons, or drag new icons to the toolbars. There are hundreds of useful icons in seventeen categories. Any of these can be dragged to a visible toolbar.
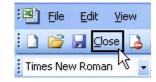
1. For example, choose the File category. The fifth icon is the Close icon.

Figure 4

Selecting a desired command icon to drag to a toolbar

2. Drag the Close icon from the dialog box and drop it on the Standard toolbar, near the Save icon. You will now be able to close a workbook at the click of a button.

Figure 5

Selecting a command icon to drag to the Standard toolbar
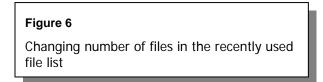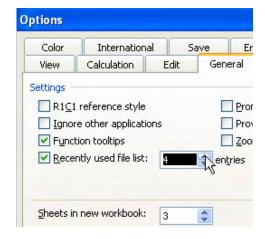
Tweaks in the Options Dialog

1. From the menu, select Tools – Options.

The Options dialog is one of Excel's busiest, with 13 different tabs. On the General tab, there is a spin button next to Recently Used File List. This is initially set to 4.

2. Adjust the Spin button up to the maximum of 9.

Figure 6

Changing number of files in the recently used file list

Below the line on the same tab, there is a setting that causes every new workbook to have three worksheets. One old version of Excel started with this setting at 16. However, you can always add new sheets with Insert – Worksheet.

3. Dial this value down to 1.

Changing Tab Color

In Excel 2002 or newer, you can change the tab color of an individual worksheet.

1. Right-click the tab and choose tab color.

Ironically, the tab color shows up really well on the non-active worksheets, but once you select a worksheet with a tab color, the color is relegated to a tiny band at the bottom of the sheet tab.

Figure 7   Color of selected tab shows as a band at the bottom

Keeping Headings Visible

1. To always see the headings in row 1, place the cell pointer in A2 and choose Window – Freeze Panes. Everything visible above and to the left of the active cell is frozen.

2. To freeze column A on the left side of your spreadsheet, place the cell pointer in B2 before using Window – Freeze Panes.
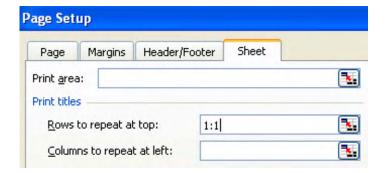
Printing Headings

Note that the previous technique will not cause the headings to print at the top of each printed page.

1. To print headings, use File – Page Setup. On the Sheet tab, enter 1:1 in the "Rows to repeat at top" textbox.

Figure 8

Selecting rows to print at the top of each page

Printing Only a Certain Range

Say that you want to print the pivot table in V1:Z23, but not the data in A1:T9801.

1. Select the range to be printed.

2. From the menu, select File – Print Area – Set Print Area.

Note:

It is important to select the print range *before* invoking the menu command.

Printing Headers and Footers
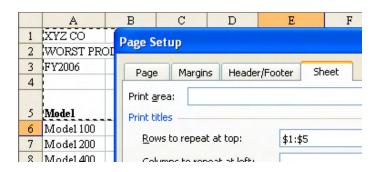
Headers and Footers come in two varieties. You may already have titles and headings at the top of your worksheet.

1. In this case, use the fourth tab of the Page Setup dialog.
    Indicate that rows 1:5 should repeat at the top of the report.
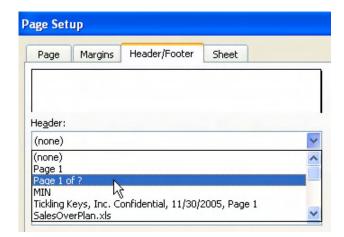
Figure 9

Selecting rows to print at top of report

The other flavor of headers includes page numbers and other information that would print outside the margins of your worksheet. These types of headers and footers are entered on the Header/Footer tab of the Page Setup dialog.

2. Use the dropdowns to select a standard text or use the Custom button to enter your own text.
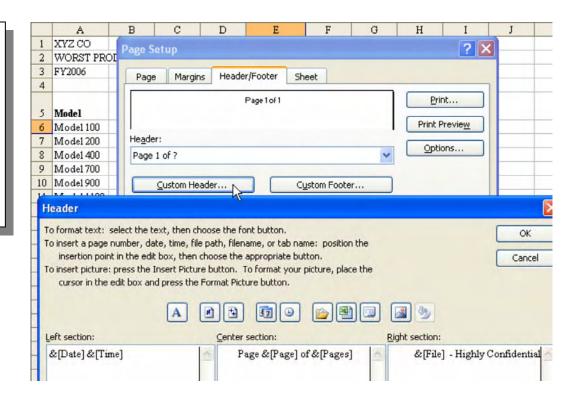
Figure 10

Expand menus to show all choices

3. In the Custom Header or Footer area, you can enter any text plus a variety of standard fields to generate date, time, page number, file name, and so forth.

Figure 11

Pressing the Custom Header button lets you enter desired header text

Begin

Copying a Worksheet

READ THIS!

You may think you know how to copy a worksheet – but I'll bet that you don't. I guarantee this one will save you anywhere from five to 30 minutes, depending on the size of your worksheet (and how compulsive you are about your settings).

Here's the Situation

A worksheet contains more than data and formulas. There is page setup date; there are column widths, etc. When you copy cells from one worksheet to a new worksheet, you will copy the cell contents, but not the meta data (configuration information) about the sheet. There are several variations on the Move or Copy Sheet command.

Here's What to Do

1. If you need to make a copy of a worksheet and place it in the same workbook, simply hold down the Ctrl key while you drag the sheet to a new location.

Figure 12   Plus sign above cursor indicates that you are copying the worksheet

2. The new worksheet is given a strange name such as Jan(2), Jan(3), etc. Double-click the sheet tab to rename the sheet.

Begin
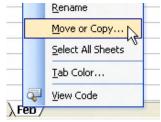
Figure 13   Changing the default name of a copied worksheet

3. To access the full range of options for the Move or Copy command, right-click the worksheet tab and choose "Move or Copy".

Figure 14

Selecting "Move or Copy" from right-click menu

In the default settings for the Move or Copy dialog, Excel will move the worksheet to a new location in the current workbook. This is somewhat silly, since you can easily move a worksheet by simply dragging the tab to a new location.

 Tip:

Click and drag a worksheet tab to move the worksheet to a new area in the same workbook.

Figure 15

Using Move or Copy dialog box to move a worksheet to a new location in the same or in another workbook and to make a copy of the worksheet
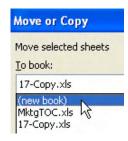
4. Choose the box for "Create a copy" in order to have Excel make an exact copy of the worksheet.

5. Finally, use the dropdown at the top. If you want to make a copy of a worksheet in a new workbook or copy it to another open workbook, you can choose this in the "To book" dropdown.

Figure 16

Moving a worksheet to a new workbook

Excel Details

Using this command offers many advantages over copy and pasting cells. Excel will copy:

- Column widths and row heights
- Cell formatting
- Print Setup information such as headers and footers
- View Manager and Scenario Manager settings

Showing Numbers in Thousands

Here's the Situation

If you are analyzing sales for a $100 Million company, it does not make sense to show sales to the penny or dollar.

Figure 17

Sales data for large amounts should not show cents

	A	B
1	Customer	Total
2	Wal-Mart	869454.17
3	Verizon	390978.85
4	Texaco	34364.91
5	Sun Life Financial	498937.48
6	State Farm	59881.62
7	Shell Canada	71651.70

How can you display results in thousands or millions?

Here's What to Do

There are custom number formats to display results in thousands, but they are not found on the Formatting toolbar.

1. Select the range of cells containing the numeric data. Press Ctrl+1 (that is, Ctrl plus the number 1) to display the Format Cells dialog.
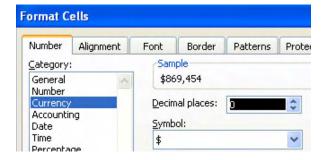
Tip:

When you want to set up a custom format, it is best to choose a standard numeric format to get close. Use either the numeric or currency category and change the decimal places to zero.

Begin

Figure 18

Changing number of decimal places to zero

2. Choose Custom from the bottom of the Category list.
   Notice that you are starting with a custom number format of "$#,##0". This is the format that Excel built for you to display currency with zero decimal places.

Figure 19
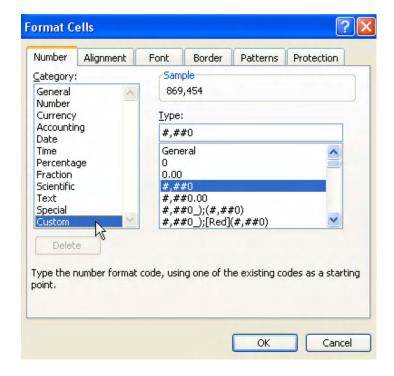
Selecting a custom number format from the Type dropdown

3. Add a comma at the end of the custom number format.
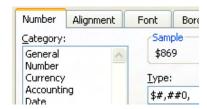
Tip:

If you place a comma at the end of this custom number format, Excel will keep the original number, but divide it by one thousand when it displays it in the cell. In the Sample box below, you will see that $869,454 is now displayed as $869.

Figure 20

Changing the custom format to divide the original number by one thousand

Gotcha

To make it clear that the numbers are in thousands, you could note this in the title of your report. Or, you can add an abbreviation to the custom number format. If your company uses "K" as the abbreviation for one thousand, then a custom number format of $#,##0,K is valid. However, to use "M" for the thousands abbreviation, you will have to put the M in quotes: $#,##0,"M"

Figure 21

Using "M" for the thousands abbreviation

Excel Details

Every comma at the end of the custom number format will cause the displayed number to be divided by another thousand. Thus, to display numbers in millions, put two commas at the end of the format. To display numbers rounded to the nearest hundred thousand, it is valid to combine a decimal place followed by two commas. The following table shows the effect of various custom formats on the same number.

Table 2

Using custom formats to change the way a number displays

Custom Format	Result
0.00	1234567.89
0	1234568
#,##0	1,234,568
#,##0,K	1,235K
#,##0.0,,"M"	1.2M
$#,##0,,"M"	$1M
$#,##0.0,,"M"	$1.2M

M for thousands, MM for millions

#,##0,"M"	1,235M
$#,##0,,"MM"	$1MM

Time-saving Tricks

Quickly Seeing Sum or Average

Here's the Situation

Time

Your boss calls you on the phone and starts asking you questions. He asks questions like "How much did Shell Canada buy last year?", "What was the largest order from Nortel?", and "What was the average order from Kroger?". (I always start to sweat at this point.) You think to yourself, "Does he really think that I should know how much Shell Canada bought last year off the top of my head?!".

Here's What to Do

You can answer these questions quickly without creating any formulas in Excel. In fact, if you can click the mouse quietly, your boss might actually believe that you *do* know this stuff off the top of your head!

1. Select a single cell in the Customer column and click the AZ button in the Standard toolbar to sort the data by Customer.

 Caution!

Be sure to select just a single cell. Selecting more than one will sort just the selected cells, which can really mess up your data. If this happens, press the Undo button or Ctrl+Z *before* you do anything else!

2. Scroll until you find the section of records for Shell Canada.
    Highlight the cells that contain revenue for those records.

Figure 22

Selecting the range of cells you want to sum

Time

	D	E	F
1	Customer	Quantity	Revenue
407	Sears	600	12612
408	Sears Canada	800	16784
409	Sears Canada	300	5532
410	Sears Canada	800	18264
411	Sears Canada	800	16936
412	Shell Canada	1000	20950
413	Shell Canada	500	9635
414	Shell Canada	800	16936
415	Shell Canada	1000	24130
416	State Farm	200	4754

 Note:

Some installations of Excel have the Status Bar turned off. You might have to use View – Status Bar to turn the Status Bar back on.

3. Now – look in the Status Bar at the bottom of the screen.
   The Status Bar generally says "Ready" on the left side. In the right half of the status bar, you will see the words "Sum=71651". This represents the sum of the selected cells. So – the answer to the boss' first question is that Shell Canada purchased $71,651 from the company last year.

Figure 23

Sum of the selected block of cells

Sum=71651   NUM
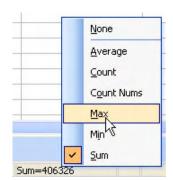
4. Scroll up and highlight the revenue for Nortel.
   In this case, there are 28 cells in the selection. The status bar reveals that Nortel purchased $406K last year, but your boss wants to know the largest order from Nortel.

5. Right click on the Sum field and choose Max.

Figure 24

Selecting Max from the Sum field's right-click menu (Take note of the other options available in the right-click menu)

None
Average
Count
Count Nums
Max
Min
✓ Sum

Sum=406326

The status bar reveals that the largest order from Nortel was $25,350.
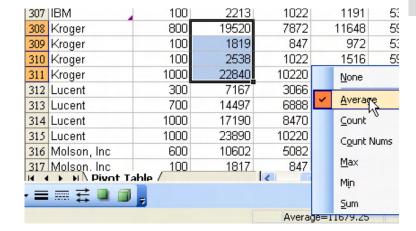
Figure 25   Finding the maximum value in a range of cells

6. Next the boss wants to know the average order from Kroger. Highlight the cells for Kroger revenue. Right-click the status bar figure and choose Average.

Time

Figure 26

Finding the average value in a range of cells

Gotcha

If one of the cells in your selection contains an error such as #VALUE! or #N/A, the QuickSum feature will turn off.

Excel Details

The operation of the QuickSum functions for Count and CountNums are different than the functions in Excel. Usually, the COUNT function counts only numeric cells. In the QuickSum, Count will count all non-blank cells. This is equivalent to using =COUNTA() in the spreadsheet.

Adding Subtotals

Here's the Situation

You have sales data for three dozen of your best customers. You would like to see totals by customer. You might be tempted to insert blank rows between each customer and use the AutoSum button to add totals. This might work for a few customers, but it will take too long for a large number of customers.

Figure 27

Chart of sales data for top three dozen customers

Here's What to Do

Instead, use automatic subtotals.

1. Select a single cell in the customer column. Press AZ in the Standard toolbar to ensure that your data is sorted by Customer. From the Data menu, select Subtotals.

 Note:

The Subtotals command is excellent, but it has some quirky defaults. Excel always assumes that you want to subtotal by the left-most column in your dataset. It also assumes that you want to apply the subtotals to the right-most column in your dataset. If that column contains text, then the Subtotals dialog will change the Function selection from Sum to Count.

Figure 28

Subtotal dropdown options let you change the field, function, and target location for subtotals

In the current case, you want to subtotal each Customer.

2. Change the top dropdown from Region to Customer.
    In this case, the function of Sum is correct.
    In the Subtotal list, keep Profit checked, and check COGS and Revenue.

Time

Tips:
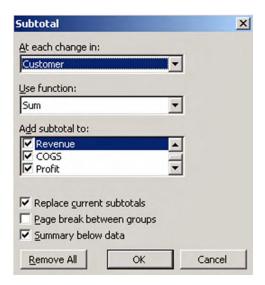
If you have more than three columns to subtotal, you would need to scroll up to select other fields.

If you need each customer to print on a separate page, select the "Page break between groups" option.

Figure 29

Changing Subtotal dialog choices

3. When you click OK, Excel will automatically insert a new row between each customer. The Subtotals command will insert a special function called Subtotal. The Subtotal function will sum rows in the range, but it is smart enough to ignore other subtotals in the range.

Figure 30

Subtotal buttons let you determine the subtotal level to display

	Date	Customer	Quantity	Revenue	COGS
10	16-Sep-04	Ainsworth	100	1741	847
11	4-Nov-04	Ainsworth	400	8468	3388
12	9-Dec-04	Ainsworth	600	12888	5904
13		**Ainsworth Total**		110367	48643
14	31-Mar-04	Air Canada	300	5859	2541
15	19-Apr-04	Air Canada	200	4948	2044

F13 =SUBTOTAL(9,F2:F12)

Notice that Excel has added three small buttons (1, 2, and 3) to the left of the row numbers. If you press the 2 button, Excel will show you only the subtotal rows.

Tips:

Pressing button 2 is a great way to print a summary report.

Pressing button 1 shows you only the grand totals.

Pressing button 3 shows all of the rows.

Time
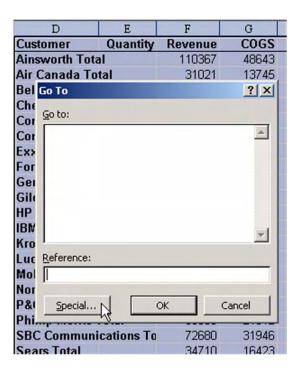
Figure 31

Pressing button 2 displays
only the subtotals

D	E	F	G	H
Customer	Quantity	Revenue	COGS	Profit
Ainsworth Total		110367	48643	61724
Air Canada Total		31021	13745	17276
Bell Canada Total		51240	22824	28416
Chevron Total		54048	23780	30268
Compaq Total		39250	18614	20636
Compton Petroleum Tota		31369	13730	17639
Exxon Total		704359	311381	392978
Ford Total		622794	274978	347816
General Motors Total		750163	334614	415549

Since the report is showing only the subtotals, it would be cool if you could copy just those subtotals to a new workbook. However, if you select the cells, copy and paste, you will see that all of the hidden detail rows were copied as well. Instead, use this method.

1.   Select the cells from the Grand Total to the header row.

2.   From the menu, select Edit – GoTo. On the GoTo dialog, choose the Special button.
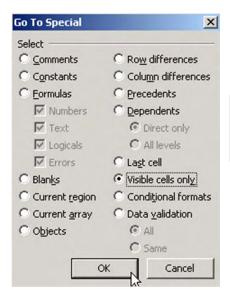
Figure 32

Selecting the Special button on the
GoTo dialog

3. On the GoTo Special dialog, choose Visible Cells Only and press OK.

Figure 33

Selecting the "Visible cells only" option lets you copy and paste only the data you have displayed; hidden rows are not copied

The result will be that Excel selects just the visible rows. There are thin white bands in the data to indicate that the hidden rows are not selected.

Figure 34

Hidden rows are indicated by thin white bands

D	E	F
Customer	Quantity	Revenue
Ainsworth Total		110367
Air Canada Total		31021
Bell Canada Total		51240

You can now copy and paste to a new worksheet to get just the subtotal rows.

Excel Details

Removing Subtotals
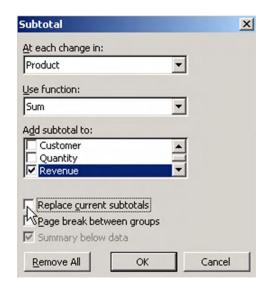
1. To remove subtotals, choose Data – Subtotals again and select the Remove All button.

Adding a Second Level of Subtotals

1. You can add a second level of subtotals. Sort the data by Product within Region.

2. Add subtotals to the Region field; then, select Data – Subtotals again.

3. This time, select Product and uncheck the option for "Replace Current Subtotals".

Figure 35

Adding a second level of subtotals allows you to see a summary based on two fields
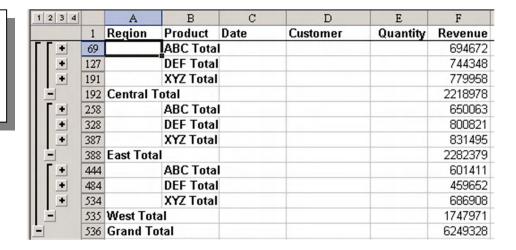
Time

The result will be a report with four Group & Outline buttons. Pressing button 3 will provide a summary by Region and Product.

Figure 36

Pressing button 3 provides a summary by Region and Product

1 2 3 4		A	B	C	D	E	F
	1	**Region**	**Product**	**Date**	**Customer**	**Quantity**	**Revenue**
+	69		ABC Total				694672
+	127		DEF Total				744348
+	191		XYZ Total				779958
−	192	**Central Total**					2218978
+	258		ABC Total				650063
+	328		DEF Total				800821
+	387		XYZ Total				831495
−	388	**East Total**					2282379
+	444		ABC Total				601411
+	484		DEF Total				459652
+	534		XYZ Total				686908
−	535	**West Total**					1747971
−	536	**Grand Total**					6249328

Quickly Filling a Series

Here's the Situation

If you have to fill a range with date data, there is often a way to do this quickly using the *Fill Handle*. When you select a cell or a range of cells, the fill handle is the square dot in the lower right corner of the selection.

Time

Here's What to Do

1. Enter today's date in cell A1. Move the cell pointer back to A1.

Tip:

Use Ctrl+; to enter today's date.

Figure 37

Drag a fill handle to fill a range with data

	A
1	12/2/2005
2	
3	

2. Grab the fill handle and drag down the column. As you drag, a tooltip will show you the date of the last cell in the range.

In the image below, the series would extend through December 12.

Figure 38

Tooltip shows the projected date of the selected range

	A	B
1	12/2/2005	
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12	+	
13		12/12/2005

3. Release the mouse button.

Excel will extend the series, adding dates.

Figure 39

Excel fills in the range when the fill
handle is released

	A
1	12/2/2005
2	12/3/2005
3	12/4/2005
4	12/5/2005
5	12/6/2005
6	12/7/2005
7	12/8/2005
8	12/9/2005
9	12/10/2005
10	12/11/2005
11	12/12/2005

Time

This trick works with many types of data.

4. Enter Jan in B1. Drag the fill handle and Excel will fill in the months.

Figure 40

Using the fill handle to fill a range with month abbreviations

Jan
Feb
Mar
Apr
May
Jun
Jul

5. Enter Wednesday in C1 and drag the fill handle.

Figure 41

Using the fill handle to fill a range with dates

Wednesday
Thursday
Friday
Saturday
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
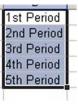
6. Enter 1st Period in D1 and drag.

Figure 42

Using the fill handle to fill a range with numbered periods

1st Period
2nd Period
3rd Period
4th Period
5th Period
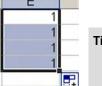
7. Enter 1 in E1 and drag.

Wait! What's going on? Excel was able to extend all of the series for dates, months, days, periods, quarters, etc., but Excel can't figure out that this series should be 1, 2, 3?

Figure 43

Excel fails to fill in a range with consecutive numbers

Time

8. To extend this series, you will have to enter a "1" in E1 and a "2" in E2. Select both of those cells before you drag the fill handle.

Figure 44 Excel requires enough entries to define a unique series

This process even allows you to fill a range with odd cells.

9. Enter a "1" in the first cell and a "3" in the second cell. Now drag the fill handle.

Figure 45

Filling a range with consecutive odd numbers

If you set up a custom list to control sort order (as described in Custom Sorts on page 90), you can type the first value and drag to extend that list.

10. My favorite trick is filling only weekdays. Enter a date in H1.

11. Use Ctrl+1 to format cells and select a format that shows the day of the week. With the cell pointer in H1, right-click the fill handle and drag.

12. The tooltip will make you believe that this is a normal fill, but when you release the right mouse button, a menu will pop up. You can select "Fill Weekdays" from the menu.

Time

Figure 46

Selection "Fill Weekdays" from the fill handle's right-click drop down menu

Excel will fill the range with weekdays, skipping Saturdays and Sundays.

Figure 47

Filling range with weekdays

Formulas 101

Entering Formulas

Here's the Situation

You need to set up a formula to forecast sales based on an assumed growth rate.

Here's What to Do

Look at the worksheet shown in the figure below. The sales amount in thousands for the Model 110 is in B3. The projected growth percentage for the coming year is in B5. The formula in B7 (=B3*B5) multiples the value in B3 by the value in B5.

Note:

A formula on an Excel spreadsheet will automatically recalculate after each change of the worksheet.

Figure 48

Worksheet showing a simple multiplication formula to determine sales forecast

When you type a new growth rate in cell B5 and press Enter to accept the entry, Excel automatically re-calculates cell B7 to give you the revised sales forecast.

Figure 49

Excel recalculates the sales forecast when the projected growth changes

Excel Details

There are three ways to enter formulas.

- If you are a touch typist, you can type =B3*B5 in cell B7.

- If you prefer to use the mouse, you can type an equals sign, then use the mouse to select B3, then type an asterisk, and then use the mouse to select B5.

- The fastest way to enter the formula is to use the arrow keys. This is the favorite method of people who have been using spreadsheets since the days of Lotus 1-2-3.

  1. Type a Plus sign.

  2. Hit the Up-arrow key four times to move to cell B3.

  3. Type the Asterisk.

  4. Hit the Up-arrow key two times to move to cell B5.

  5. Type Enter.

Formulas

Calculation Operators

These are the calculation operators:

- Plus sign: +   for addition

- Minus sign: –   for subtraction

- Asterisk: *   for multiplication

- Forward slash: /   for division or fractions

- Carat: ^   for exponents or roots

- Ampersand: &   to join text

- Parentheses: ()   to control order of operations

Here are examples of how each is used.

Table 3

This table shows the calculation operators and how they are used in formulas

Function	Formula
Add two cells Use the plus sign	=A1+A2
Subtract Use the minus sign	=A2–A1
Multiply Use the asterisk	=A1*A2
Divide Use the forward slash	=A2/A1
Raise to a power Use the carat	=A1^3
Calculate a root Use the carat, but raise the cell to a fraction enclosed in parentheses. This equation shows the fourth root of 256	=256^(1/4)
Join text Use the ampersand	=A1&A2

Formulas

Order of Operations

Excel's calculation engine follows a certain order of precedence.

➢ First, Excel considers any unary minus.

➢ Next, Excel calculates exponents and roots

➢ Then, Excel calculates multiplication and division in a left-to-right fashion.

➢ Finally, Excel evaluates addition and subtraction in a left to right sequence.

Consider the formula =A2+B2*C2^D2. Excel will first calculate C2^D2. Then it will multiply B2 times that result. Finally, it will add A2 to the result.

You can override the default order of calculation by adding parentheses: =(A2+B2)*C2^D2.

Function Junction

While the basic operators will take you a long way, there are times where you want a more complex calculation. Excel offers 455 powerful functions. A few common functions such as SUM or AVERAGE are available on the Standard toolbar. It is easy to discover the other functions.

If you are adding numbers in a contiguous range, using =SUM(A2:A5) is faster and easier than using =A2+A3+A4+A5. This becomes very true when you have more numbers. Clearly, calculating =SUM(A2:A999) is easier than =A2+A3+A4+…+A999.

Formulas

Figure 50 The formula in the figure below won't even calculate in Excel – so please don't attempt to enter such a monstrosity. Instead, use the SUM function as described below.

Entering Functions from the Toolbar
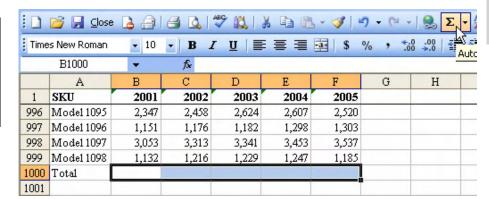
There is a Greek letter, *Sigma*, on the Standard toolbar. This icon is the AutoSum button. It can be used to enter functions that find the Sum, Average, Count, Minimum, or Maximum with just a few mouse clicks.

In the figure below, you have sales data for 999 models for five years. You want totals in row 1000 for each year.

1. Select cells B1000:F1000. Touch the AutoSum button. Excel will add totals in all five cells.

Figure 51

Selecting cells in row to hold total sales data for each year

The result is shown here.

Figure 52

Excel displays the totals sales for each year when the AutoSum button is pressed

Inspect the formula to make sure that it covers the correct range. You have to be careful to ensure that the year headings in row 1 are actually text. (Enter them as apostrophe+2001 ('2001) instead of just 2001.) The AutoSum can be fooled into including numeric headings in the result, or prematurely stopping if it encounters another SUM formula in your data.

If you have only a single column to sum, the AutoSum button will not automatically complete the formula. It will suggest a formula of =SUM(B2:B999) and wait for you to type Enter to complete the formula.

Figure 53

Typing Enter accepts the formula

Formulas Next to the AutoSum button is a dropdown arrow. You can use this arrow to calculate an Average, Min, Max, or Count. Select range B1000:F1000, touch the dropdown arrow and then select Average to enter a formula to find the average sales per model.

Figure 54

Selecting the Average function from the AutoSum dropdown

Figure 55

Excel calculates the average for each column
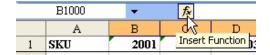
Discovering New Functions

Say that you want to calculate the mean or median of each column. You can either use the More Functions choice on the AutoSum dropdown or simply click the Insert Function button next to the formula bar.

Figure 56

Using the Insert Function button to find new functions
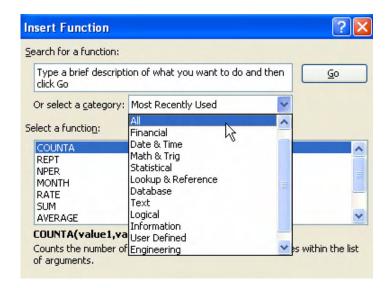
Historically, if you wanted a function in Excel, you have had to search through eleven categories of functions:

- ➢ Financial
- ➢ Date
- ➢ Math
- ➢ Statistical
- ➢ Lookup
- ➢ Database
- ➢ Text
- ➢ Logical
- ➢ Information
- ➢ Engineering
- ➢ User Defined

This always leads to a bit of confusion and frustration, as many of these categories are fairly close. For example, SUM is a Math function, but AVERAGE is found in the Statistical category.
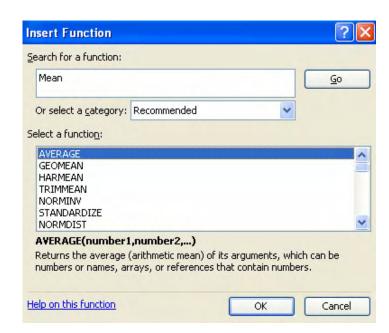
Figure 57

Selecting function category from the Insert Function dialog

Instead of searching through the various categories, just type a few words in the Search box and choose Go. In the following case, Excel suggests the AVERAGE function to calculate an arithmetic mean, but also notes that it has function to calculate a geometric mean, harmonic mean, a mean of the interior portion, and a host of other functions that use the MEAN as an argument.

Figure 58

Excel not only suggests the most likely function, but also possible alternatives

Formulas

Search for Median, and Excel suggests the MEDIAN function, as well as the related QUARTILE and MODE functions.

Note:

About one-third of the functions are only available if you've enabled the Analysis Toolpack. If you are going to be using more than the basic SUM and AVERAGE functions, take the time to choose Tools – Add-Ins and the ensure that Analysis Toolpack is checked.

Sometimes you might know the function name, but are unsure of the arguments required. A new feature in Excel 2002 provides a tooltip showing the arguments after you type the function name and the opening parentheses.
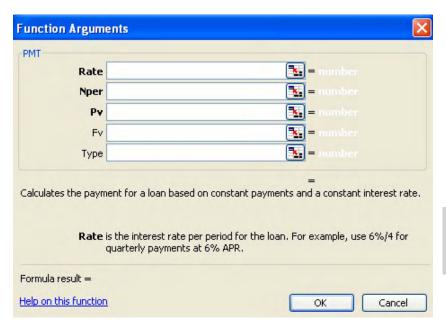
Figure 59

Tooltips provide the correct syntax for entering formulas

However, if you type Ctrl+A immediately after typing the opening parentheses, Excel will display the very useful Function Arguments dialog box. This box offers help for each function. For example, in the following dialog, Excel suggests using 6%/4 as the rate if you have quarterly payments at 6% APR.

Figure 60

Type Ctr+A after typing the opening parentheses for help in entering function arguments
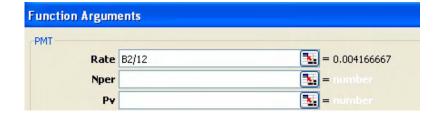
Formulas

Since the worksheet is set up to show monthly payments, you can enter B2/12. Excel will calculate the current value of B2/12 next to the argument box.

Figure 61
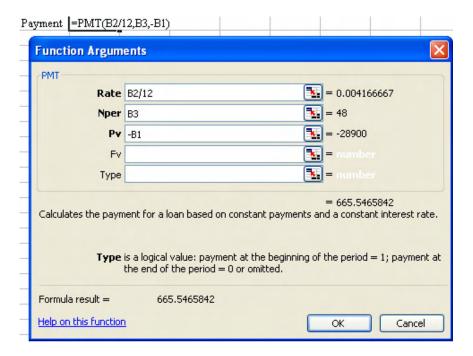
Calculating the Rate in the Function Arguments dialog

Any arguments in bold are required. Optional arguments are shown in normal text.

By the time that you complete the required arguments, Excel will tell you that the result will be $665 per month and will have built the formula in the original cell.

Formulas
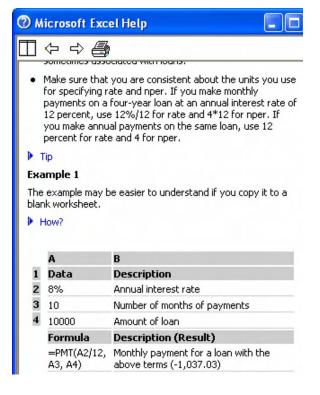
Figure 62

Instantaneous results as you key in arguments in the PMT formula

If the help provided in the argument-by-argument help is not sufficient, press the Help on this Function link to bring up the full Help topic. The help topics on functions are usually very helpful, offering examples and tips.

Figure 63

Finding additional help when entering formulas

Using the Fill Handle to Copy a Formula

When using the AutoSum button, you could pre-select a range of cells such as B5:G5 in order to have the formula entered in all cells. However, once you choose More Functions from the AutoSum dropdown, Excel will only enter the formula in the first cell.

Follow these steps to use the Fill Handle to copy the formula.

1. Select the cell containing the formula.

Note that there is a box surrounding the formula. In the lower right corner of the box is a square dot. This is called the fill handle. When you hover your mousepointer over the fill handle, the pointer changes to a plus sign.

2. Click the fill handle and drag right to copy the formula to additional cells.

Figure 64

The plus sign shows that you are ready to drag the fill handle

	A	B	C	D	E	F	G
1	Price	28900	28900	28900	15000	15000	15000
2	Rate	5%	5.25%	5.5%	5%	5.25%	5.5%
3	Term	48	60	66	48	60	66
4							
5	Payment	$665.55					
6							

Excel will copy the formula as far as you drag the fill handle.

Figure 65

Formula results display as you drag the fill handle

	A	B	C	D	E	F	G
1	Price	28900	28900	28900	15000	15000	15000
2	Rate	5%	5.25%	5.5%	5%	5.25%	5.5%
3	Term	48	60	66	48	60	66
4							
5	Payment	$665.55	$548.69	$508.44	$345.44	$284.79	$263.89

Tip:

If you need to copy a formula down a column and there are values in the adjacent column, try double-clicking the fill handle. Excel will look in the column to the left, determine how many rows are filled in, and automatically copy the formula down until the adjacent column has a blank cell.

Seeing All Formulas

Here's the Situation

Someone sent you a really confusing worksheet. How can you see which cells in this worksheet contain formulas?

Formulas

	Figure 66
	Example of a worksheet where you need to see the formulas to understand what's going on

	A	B	C	D	E	F	G
1		Section 1: Historical Trends (Per Month)					
2							
3		Store Type	Size	Rent	Sales	Profit	Labor
4		Regular	1200	2400	12456	6228	6480
5		BigBox	2600	5200	34500	17250	8640
6							
7		Section 2: Number of Stores					
8							
9		Regular	81				
10		BigBox	184				
11							
12		Section 3: Analysis of Profitability of Current Store Mix					
13			Sales	Net Profit	NP%		
14		Total Chain	88283232	4951536	5.6%		
15		Regular	12107232	-2577744	-21.3%		
16		Big Box	76176000	7529280	9.9%		

Here's What to Do

Excel has a mode that shows the formulas.

1. Hold down the Ctrl key and press the Tilde (~) key.

The tilde (~) is the squiggly line above the N in some Spanish words such as Piñata. Hitting Ctrl+~ will put the worksheet in *Show Formulas Mode*. Each column will become slightly wider and Excel will display the formula instead of the value calculated by the formula.

	Figure 67
	Displaying all formulas

			Sales	Net Profit	NP%
12	Sect				
13			Sales	Net Profit	NP%
14		Total Chain	=+C15+C16	=+D15+D16	=+D14/C14
15		Regular	=(C9*E4)*12	=(C9*H4)*12	=+D15/C15
16		Big Box	=(C10*E5)*12	=(C10*H5)*12	=+D16/C16
17					
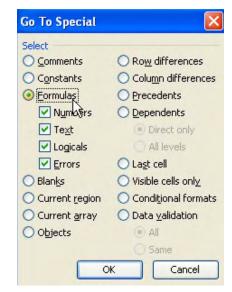
2. Use Ctrl+~ to toggle back to normal mode.

Excel Details

Another option is to use GoTo Special dialog to select all cells with formulas. Follow these steps.

1. First, select all cells with Ctrl+A

2. Next, hit the F5 key to display the GoTo dialog. In the lower left corner of the GoTo dialog, press the Special button.

3. In the GoTo Special dialog, choose the option button for Formulas.

Figure 68

Selecting formulas in the GoTo dialog to find formulas

Formulas

4. Choose OK to close the GoTo Special dialog. You can now use the Fill Color icon in the Formatting toolbar to highlight all of the formula cells in yellow.

Figure 69

Highlighting all formula cells

The result – all of the formula cells are colored in yellow so that you can begin to research how the spreadsheet works.

Using a Fixed Value in Your Formula

Doesn't it just figure that Excel's most amazing built-in function can also cause quite a bit of frustration and error? I'm talking *Relative* and *Absolute References*. In English, this would be Excel's secret shorthand code to make sure that a copied formula always points to a particular cell or range.

Here's the Situation

Formulas

The worksheet below shows a variety of actual sales figures for several models.

Figure 70

Worksheet showing sales figures

	A	B	C	D
1	Forecasted Sales			
2				
3	**Model**	**2005**	**2006**	**2007**
4	Model 110	1,774K		
5	Model 120	1,176K		
6	Model 130	1,036K		
7	Model 140	987K		
8	Model 150	916K		
9	Model 160	1,406K		
10	Model 170	1,834K		
11	Model 180	1,932K		

To calculate forecasted sales, enter the formula =B4*1.05 in cell C4 and copy it to all of the other cells.

Figure 71

Calculating forecasted sales by copying the same formula to a range of cells using a relative reference and a fixed multiplicand

D5			fx	=C5*1.05		
	A	B	C	D	E	F	G
1	Forecasted Sales						
2							
3	**Model**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**
4	Model 110	1,774K	1,863K	1,956K	2,054K	2,156K	2,264K
5	Model 120	1,176K	1,235K	1,296K	1,361K	1,429K	1,501K
6	Model 130	1,036K	1,088K	1,142K	1,199K	1,259K	1,322K
7	Model 140	987K	1,036K	1,088K	1,142K	1,199K	1,259K
8	Model 150	916K	961K	1,009K	1,060K	1,113K	1,169K

You probably take it for granted, but it is slightly amazing that Excel converts the reference to "B4" in cell C4 to be "C5" when this formula is copied to cell D5.

Now, instead of entering 1.05 in the formula, enter 1.05 in cell D1 (D1 is formatted to display as a percentage) and have the formula in cell C4 point to =D1*1.05. This formula calculates the same result.

Figure 72

Calculating forecasted sales in a single cell using a formula with two relative references

However, when you copy this formula to the other cells, something goes wrong. All of the forecasts are zero.

Figure 73

Copying preceding formula to a range of cells produces unexpected results

When you copy the formula from C4 to D5, the reference pointing to B4 accurately changes to point to cell C5. This is what you want to happen. However, the reference that pointed to D1 also changed. It is now pointing to E2. Since cell E2 does not contain a growth rate, the result is zero.

How can you write a formula that will always multiply by D1?

Here's What to Do

References such as D1 and B4 are called relative references. As you copy a formula containing relative references, the cell being referenced in the formula moves.

Sometimes, you want a cell reference to always point to a certain cell. In this case, you always want to use the growth rate in cell D1. To do this, change the reference style to an absolute reference by placing a dollar sign before the column letter and row number.

In this case, you need to change the formula in C4 to =B4*$D$1.

Now as you copy the formula, the reference to B4 will be allowed to change but every cell will continue to point to the growth rate in D1. Enter a new growth rate in D1 to play what-if games.

Figure 74

Using relative references to see results of different forecasted sales percentages

Note that there are times where you want to freeze the row number but allow the column letter to move. In this case, a reference such as =C$1 will achieve this result. This is called a *Mixed Reference*.

Other times, you will want a formula to always refer to a value in column A, but it is OK to have the row number change. In this case, a reference such as =$A4 will work. This is also a mixed reference.

Excel Details

Formulas

To ease the entry of dollar signs in references, you can use the F4 key. When you are typing a formula, hit the F4 key immediately after typing a cell reference. The first time that you hit F4, the reference will change from =D1 to =$D$1. Hit F4 again to toggle to =D$1. Hit F4 again to toggle to =$D1. Hit F4 again to toggle back to a relative reference of =D1.

Table 4

Table showing cycle pattern of reference states

Pressing F4	Result	Reference Status
Initial state	=D1	Absolute
Press F4 once	=$D$1	Relative
Press F4 twice	=D$1	Mixed (fixed column)
Press F4 three times	=$D1	Mixed (fixed row)
Press F4 four times	=D1	Relative

Replacing a Thousand Formulas with One

Here's the Situation

You have data that has 5000 records with quantity and unit price. You would like to calculate the sum of quantity times the unit price for all rows.

Figure 75

Dataset with 5000 records in which you need to find the sum of the quantity times the price for all rows

Here's What to Do

Normally, you would enter =C2*D2 in E2, copy this formula down, and add a SUM formula.

Figure 76

Ordinary SUM formula

However, there is a secret kind of formula in Excel called an *Array Formula* or *CSE Formula*.

1. In cell D5001, enter =SUM(C2:C5000*D2:D5000). This looks like an invalid formula. However, after typing the formula, hold down Ctrl and Shift while you press Enter.

Figure 77

Usint Ctrl+Shift+Enter to enter an array formula, which is indicated by the curly braces

When you press Ctrl+Shift+Enter, Excel adds curly braces around the formula and actually does the 5000 multiplications before showing you the result.

Figure 78

Using an array formula to sum the quantity times the unit price for all 5000 rows

Array formulas can occasionally come in very handy. I find it hard to remember the keystroke combination of Ctrl+Shift+Enter, so I call these CSE formulas to help me remember that I need to hold down **C**trl+**S**hift+**E**nter.

Excel Details

A few of these formulas work fine. However, if you try to build a report with thousands of array formulas, each evaluating thousands of cells, the recalculation time can become incredibly long.

I'm the Marketing Manager – Now What?

No matter who you are, if you're in marketing you're ultimately faced with that "Now what?" moment. You know the moment I'm talking about. It's that point where the CEO comes to you and says "Tell me how we're going to increase sales by 50%!" for this product or that industry.

"No problem" you say and then you run into your office, close the door and say "Now what?!".

It's at that moment all that experience and education suddenly seem to fade into some distant background and you're faced with the marketing manager's equivalent of writer's block.

This is when you turn on the computer, open up Excel and get ready for the first stage of the marketing process: Research.

Manage

Excel Rocks in Research!

Excel was made for analyzing and compiling and making sense out of research data. Whether you're looking at survey results or sales analysis, Excel will help you find the patterns you've been looking for to create a marketing strategy that makes things happen.

Manage This – Research!

Secondary Research:

80% of what you need to know is right in front of you.

Research is the forgotten stepchild of the marketing process. It's like the older brother in the Prodigal Son story. It's the backbone of the process. It does the work; it's the critical success factor of any marketing program and keeps it running smoothly and on track. It's the soul of your marketing program. Without research, which provides data, information, and true, clear knowledge about where you really are and what you're really dealing with – you have NOTHING.

Why is research left behind? Well, I'm going to tell it like it is here. Research is the nerdy side of the process. It's not really glamorous. I mean, to really get to the soul of your customer and market, you have to do some digging. That digging often includes rummaging through reams of data, crunching numbers, and doing focus groups (Which isn't all that bad. I mean, you get to sit in a dark room, much on sandwiches, and enjoy a few beverages – all while entertaining a completely legal form of voyeurism. How bad is that?).

But often times this activity can be boring and sometimes frustrating as you try and piece together the essence of who and what your customer is, what they want, and what drives them.

We can use anecdotal information – that's what most people do. But it simply isn't good enough. It won't give you predictable results and it drastically increases the likelihood that you will screw up big time and instead of being the champ – be the chump. Not what marketing managers generally strive for.

Embrace Research

As the marketing manager, your job is to get into the mind of your customer and to pull out what matters most to them when they are buying what you sell. There is only one way to get to that information – and that's research.

Manage

Now when most of us were in school, they tried to sell us on the fact that research had to be fancy, like a focus group or like conjoint analysis where you're statistically measuring what your customers value using trade off analysis. These are all wonderful tools that are even more wonderful, useful, and affordable with today's technology. But there is one more thing that they are not – and that is NECESSARY.

Don't look at research as data collection. Look at research as soul discovery. Research tells you the story your customer either can't or won't tell. Research will get to the truth, because it measures actual behavior – not just what your customers say, but what they do. Research will help you understand not just what they do – but how and why they do it the way that they do.

Research is the untold and unacknowledged story that your customer wants to tell you but just doesn't know how. All you have to do is ask – and it will be revealed to you.

The clincher is knowing what to ask, how to ask it, and what to do with what they tell you.

Where to Begin Your Search for Meaning

There are two things you must know when you're going somewhere: where you are and where you want to get to.

Another thing you need to know is WHO you are. This is where I totally break marketing rules by putting the focus on YOU the company – instead of the customer and their needs. I mean, if you're going from New York to LA and you HATE flying, it's important to know that.

I like to say that ideal customers are like potato chips, there's always more – if you know where to look. After all, why kid ourselves? Our focus is self-serving. We're in this to make lots of money and the way we're going to do that is by becoming irresistible to our ideal customer. Now anyone who has had any experience in the love, dating, and attraction area (and been successful at it) can tell you that knowing yourself and being yourself is your key to success. Only someone who is comfortable and confident in those areas will pull together a healthy working relationship and one that will last a lifetime.

Like the start of every great journey – it's important to know and understand exactly where and who you are and what you're dealing with.

The answers to those questions lie in two places – in the minds of the "elders" and inside your mainframe.

Every company, no matter how old or how young, has its "elders". These are the people that have not just been around for ever, but they are the keepers of the company lore – they have the stories of "the good 'ol days." They have war stories of how the company got started; they may know or be the founders, and they can even tell you what it was like servicing those first customers.

Talk to these people and get a really good sense of what your company was and is about. Talk about management changes, why they came to be, what the company was looking for and so on. In this aspect of the research, your job is to get to the truth – even if it's not a politically correct truth. You need to know it and understand it if you're going to manage it.

Manage

See – research is not so bad if you mix up the qualitative fun stuff with the quantitative data that you need. In fact, it works better that way.

So now that you have a sense of who you are, who your company is, its lore and history, the customer war stories and such, you're ready to tackle some actual evidence of this.

Sales History Analysis

There is a wealth of data right inside your mainframe – your job is to get it out of there and make some sense out of it.

If there is one lesson I've learned over the years, it's that what we often thought were our best customers and our best products – often weren't. Maybe there was a time when they were, but at the time I ran the numbers – that was no longer the case.

How did that happen? Well, I attribute it to "entropy" – the principle that everything eventually moves to a lesser state, I like to call it the "junk drawer principle." You know how that works, you clean out the drawer, go on with your life and about a month later – it's a mess again.

Your sales are no different. Customers grow, get acquired, merge with other companies, move away, etc. So it stands to reason that your customer sales data will look different from one year to the next – or even more frequently, depending on your business.

So do at least an annual review of your sales history. Look for the story that it tells. Make some connections between the data and the trends that have been going on in your world.

Here is a quick to-do list:

1. **Compile a Sales History**

   Download sales history for your customers over the last five years. If you've got more – get that too. Start by doing some simple sorts. Here are some fields to include:

   ➢ Customer Name

   ➢ Parent (You might need that to see parents of divisions, etc.)

   ➢ State or Province

   ➢ Revenue Dollars

   ➢ Profit Dollars (This may be a calculated field.)

   ➢ Margin

   ➢ Industry Segment

   You will also want to pull down what products that customer buys and the sales and profit dollars associated with that product/service.

2. **Sort in Descending order of sales by year**

   ➢ Look for industry leaders
   The first thing I like to look at is who the industry leaders are in my market and then I want to see those customer names on my list. If some are on the list and others are not – I now know who to go after and what products to offer them.
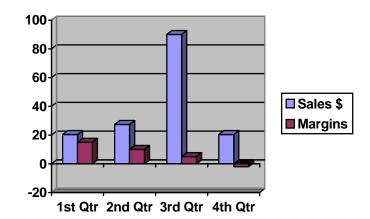
   ➢ Look at customer "rankings"
   Another cool thing to do is to see which customers were your biggest customers over time. How has that changed and why do you think that has changed. What industry trends have possibly impacted that movement and why.

3. **Sort by Product – Type or Group – include margins**

   ➢ Look for the most profitable products in your company
   Who's buying them – what are they doing with them?

   ➢ Look for the least profitable products in your company
   These may be ripe for "harvesting", or some kind of product line changes to increase margins. This is the where you can use some of these charts:

Manage

Figure 79

Chart comparing sales to margins reveals potential goldmine

Don't be surprised if you find something like this chart shows – customers who show high revenues with low margins. This is a common situation and also goldmine information. It's not unusual to have those whom we think are "ideal" customers actually cost us more than they're worth. Sometimes having a big industry leader name on your customer list is worth it – and sometimes it may not be. This kind of chart will help you know and understand what you're dealing with.

I was hired by a company to introduce and sell a check valve to the medical device industry. Now, this product had been around for a long time – but we were really going to push it this year – and sell about 300 million of them. So, the first thing I did was to take a look at the past sales for this part. "Hmm," I thought, "The most we'd ever sold of this part to date has been about a million units. I wonder how we're going to sell 300 times more in the next 18 months or so?" So I thought I'd talk to a couple of customers. You know, introduce myself and ask them what they were doing with this part and so on. Well, after about 30 phone calls I learned that this part had "migrated" into another, altogether different application – heart surgery pumps. Each pump used a couple of valves or so – but you can guess my apprehension after that little bit of "free" research. There was no way that there would be 150 million heart surgeries any time soon – so what to do about this valve? – but that's another story. The point is – BEFORE you run off advertising and purchasing equipment and registering for trade shows – talk to your customers and get a really clear idea of what they do with your product or service and how they use it.

Primary Research

Your Customers are Trying to Tell You Something

I have a confession to make. I'm about to tell you something you'll find either interesting, offensive, or absurd. All you have to do is read to the end of the article and test out my theory to see if it works for you.

While doing some customer research for a client, I made an amazing discovery. Customers are constantly giving us opportunity-rich, competitor-busting, I-will-be-loyal-to-you-forever information. Now this wasn't the first time I noticed this. I've been noticing it for nearly 20 years now. But it was the first time I discovered that neither my clients nor my past employers recognized this information for the market opportunity that it was. In fact, many of them paid for the research, took the recommendation and said "Thank you, this is great." Then they continued doing what they were doing, the way they were doing it. When customers left them for a competitor – they were shocked. I was never shocked or surprised – after all, they told us what they wanted and we ignored them. What would you do?

When all else fails, customers start voting with their feet. When they say that your price is too high – this should tell you that they no longer see the same value in what you have to offer – ask "What's missing?". When they say a competitor is a better fit – this should tell you that your competitor has built a better case for being the choice for your customer than you have.

Take heart. Here are a few market research tricks you can use to turn those oh-oh's into profitable opportunities.

Hire a third-party to interview your customers.
Doing it yourself is like cutting your own hair. You can do it. But you'll look ridiculous. What may have been good enough in the past – is no longer going to cut it. If you're ISO certified, the updated standards actually require you to create and measure customer oriented sales and marketing processes. Doing a customer survey is a great place to start. Here are a few hints as to what to look for to get the best bang for your buck:

➢ Be sure you're asking what's important to your customers when they're buying what you sell.

➢ Get competitive information that compares how they perform relative to you and against your customers' criteria.

➢ Ask at least three open ended questions – get the customers' responses word-for word.
A great hint is to literally jot down if they smile, hesitate, or are sarcastic – it's amazing how much critical emotion is conveyed during an interview.

➢ Don't take the lazy way out – do these by phone interview.
On-line surveys have their place – this is not one of them. Telephone surveys allow you to ask follow-up questions and you can actually hear how your customer is reacting. These details are crucial in gathering data.

Go and observe
Once you've gathered the customer feedback, go and visit these people! This is a sales and marketing opportunity. It gives you the opportunity to digest the survey results and ask follow-up questions. It also gives you the opportunity to actually watch your customer interact with your product or service – or maybe even your competitors. Lord forbid you should actually sell something or start a new project with them – just by being there!

Digest what you've seen and heard.
You just paid good money to have a professional research your customers. These people have been doing this for a long time. Chances are they are very savvy marketing people (if they're not – get a new firm.) Listen to their analysis of the information. Question them; test their feedback with your customers. If you find that what they've told you is accurate, you need to take a moment and stop.

STOP!

This is the moment that your customers are speaking to you. When the voice inside your head says – "No, these are the projects we're doing." Or "We're selling these widgets at this price and that's that – now go find me customers…"
This is the moment where you need to really ask yourself – is this what my customers said they wanted? Is this what it looks like?

Manage

Test your idea.
Select a group of key customers and schedule a meeting with them. It's critical that you say this: "Based on your feedback, we've developed _____. How well does this match what you told us?" Then just stop and listen. If it's a match – then you've heard properly and acted accordingly. If they just look at you like "Why are you here wasting my time with this", then you've been caught pushing your agenda on your customer. The follow-up question then is "What would this look like if it matched what you wanted?"

If there's anything I'd like to communicate, it's this: marketing is not a black art. These days it's very much a science. But more than anything, it's common sense – most commonly expressed as listening and observing.

There's an old hymn out there called "Trust and Obey, for there's no other way." Wise words to keep in mind the next time you interact with your customer.

Customer Survey Information

My personal marketing rule is to NEVER, EVER do any marketing activity without talking to my customer/market first. This may seem simple or obvious to you – but when I had directors or CEOs breathing down my neck for something – I didn't always have the time (not to mention money) to do the research work up-front that could ultimately have made my life SO MUCH easier.

Once I figured out the process, I learned that I didn't really need very much money or time. What I needed was a good understanding of where our business had been, where it had moved to, and where we wanted it to go. The best way to figure that out is by using sales history analysis information.

Pulling together a story from your sales history analysis will help you determine what topics to include in your discussion/survey with your customers.

The Importance/Performance Analysis is the most powerful, yet undervalued market research tool I've ever come across. This analysis tool is ideal for:

Identifying what's important to your customers when they're buying what you sell
This is the most critical component of any marketing activity. We often talk about identifying customers' needs, but our customers don't always know what they need – they know what they want, and this pulls out their key decision-making attributes.

Benchmarking your product and service as well as any other competitive alternative they might have against what's important to them
This is extremely powerful information. You can actually rate yourself and your competitors against those attributes that your customers said were most important when they're deciding to purchase a product or service like yours.

Identifying your unique competitive advantage from your ideal customers' perspective
Have your customers rank which attributes are most important to them and then rank how well you perform in those areas – one of those attributes will rise to the top – that's called your Signature Strength™.

Prioritizing projects and attributes of your business based on what your customers feel are most important

Everyone has limited resources, and when it's crunch time we find ourselves fighting to put resources in the areas *we* think are most important. Why not put those resources where your *customers* think is most important.

Manage

Compiling Your Survey Data

There are so many wonderful on-line survey resources. And there are several out there that you can actually use for free.

Regardless of which program you choose, you will have to pull the survey results so that you can actually look at them for yourself; and Excel will be your program of choice primarily because of its flexibility.

Once you download your data, Excel has many different functions that will help you make sense out of your survey data and help you turn it into information you can use to make good decisions.

Creating a Random List

Here's the Situation

Survey

You have 5000 rows of customer data. You want to randomly survey 100 of the customers.

Figure 80

Worksheet with customer data

	A	B	C
1	**Respondent**	**Date**	**Location**
2	TRUJILLO, SAMUEL	1-Jan-06	Desert Sky
3	RAYMOND, ROBIN	1-Jan-06	Deerbrook
4	ROBERTS, JASON	1-Jan-06	Deerbrook
5	GOFF, SHAWN	2-Jan-06	University Park
6	NIEVES, OPAL	2-Jan-06	Cottonwood
7	SNOW, JULIE	3-Jan-06	Cottonwood
8	FITZPATRICK, BETTY	4-Jan-06	Desert Sky
9	CERVANTES, BERTHA	5-Jan-06	Cottonwood
10	ROBERTS, MARLENE	5-Jan-06	Deerbrook
11	MENDOZA, SCOTT	5-Jan-06	Cottonwood

Here's What to Do

1. Create a new column heading called Random. In cell D2, enter the formula =RAND(). Re-select D2 and double-click the fill handle to copy this formula down to all rows.

This formula will assign each record a random decimal between 0 and 1.

Figure 81

Using RAND to generate a field of random numbers

2. Select cell D2 and press the AZ button in the Standard toolbar to sort. The first 100 customers in rows 2 through 101 are your random sample.

Figure 82

Using the AZ button to sort the customer data according the random number field

Gotcha

If you notice column D above, these first 100 customers do not appear to have low numbers. That is because Excel recalculates the RAND function after you have sorted the data.

Cleaning Your Database: Merging and Purging

Whether you want to clean up your address book, or merge and purge a list, this is the function that will make your data dreams come true.

Here's the Situation

You have 5000 rows of data with Customer in column D. You want to find a unique list of customers in the list.

Here's What to Do

Use the Advanced Filter command. This command is one of the more difficult commands to understand.

1. To use it successfully to get a unique list of customers, you must first copy the Customer heading to a blank column in your spreadsheet.
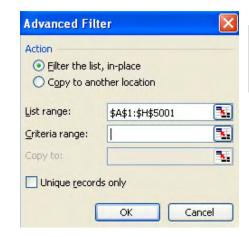
> **Figure 83**   Creating a blank Customer column

	A	B	C	D	E	F	G	H	I	J
1	Region	Product	Date	Customer	Quantity	Revenue	COGS	Profit		Customer
2	East	XYZ	1/1/06	Kroger	114	2901	1168	1733		
3	Central	ABC	1/1/06	Wal-Mart	599	12460	5081	7379		
4	Central	DEF	1/1/06	Albertson's Inc.	747	18369	7350	11019		
5	East	XYZ	1/1/06	ConAgra Foods	118	2943	1209	1734		
6	West	ABC	1/1/06	TransMontaigne	220	4257	1870	2387		

2. Select a single cell within your dataset. From the menu, select Data – Filter – Advanced Filter.

There are five settings in the Advanced Filter dialog, and you can only count on Excel to get one of those reliably right by default. Excel's Intellisense will often predict the location of the List range correctly.

> **Figure 84**
>
> Setting options in Advanced Filter dialog

Survey

3. Choose the box to retrieve "Unique records only".

Bu default, this setting would cause Excel to eliminate a duplicate only if all eight fields in the list were identical. To indicate that you want Excel to consider only the Customer field, you need to define an output range containing only the Customer heading. You've already entered the heading in cell J1. Now you have to convince Excel to let you specify this as the "Copy to" range.

4. Change the top option buttons to choose "Copy to another location".
    This will enable the entry box for "Copy to".

5. In the "Copy to" box, choose cell J1.

Figure 85

Advanced Filter dialog configured to copy only unique customer names to the new Customer field

6. Click OK and Excel will copy each unique customer to column K.

It does not sort the list – the customers show up in the same order as they appear in the original list. In this example, the 5000 rows of data contained 65 unique customers.

Survey

Figure 86

Unique customer names copied to the Customer field

Excel Details

If you wanted every unique combination of customer and product, you would copy the Product heading to L1 and specify K1:L1 as the "Copy to" range.

Also note that a pivot table would allow you to get a unique list of customers. See the Learning to Love Pivot Tables chapter on page 125.

Finding and Analyzing Records Using AutoFilter

If you're doing any kind of survey or analysis, you'll want to filter your responses so that you can see how each group responded or performed given a certain criteria. Before I understood AutoFilter, I was killing myself doing sorts and inserting rows and calculating sums. It was frustrating, time consuming, and just plain ridiculous.

AutoFilter is a function that will make it easy for you to go through reams of data and get a fairly quick understanding of what's going on.

Here's the Situation

You have thousands of records to wade through.

Figure 87

Worksheet filled with records you need to sort

	A	B	C	D	E	F	G	H
1	Region	Product	Date	Customer	Quantity	Revenue	COGS	Profit
2	Central	DEF	12/31/06	Tenet Healthcar	1126	23473	11083	12390
3	Central	ABC	12/31/06	Tenet Healthcar	102	1863	868	995
4	Central	XYZ	12/31/06	VF Corp.	318	7060	3250	3810
5	Central	XYZ	12/31/06	Monsanto Co.	1010	24682	10325	14357
6	Central	ABC	12/31/06	Cardinal Health	479	8602	4059	4543
7	Central	DEF	12/31/06	Computer Scier	699	15031	6885	8146
8	East	DEF	12/31/06	Medco Health S	239	5671	2353	3318

Survey

Here's What to Do

Use the AutoFilter command to find certain records. The AutoFilter feature can be toggled on or off using Data – Filter – AutoFilter. When the feature is turned on, a dropdown will appear on each heading.
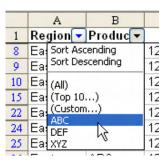
Figure 88

Using Autofilter

	A	B	C	D	E	F	G	H
1	Region	Produc	Da	Customer	Quant	Reven	COG	Pro
2	Central	DEF	12/31/06	Tenet Healthcar	1126	23473	11083	12390
3	Central	ABC	12/31/06	Tenet Healthcar	102	1863	868	995

1. Turn on the AutoFilter feature.

2. To find all East sales of product ABC, select East from the Region dropdown and ABC from the Product dropdown.

Figure 89

Using AutoFilter to find all the East sales sorted alphabetically by Product

You will now only see the desired records. The dropdown arrow for these two columns changes from black to blue. The row numbers for the visible rows change blue to indicate that a filter is applied.

Survey

Figure 90

Blue dropdown arrows indicate filtered fields

Excel Details
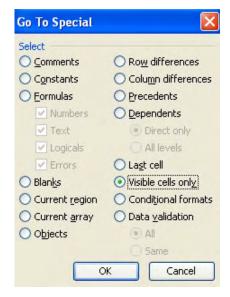
Copying Only Filtered Records

To copy these records, you have to select Visible Cells Only. This is an obscure option found through the GoTo dialog.

1. First, select the entire range of cells; from A1 down through H of the last row.
   Using Ctrl+* will select the current region.

2. From the menu, select Edit – GoTo.
   On the GoTo dialog, choose the Special button in the lower left corner.
   On the GoTo Special dialog, choose the option for Visible Cells Only.

Figure 91

Selecting "Visible cells only" to copy just those records that are displayed after filtering
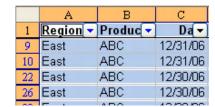
It is barely noticeable, but Excel will add thin gray bands in the selection area to indicate that the hidden rows are not part of the selection.

Survey

Figure 92

Thin gray bands indicate where there are hidden rows that will not be included in the copy and paste

Tip:

The shortcut for selecting visible cells only is first to use Ctrl+* *to select all cells, and then to use* Alt+; *to select visible cells only.*

3. Once you have selected the visible cells, you can copy and paste the matching records to a new worksheet.

4. To show all records again, you can reset all headings with filters back to (All) or select Data – Filter – Show All.

Still More AutoFilter Options

AutoFilter offers some other cool options.

1. Choose (Top 10…) from the Revenue dropdown to display this dialog. You can choose to show the top 10% of records.

Figure 93

Showing the top 10% of the records
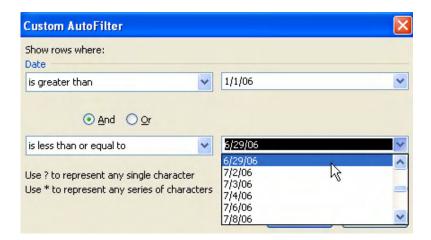
2. Select (Custom…) from the Date dropdown. You can build a criteria to get a range of dates.

Survey

Figure 94

Using the Custom filter dialog to obtain a selected range of dates
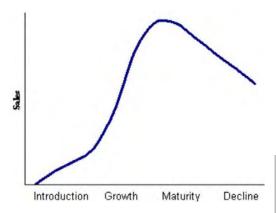
Product Life Cycle Analysis and Product Line Management

Everything has a life cycle. People start out as babies; grow into children, teens, young adults, adults and seniors. In fact, companies that market to any of these groups have very specific names for each of these groups and within each of these groups, and they also have strategies for each group and offerings for each group. Why should your company's products or services be any different?

Figure 95

Chart showing typical bell curve pattern of growth

Survey

But few companies really manage their product life cycles – and that's what causes costs to go up and margins to come down – the over-proliferation of product lines. New and Improved, caffeine-free, and diet versions are just a few examples of how one simple product offering multiplies into many.

In most companies between 20 and 30 percent of the business provides most of the profits. That's nothing new. But did you realize that between "30 and 40 percent of the customers, products and transactions actually lose money?"* As you might imagine, the challenge is to figure out which ones are which. The whole purpose of this is to get leverage and focus on those offerings that actually provide value and those customers that recognize and value the benefit your offerings provide.

So what is profit line management? You will see this called a variety of things (profit mapping, product line management, profit pool analysis, etc.) Basically, profit line management is the analysis of customers, products, services and transactions by profitability and their key profit drivers.

WIIFY (What's in it for you?) You can drastically impact the profitability of your business WITHOUT the need for major capital expenditures. So, if your profits have been growing at 5% or less over the last few years – you need to implement this process.

How to begin?

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* The Bottom Line: The Hunt for Profits, Jonathan Byrnes, HBS Working Knowledge

1. **Conduct actionable analysis.**

   The key point here is to focus your analysis with impact-actions in mind. Don't make a huge project out of this. ABC costing is nice – but not necessary to get the most immediate impact. A simple customer / product analysis will give you enough to identify a profitability pattern – then you can go back and get more information just in the areas where you will get the most impact.

2. **Create a database.**

   Get customer and product data for a representative time period. This can vary depending on your selling cycle. For a manufacturing organization, I recommend anywhere from 2-5 years. For businesses with selling cycles of a year or less, two-to-six months may be plenty. Your objective here is to create a database of transactions that lists revenues, gross profit, net profit – you want to be able to EASILY spot where the big pools of profits and losses are. I like to look at customer profitability (with an eye on which products/services they're getting) and then I like to look at product profitability (with an eye on which customers are using those products/services). Don't be surprised at what you find – that's the point. One of the by-products of this database is that it offers you living data that you can play "what-if" games with – to test new pricing, new product structures, and so forth. My favorite is to insert the "right" gross margin and then calculate what my bottom line could have been or will be once I implement the new mix.

3. **Develop your model.**

   Now you're ready to develop a model of your ideal customer and product structure. Focus on your major market segments and then choose a couple of representative customers from each. Pick a large one, a small one, fast moving products, slow moving products – a nice mix that covers both ends of the spectrum. Ideally, you'll have 6-12 representative situations. Now look at the profit drivers for each customer (revenues, margins, costs) then go crazy and start changing their order interval, service interval, pricing, bundling – whatever combinations or offering structures you want to consider to determine the impact. The benefits of this process are clear. You will actually see what the impact of any proposed strategy or change to your business model or pricing or mix is – BEFORE you throw it out to the market. Once you've come to some new ideas about how to restructure your mix, you can actually call a few customers to see what their reaction would be.

4. **Introduce the model to the business.**

   The previous step will identify those areas that will yield the most impact. Identify those high-impact segments that you can introduce the new mix to and go for it. Don't kid yourself. You will absolutely get resistance from internal groups (like sales, customer service, or other groups who don't want to rock the customers' boats). The best way to avoid this is to include these groups in the process and let them come up with mix options and offering options that meet the profit goals.

The next step is to work with low-profit customers. Tell them that you will be making changes in order to serve them – give them options. At best you will move an un-profitable, high-maintenance account into profitability. For those low-profit customers that choose to purchase elsewhere – you will find that there was not a good match between the value and benefit that they needed for the money and the value you provided.

5. **Repeat the process regularly.**

   Again, depending on your selling cycle, you may need to do this process every 6-12 months.

Should I Be Doing a Profit-line Management Process?

Are you dreading the annual price increase?

Have sales have been low and profits not up to expectations?

Are more than 50% of your customers below target margins?

Are you only selling 60% or less of your available products (SKUs)?

But where and how do you even begin making sense of the product data so that you can start using some of that hard-earned knowledge and Product Life Cycle strategy?

It lives in your customer data, which lives on your mainframe. And to begin conquering that data, you're going to have to get your hands on some choice bits of data on a fairly regular basis – at least annually – but you can choose semi-annually or quarterly as well.

One of the key functions of the marketing process is managing the Product Life Cycle and the Product Mix. This can fall under the research umbrella – of the on-going variety.

Product Line Management is the "spring cleaning" of marketing management. There are two reasons to go through this process:

> ➢ To map out where your products and services are in the Product Life Cycle so that you can know and understand which strategy to use to maximize sales and revenues.
>
> ➢ To prune away those products that are "sucking" your profits dry.

Product Line Management comes from the Sales History Analysis project you just did. If you looked at your customer and product history, you might have discovered both profitable and non-profitable customers and products. The objective of Product Line Management is to keep your company's product and service closets clean and profitable.

At first glance – not a very creative or "fun" activity. But if it's done well and done right, it can make and save you money – plus make you the hero.

I'm not going to go into any of the potential strategies you could use depending on where your products fall in the Product Life Cycle – there are countless marketing textbooks and theories on what you should do where and when.

In this section I'm going to cover the basic steps involved in getting this process started.

1. **Get a list of products with margins that are below your target.**
   You can choose an industry average or simply use what your company management has slated as a target margin rate and pull any products that fall below that. For your first time out on this activity, you'll want to pull those products that have been below margin for more than three periods (again this could be years, quarters, or whatever you use).

2. **Sort that list by product, by customer.**
   Then you can see which customers are purchasing which products and what the margins are for each of those customer/product relationships.

3. **Go through the list and identify the reasons for the low margins.**
   This may take some digging, but the information you gather here is critical to the strategy that you will be developing to make adjustments. Some of these may be under multi-year contracts that you can't do anything about – and some may simply have gotten low because of time and neglect. This is a team activity – you will need to go around your organization and involve others in this process.

4. **Develop a "what-if" scenario**
   This allows you to insert a target price and margin and to forecast the increase in sales and profitability.

5. **Print and distribute the report.**

Highlighting Outliers

When you're ready to make your product line management a regular part of your marketing process, this is the function you're going to use to identify the products and/or customers that may need a little looking at.

Here's the Situation

Your target profit margin is 42%. You want to highlight any records where the margin falls below 39%.

Figure 96

Worksheet where some margins are below the target of 42%

	F	G	H	I
1	**Revenue**	**COGS**	**Profit**	**Margin**
2	2901	1690	1211	42%
3	12460	7324	5136	41%
4	18369	10656	7713	42%
5	2943	1739	1204	41%
6	4257	2636	1621	38%
7	12444	8347	4097	33%
8	23908	14179	9729	41%
9	5944	3498	2446	41%
10	9091	5425	3666	40%
11	8128	5298	2830	35%
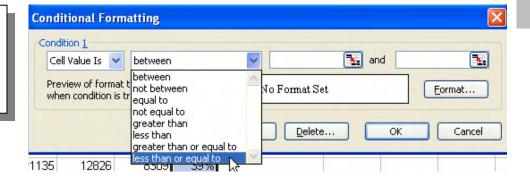
Here's What to Do

1. Select the range of cells in column I.

2. From the menu, choose Format – Conditional Formatting.
   In the Conditional Formatting dialog box, change the second dropdown from "between" to "less than or equal to".

Survey

Figure 97

Selecting cell value condition in Conditional Formatting dialog

Conditional Formatting

Condition 1

Cell Value Is — between

between
not between
equal to
not equal to
greater than
less than
greater than or equal to
less than or equal to

Preview of format when condition is tr... No Format Set

Format...

Delete... OK Cancel

1135 12826

3. In the final box, enter a value of 0.39. Click the Format... button to display a shortened version of the Format Cells dialog.

4. Change the Patterns tab to use a red color and change the color dropdown in the Font tab to be white.

5. Click OK twice. All of the low margin cells will be highlighted in red.

Figure 98

All cells at or below a 39% profit margin are highlighted in red

	F	G	H	I
1	**Revenue**	**COGS**	**Profit**	**Margin**
2	2901	1690	1211	42%
3	12460	7324	5136	41%
4	18369	10656	7713	42%
5	2943	1739	1204	41%
6	4257	2636	1621	**38%**
7	12444	8347	4097	**33%**
8	23908	14179	9729	41%
9	5944	3498	2446	41%
10	9091	5425	3666	40%
11	8128	5298	2830	**35%**
12	8233	5432	2801	**34%**
13	23233	13900	9333	40%

Survey

Strategy Development

Given that the purpose of marketing is to become the obvious choice for your ideal customer – your marketing strategy is your game plan for being chosen by your ideal customer and reaching your marketing goals.

Burger King is a great example. Burger King employed a unique positioning tactic of "Have it Your Way", but their strategy for being chosen was to build restaurants close to McDonalds. This was their game plan for achieving their marketing objective and getting chosen by their ideal customer – the hamburger lover.

The first step in getting to a good strategy is getting to your ideal customer. The best way to do that is to start segmenting your customers into groups.

Here are a few different ways you can segment or group your customers:

- Products and Services
- Demographics
- Geography
- Channel
- Psychographics
- Customer wants

Strategy

Over the years I've come to realize there are really only two primary kinds of segments:

- ➢ Practical segments such as geography or industry
- ➢ Benefit or want-based segments such as customers that require next day delivery.

Practical segments are constant. They will typically stay the same over time. You'll find that you need to group these customers in this way so that you can track sales and do your business reporting. Want-based segments are more creative and fluid in nature. In fact, customers tend to naturally group themselves into these "want-based" segments. Members of a want-based segment can run across several demographic categories – yet they have all those attributes that classify them as a true market segment.

Market Segmentation

What's segmentation? Put simply, segmentation is nothing more than grouping people – stereotyping, if you will. You take a group of customers that have something in common and put them into a group. Why would you want to segment – especially if your objective is to give all your customers personalized service? It's more cost-effective to develop a couple of really good marketing programs for similar customers than it is to develop a complete marketing strategy and program for each of your customers.

Segmentation is not always an easy process, but done right – and done more than once – it can be the key to unlocking new product and service ideas, finding new opportunities, and increasing profitability.

Segmentation is perhaps the most powerful step in the process of developing a marketing strategy and identifying new and more profitable opportunities. Yet people often freak out over this process. Some are overwhelmed by the seemingly infinite number of potential segments and so they freeze up and do nothing. Others start segmenting and then get stuck in the process – and never complete it. Then there are those people who stick with the tried and true. They've segmented, but they're not getting the most out of their segments.

Strategy

Hands-on Segmentation Method

This is a most un-orthodox and un-corporate method for segmenting – but it's also one of my favorites because it's very hands on. On the one hand, it's very intuitive because there is no data analysis involved. On the other hand, it becomes very analytical as you start looking for similarities and patterns for potential groupings.

These segmentation activities are ideal team-based exercises. Consider doing this with a multi-functional team consisting of sales, marketing, technical, and support people from your company. You will be shocked at how much you will all learn about your customers, their industries, how they use and interact with your product/service,

1. Designate a full day for this activity – it could take longer, so be prepared.

2. Walk over to your customer files.

3. Begin anywhere – you can start at "A" or you can start at "P" – just start.
   Now, if you're in a situation where you have hundreds or thousands of customers, you may want to simply take a random sample (see Creating a Random List on page 55). This doesn't have to be a complicated exercise – just pull some random files and go through the process. Another good method is to print off a customer list onto labels, put the labels on index cards, and then group the index cards.

4. Open the drawer and pick a customer file.

5. Look at it and place it down and start a pile.

6. Pick another customer file.

7. Look at it – ask yourself, "Is this customer like the one I just put into a pile?".
    Don't over analyze – if the answer is yes – then put it in the same pile. If the answer is
    no – start another pile.

8. Do the same thing with each succeeding customer file.

9. Do not over analyze at this stage of the process.
    Trust your gut and intuitive knowledge about the customers as you go through the files.
    If you have too many piles – don't worry, you will naturally start consolidating. I will
    give you a hint – you really don't need to have more than 10 piles (at least at this stage
    of the game).

10. Now you have a series of piles all around your office. Pick a pile and review the
    customers that you put into this group.
    What is it about them that's similar? What is it about them that's different from those in
    any other pile? You may discover that they are subsets of one another or you may
    discover that some piles need to be consolidated. Do that and keep moving.

Strategy

Relationship Method – Customer – Product

I did this as a team activity about twenty years ago. It not only brought our marketing group
together but also helped us learn and understand things about our customer and their
relationship to us and our product (how they used the product) like no other activity before or
since.

1. Get a printout of sales by customer by product.
    Now you've got a list containing customer "A" and all the products/services that they've
    purchased from you over a period of time. I would also include units, dollars, and
    margins on this report.

2. For each customer / product relationship ask:

    ➢ What does this customer do with this product

    ➢ Why do they buy this service

    ➢ What triggers them to buy this

    ➢ What happens just before they purchase

    ➢ How do they receive the offering

    ➢ How do they purchase it (on line, phone)

3. Now try to put these customers into actual segments or groupings.
These segments or groupings can actually be answers to the questions in step 2 or they can be groupings you create that stem from the answers you received on step 2.

Whatever the groupings – they need to have the following characteristics:

Substantial:
Segments must have enough profit potential to justify developing and maintaining a marketing program.

Heterogeneous:
Each segment must have different needs for the product and react differently to the marketing message.

Homogenous:
Consumers within each segment must have similar needs.

Accessible:
Company must be able to reach a segment .

Measurable:
Must be able to measure characteristics and needs of consumers to establish groups.

How to Segment

Follow these steps:

1. Download customer/product relationship information.

2. Create segment categories.

3. Update database records.

4. Run sales analysis by segment – include margin data.

5. Create a pivot table with sales by segment by region, business unit, etc.

Targeting Process

After segmenting your customer base, you've probably got a pretty good idea about which segments you'd like to focus on, learn more about, or penetrate. But let's say that they were all fairly similar. How will you get to the next step in choosing a couple of target segments?

The targeting process involves looking through all your segments and picking the one to three segments that will react most favorably to your offer and be the most profitable for your business.

➢ Pull the totals by segment and identify the optimal segments based on criteria established by user – or just plain rankings.

Positioning Strategy

The next step is to position yourself as the obvious choice for those targeted customers. This is ultimately your marketing strategy.

Too many times people just use their intuition – not that there's anything wrong with that. You should use your intuition – but you should also use some analytical tools to prove out your gut instincts.

How to Hit the Intuitively Obvious Goldmine

I once heard a comedian say in an interview that his job was to point out what was "intuitively obvious" to people. That's where the punch line is…telling you something that you don't know – just isn't really funny. But telling you something that you know deep inside yourself but that you just haven't given a voice to is HYSTERICAL. That's human nature. He also said that coming up with the intuitively obvious took an unbelievable amount of patience, talent, and, of course, observation.

The real profit goldmine for companies is identifying that magical intuitively obvious offering. We all know it when we see it. It's the product or service that makes us think "I can't believe someone hasn't thought of this before – or why didn't I think of that!"

Strategy

Look at a product called "Ice Tubes", for example. A Northeast Ohio woman wanted cold water out of a bottle. She didn't want to take the time to let it chill in the refrigerator and she couldn't make the ice cubes fit through the small bottle top, so she invented the intuitively obvious solution – "Ice Tubes." Like the name says, it's a piece of ice in the shape of a long tube – instead of a cube. (Isn't that clever?) Tubes fit into the top of any water bottle. Just pour water into the ice tubes tray, put into the freezer and voila – problem solved. "Why couldn't I think of that?"

Many inventors have a natural gift for this. But the rest of us in the marketing business need to come up with this stuff "on demand" day in and day out. And that means we don't have the time to just observe and wait for the intuition brainstorm to smack us upside the head. We have to create irresistible offerings year after year. So how do we do that?

Use a System

Systems are really wonderful things. For one thing, they give you a framework upon which you can hang your random thoughts and ideas. So, for you creative marketing types – don't think of this as a boring repetitive system that will hinder your creativity, think of this as a framework that will allow you to expand your creativity because it gives your fabulous ideas a home where they can take root and where you can start generating offshoot ideas. And another thing systems do is to communicate your intuitive thoughts and ideas to the rest of the world that wasn't as smart as you were to figure them out.

I don't know why people don't use systems. In fact, the biggest mistake most people make with SWOT analyses is that they just cover the surface – the most obvious strengths, weaknesses, opportunities and threats. This is a mistake because it doesn't really get you to the most PROFITABLE segments, targets, and positions that are available to your company.

This is sort of a paradox because you need to go beyond the basic and obvious – to discover something that IS SO obvious that your market will wonder why no one has thought of it before and they will literally flock to your offering and find it irresistible.

Strategy

Disciplining Data

Developing marketing strategy is, by far, the most exhilarating and fun part of the marketing process. Absolutely nothing can beat the exhilaration of identifying that window of opportunity or niche that has been virtually ignored by the rest of the market. When you finally hit on an opportunity – isn't it amazing how obvious it is?! Yet, no one has found it but you. How wonderful it would be if this were an expected part of the process and not just an unexpected magical "A-ha" moment!

Excel is the tool that you have at your disposal to turn "A-ha" moments into a standard by-product of your process. To do that, you'll have to mine some data. There's only one problem with that….data mining is much easier said than done.

More often than not, your data will simply NOT be ready to work with because it just doesn't look the way you need it to. For example, customer names won't be entered the same way, so when you want to create a table that calculates sales by industry or market segment, you'll get fifteen listings for the same customer name – that appear as different records because someone used a dash instead of a comma; names will be in one field when you want them in two, or names will be in two fields when you need them to be in one.

All of these are frustrating and potentially time consuming – but no more. RELAX. Excel has your back with some simple and quick ways to get your data looking the way you want it.

Importing Data

Data

Before you get to DO anything with data, you first need to GET the data.

Here's the Situation

Many times, someone will provide data in a text format other than Excel. How can you accurately load this data into Excel so that you can do further data analysis?
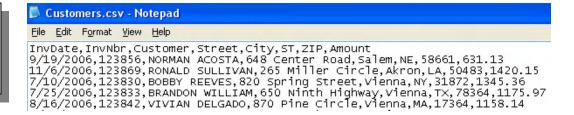
Here's What to Do

There are two basic styles of text files. Each style requires a different path through the Text to Columns Wizard.

In the first style, text files might have a comma or some other delimiter between each field, as shown in Figure 99. I've seen files delimited by commas, semi-colons, tabs, and pipe characters.
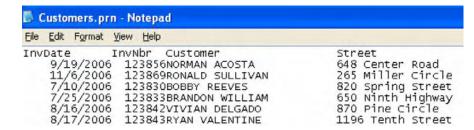
Figure 99

Comma-delimited file

In the second style, the file will have fields that are neatly lined up when displayed in a fixed width font such as Courier New.
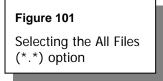
Figure 100

Fixed width file

Each style requires a different path through the Text To Columns wizard.

1. Take a look at the file in Notepad to determine if the file is delimited or fixed width.

2. From the Excel menu, select File – Open.
   In the "Files of type" dropdown, select All Files so that you can browse for a TXT, CSV, or PRN data file.

Data

Figure 101

Selecting the All Files (*.*) option
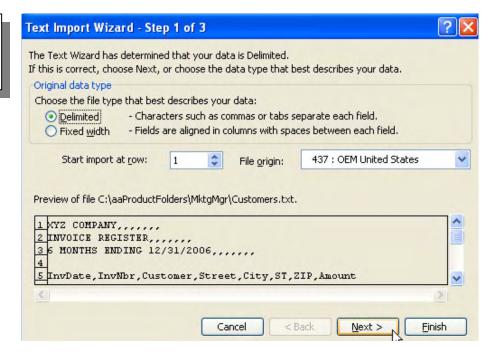
Text to Columns – Wizard Step 1

1. Choose the file to open.
   When Excel realizes that you have a text file, Excel will launch into the Text To Columns wizard.

2. In Step 1 of the wizard, you will choose whether your data is delimited like that in Figure 99, or if it is of fixed width like that in Figure 100.

   ➢ If you have commas or tabs or semi-colons in between each field, choose Delimited in Step 1.

   ➢ If you have data with fields neatly lined up in columns, choose Fixed Width in Step 1. Click Next.

Figure 102

Selecting file type in Step 1 of the wizard

Wizard Step 2 for Delimited Files

Step 2 for Delimited is simple.

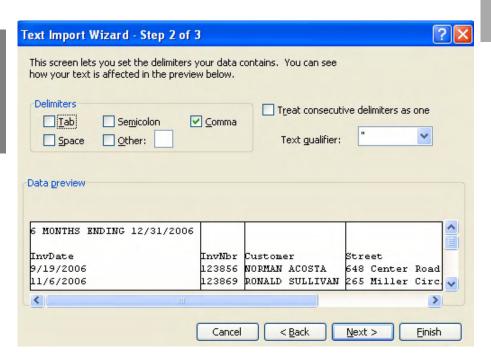3. Choose a comma or whatever character your file is using to separate fields. If the file uses something other than tab, semicolon, comma, or spaces, you will have to choose the Other box and type the character.

Data

Figure 103

Selecting comma as the delimiter for a comma-delimited file in Step 2 of the wizard
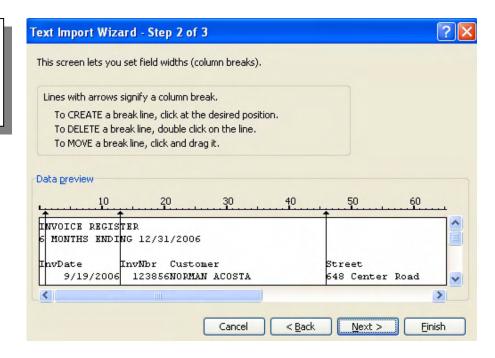
Wizard Step 2 for Fixed Width Files

For fixed width, you will have to pay attention in Step 2 of the Wizard. Excel's Intellisense attempts to draw lines between each field in the data preview area.

Figure 104

Checking lines drawn between fields in a fixed width file in Step 2 of the wizard

Data

With some datasets, Excel can easily determine where each field begins and ends. Other things will trip Excel up.
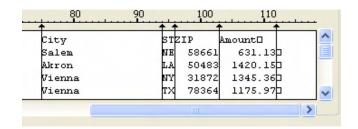
➢ If Excel missed a line, click in the correct place to add the line.

➢ If Excel drew in an extra line, double-click to delete it.

➢ If Excel put a line in the wrong place, click on the line and drag it to the right place.

It is hard to determine exactly what is going on in the Intellisense logic. Excel seems to look at the first first few rows to try to find a pattern. In the data above, Excel was fooled by line 2 of the title into adding an extra line. Because the Invoice Number was always six characters and ran into the customer name, Excel could not tell that these were two fields. Because this process is fraught with error, you need to scroll right to examine all of the fields. It also helps to scroll down so that you are looking at just the data rows and not the title rows.

4. Sometimes, there is an unprintable character at the end of each line. If these are neatly lined up, add a field line to separate the good data from this character.

Figure 105

Dealing with unprintable characters in a fixed width file

Step 3 of the Wizard

5. On the third step of the wizard, you can select the format of each field. If you have any Date fields, be sure to click that field's header and choose a date format.
You can use this step to eliminate any "garbage" fields such as the unprintable characters in the preceding figure by selecting the "Do not import column (skip)" option.
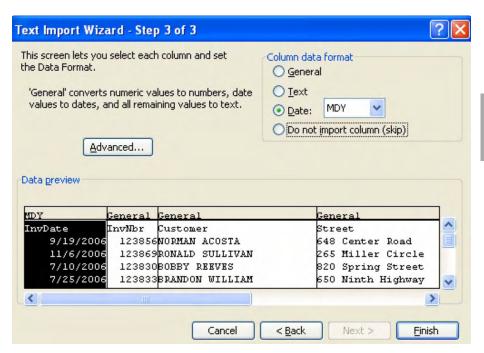
Tips:

The Skip option is great for any strange dashes or field marks located in the file.
You should only select Text if you need to preserve leading zeroes in a field.

Figure 106

Selecting a date format for the InvDate field

Data

6. When you click Finish, Excel will import the file.

Figure 107

File successfully imported into Excel

7. Delete any title rows. Select all cells with CTRL+A.
   You can then choose Format – Columns – AutoFit to make each column wide enough to fit your fields.

8. You will also want to use File – Save As to save the file as an Excel file instead of a text file. This will allow you to add formulas, formats, and new worksheets.

Excel Details

Over the years, I have seen some strange data files. The oddest is the situation where each record in the file takes up several lines in the file. I covered this situation over the course of several chapters in *Learn Excel from MrExcel*. If you have data like this, download that chapter from the secret page: http://www.mrexcel.com/manyrows.html.

Data

Looking up Data

Now that you know how to get the data into Excel, you're ready to start looking things up. How many times has this happened to you? You ask for data and after waiting what seems like forever – there it is. You're on a deadline, the meeting is tomorrow, you need to put together a presentation and some charts. You open the file and ….

Here's the Situation

It happens all the time. Your I.T. department sends data with customer numbers but no customer name. Or sales rep number without sales rep names. Or you have to match sales from last year to sales for this year.

Figure 108

Data provided with rep numbers but no rep names

	A	B	C	D	E
1	Rep	Date	Acct	Quantity	Revenue
2	66	1/1/06	K9335	114	2901
3	77	1/1/06	W2569	599	12460
4	43	1/1/06	A1780	747	18369
5	87	1/1/06	C3418	118	2943
6	96	1/1/06	T7539	220	4257

Here's What to Do

When this happens, you can usually scare up another table that matches rep numbers with rep names.

Figure 109

Table with rep numbers and names

	A	B	C	D
1	Rep	Name	Region	District
2	23	Carey	West	Seattle
3	25	Whitaker	East	MidAtlantic
4	26	Lewis	East	Northeast
5	43	Castaneda	Central	Midwest
6	44	Farrell	East	SouthEast

The function to add names to the original dataset is the VLOOKUP function. This stands for Vertical Lookup. This is one of the workhorse functions in Excel. It is worthwhile to master it.

In the current example, you have rep numbers from cell A2 through cell A5001. You've copied the table from Figure 109 to cells L2:O24. You want to add rep name in column H. The example will build a formula that can also later be copied to retrieve region and district in columns I and J.

Data

Figure 110   Worksheet with data from two files

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
1	Rep	Date	Acct	Quantity	Revenue	COGS	Profit					Rep	Name	Region	District	
2	43	1/1/06	A1780	747	18369	10656	7713					23	Carey	West	Seattle	
3	57	1/1/06	A9550	1003	23908	14179	9729					25	Whitaker	East	MidAtlantic	
4	87	1/1/06	C3418	118	2943	1739	1204					26	Lewis	East	Northeast	
5	97	1/1/06	C8711	447	9091	5425	3666					43	Castaneda	Central	Midwest	
6	57	1/1/06	H3165	401	8233	5432	2801					44	Farrell	East	SouthEast	
7	78	1/1/06	H5372	620	12444	8347	4097					45	Rocha	Central	Texas	
8	66	1/1/06	K9335	114	2901	1690	1211					46	Perkins	Central	Texas	
9	66	1/1/06	L9036	237	5944	3498	2446					49	Ward	East	Northeast	
10	80	1/1/06	T1470	452	8128	5298	2830					52	Dunlap	West	Seattle	
11	96	1/1/06	T7539	220	4257	2636	1621					57	Foreman	West	SoCal	
12	77	1/1/06	W2569	599	12460	7324	5136					60	Reese	West	SoCal	
13	43	1/2/06	A1780	848	14995	9887	5108					61	Strickland	East	MidAtlantic	
14	57	1/2/06	A9550	359	7267	4353	2914					66	Nieves	Central	Midwest	
15	57	1/2/06	A9550	211	4889	3046	1843					67	Davidson	East	SouthEast	
16	57	1/2/06	A9550	580	14566	8553	6013					76	Stout	East	Northeast	
17	67	1/2/06	B7437	213	3654	2469	1185					77	Barry	Central	Texas	

There are four arguments in the VLOOKUP function.

1. **The cell containing Rep # for this row.**

   For the formula in H2, this would be $A2.

   Note that the dollar sign before the A will allow the formula to be copied to I and J.

2. **A range that contains cell numbers in the left most column and Rep names somewhere in the range.**

   Use $L$2:$O$24. You will want to use dollar signs throughout this reference so that as the formula is copied down to 5000 rows, it always looks back at rows 2:24 to get the rep names.

3. **The column number within the above range where the Rep number is located.**

   In this example, column M is the second column in L2:O24.

4. **The word FALSE.**

   This will prevent Excel from returning close matches.

To fill in the rep name in E, use =VLOOKUP($A2,$L$2:$O$24,2,FALSE).

Figure 111

Using VLOOKUP to obtain RepName

Copying the VLOOKUP Formula to Get Region and District

1. Copy the formula in H2 to I2 and J2. Initially, the results will return the rep names again. This is OK.

Figure 112

Copying VLOOKUP formula to Region and District

2. In the Formula bar, edit the third parameter from a 2 to a 3 for cell I2 to obtain the Region. Change to a 4 in the formula in J2 to obtain the District.

Figure 113

Editing VLOOKUP parameters

The result will return the RepName, Region, and District.

Figure 114

Using VLOOKUP to obtain RepName, Region, and District

=VLOOKUP($A2,$L$2:$O$24,4,FALSE)

	E	F	G	H	I	J
ntity	Revenue	COGS	Profit	RepName	Region	District
114	2901	1690	1211	Nieves	Central	Midwest
599	12460	7324	5136	Barry	Central	Texas
747	18369	10656	7713	Castaneda	Central	Midwest
118	2043	1730	1204	Evans	Central	Midwest

Dealing with #N/A for Missing Values

When Excel can not find a match, the VLOOKUP function will return #N/A. This might happen if the dataset has a new sales rep number who is not in your table.

Figure 115

#N/A error message indicates missing value

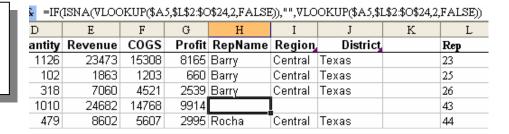|	A	B	C	D	E	F	G	H	I	J
1	Rep	Date	Acct	Quantity	Revenue	COGS	Profit	RepName	Region	District
2	77	12/31/06	T4596	1126	23473	15308	8165	Barry	Central	Texas
3	77	12/31/06	T4596	102	1863	1203	660	Barry	Central	Texas
4	77	12/31/06	V3507	318	7060	4521	2539	Barry	Central	Texas
5	42	12/31/06	M1831	1010	24682	14768	9914	#N/A	#N/A	#N/A
6	45	12/31/06	C2506	479	8602	5607	2995	Rocha	Central	Texas

Normally, you would sort by column H. All of the #N/A values will sort to the bottom. You could then add new records to the middle of your lookup table to include the new rep numbers.

However, sometimes you want Excel to return a blank cell when a match is not found. The solution through Excel 2003 is very convoluted.

Data

➢ You have to check to see if the result is #N/A using the ISNA function.

➢ You actually have to enter the VLOOKUP function twice in your formula.

Figure 116

Using ISNA and VLOOKUP to return a zero instead of the #N/A error message

=IF(ISNA(VLOOKUP($A5,$L$2:$O$24,2,FALSE)),"",VLOOKUP($A5,$L$2:$O$24,2,FALSE))

D	E	F	G	H	I	J	K	L
antity	Revenue	COGS	Profit	RepName	Region	District		Rep
1126	23473	15308	8165	Barry	Central	Texas		23
102	1863	1203	660	Barry	Central	Texas		25
318	7060	4521	2539	Barry	Central	Texas		26
1010	24682	14768	9914					43
479	8602	5607	2995	Rocha	Central	Texas		44

Thankfully, in Excel 12 or later, this will be replaced with the following streamlined format:
=IfError(VLOOKUP($A5,$L$2:$O$24,2,FALSE),"")

When You Know There Is a Match but Excel Can Not Find It

Sometimes, VLOOKUP will not find a match, even though the values look the same. This is often caused by a trailing space or a number stored as text. In the figure below, Excel can find a match for Rep 77 in rows 2 and 4 but not in row 3. If you look at the formula bar for cell A3, you will see that this is actually a number stored as text. Quotation marks are Excel's prefix for a right-aligned text cell.

Figure 117

Quotations before a number in the formula bar indicate that the number is actually text

If the problem is that one range contains a number and the other range contains text that looks like numbers, then use one of these approaches.

- If the Lookup table contains *numbers* and column A contains *text*, use =VALUE(A2) as the first argument of the VLOOKUP formula.

- If the Lookup table contains *text* and column A contains *numbers*, use =TEXT(A2,"00") as the first argument in the VLOOKUP formula

Another common problem that occurs when both cells contain text is for one range to contain a trailing space. In this figure, cells C3 and M6 look identical, but they are not.

Data

Figure 118

Cells that look alike may differ in the number of trailing spaces

Do this with both cells.

1. Select C3 and type the F2 key to put the cell in edit mode. A flashing insertion cursor will appear at the end of the cell value. Is the insertion cursor is flashing immediately after the last character of the Acct number? If not, there are one or more spaces after the value. If not, check the value in cell M6 of the lookup table.

Figure 119 An insertion point flashing past the last number indicates trailing space(s)

2. To remove the trailing spaces, insert a formula of =TRIM(C2) in an empty column and copy this down. Copy the new column and use Paste – Special – Values to copy the space-less values back over the original column.

Retrieving Many Columns from Lookup Range

Say that you have to pull 12 monthly values from the lookup table. Using the method described above, you would have to enter the first VLOOKUP, copy, and then edit the third parameter in the 11 remaining formulas. This could become very tedious.

Use =COLUMN(B2) in place of the "2" as the third parameter. (You chose B2 because it is the second column and the value to return is in the second column of the lookup table). When you copy this formula right one column, the reference will change to return the column number of C2, which is 3. This will allow you to quickly enter the formula once and copy it to many columns.

Figure 120

Using COLUMN with VLOOKUP to return several columns

Getting Good Records from Bad Data

Don't you just hate that every marketing task assumes that your data is perfectly formatted and ready to go?! It never is.

Data

You have sales data for the last ten years. Over the course of the ten years, the customer names for many accounts have changed.

It may not be that the customer data is wrong, but a matter that the customer name actually changes during the history of your data. Or more likely, someone in Accounts Receivable had a slow day and decided to neaten up the spelling of the top 20 accounts on a boring day in July 2003.

When you try to produce summaries, you get separate sales for the old name and new name, even though they are the same account.

Figure 121

Data with more than one name for the same account – notice that AOL and AOL Time Warner both have the same account number in column B (A1234)

	A	B	C
1	Date	Acct	Customer
2	3/31/98	A1234	AOL
3	4/12/99	A1234	AOL
4	4/20/00	A1234	AOL Time Warner
5	4/30/01	A1234	AOL Time Warner
6	5/1/02	A1234	AOL Time Warner
7	5/10/03	A1234	AOL Time Warner
8	5/10/04	A1234	AOL Time Warner
9	5/18/05	A1234	AOL Time Warner
10	4/5/98	B2345	Viacom
11	4/12/99	B2345	Viacom
12	4/14/00	B2345	CBS-Viacom
13	4/17/01	B2345	CBS-Viacom
14	4/19/02	B2345	CBS-Viacom
15	5/4/03	B2345	CBS-Viacom
16	5/5/04	B2345	CBS-Viacom
17	5/6/05	B2345	CBS-Viacom

We are going to use the VLOOKUP function to solve this problem.

Figure 122

Using VLOOKUP to make sure all the customer names are consistent

Data

E27   *fx* =VLOOKUP(B27,$B$2:$C$33,2,FALSE)

	A	B	C	D	E
1	Date	Acct	Customer	Qty	New Name
2	6/8/05	D4567	Host Marriott Corp.	778	Host Marriott Corp.
3	5/18/05	A1234	AOL Time Warner	237	AOL Time Warner
4	5/17/05	E6543	Cardinal Health, Inc.	108	Cardinal Health, Inc.
5	5/6/05	B2345	CBS-Viacom	237	CBS-Viacom
26	4/17/99	D4567	Host Marriott Corporation	1143	Host Marriott Corp.
27	4/12/99	A1234	AOL	599	AOL Time Warner
28	4/12/99	B2345	Viacom	599	CBS-Viacom
29	4/7/99	E6543	Cardinal Health Inc.	840	Cardinal Health, Inc.
30	4/5/98	B2345	Viacom	114	CBS-Viacom
31	4/5/98	D4567	Host Marriott Corporation	1064	Host Marriott Corp.
32	4/5/98	E6543	Cardinal Health Inc.	1148	Cardinal Health, Inc.
33	3/31/98	A1234	AOL	114	AOL Time Warner
34					

The formula in row 27 says, "Go look through column B and find a cell equal to B27 (A1234). When you find it, tell me the name in that row. The first record for AOL Time Warner is in Row 3, and since we've put the most recent names at the top, it happens to have the AOL Time Warner Name.

Note:

It is important that you sort the data in descending order by Date. This will put the most recent (and in theory, the "best") customer name at the top of the list.

In other words, the VLOOKUP function looks for a match to the account number in B2. It stops as soon as it finds the first match from the top. Thus, using =VLOOKUP(B27,$B$2:$C$33,2,FALSE) will change all of the customer names for account number A1234 to the same name.

![Note icon] Note:

Remember to Copy and Paste Special Values in the new column to freeze the results.

VLOOKUPs Take a Long Time to Calculate

In the case above, you are really doing 24 VLOOKUPs in each row. This seems unnecessary, because once Excel has found the correct row number in the first formula, it should be able to use this for the rest of the lookups in the row.

There is a function called MATCH. It works like VLOOKUP, but instead of returning a value from the lookup table, it returns the row number within the range where the matching value is found.

In the figure below, Excel looks for T7539 in the range of AF2:AF66. The value is found in cell AF60, which is the 59th row in the range.

Figure 123

Using the MATCH function

	A	B	C	D	E	F	G
1	**Acct**	**Row**	Jan-05	Feb-05	Mar-05	Apr-05	May-0
2	T7539	59					
3	I6286	30					
4	U3237	61					
5	T7654	55					

B2   *fx* =MATCH(A2,$AF$2:$AF$66,FALSE)

At first, this seems like useless information! The first time that I found the MATCH function I dismissed it – why would anyone care that the match is on the 59th row? However, see what happens when you combine this with another seemingly useless function, INDEX. =INDEX(AG2:AG66,59,1) returns the 59th row and first column of AG2:AG66. Again – this seems useless until you put the results of the MATCH function as the second argument of the INDEX function.
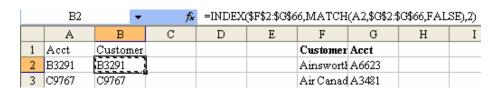
Figure 124

Using the INDEX function

C2			▼	*fx*	=INDEX(AG$2:AG$66,$B2)	
	A	B	C	D	E	F
1	**Acct**	**Row**	Jan-05	Feb-05	Mar-05	Apr-0
2	T7539	59	867			
3	I6286	30				
4	U3237	61				
5	T7654	55				

The advantage? VLOOKUP is processor-intensive. By using one MATCH per row and then 12 INDEX functions per row, worksheet calculation time will dramatically improve.

Sometimes your key field is not in the left column of the Lookup table. Many times, it is easier to move the columns in the lookup table around, but it is also possible to craft a solution using INDEX and MATCH.

Figure 125

Combining INDEX and MATCH

B2			▼	*fx*	=INDEX($F$2:$G$66,MATCH(A2,$G$2:$G$66,FALSE),2)		
	A	B	C	D	E	F	G	H	I
1	Acct	Customer				**Customer**	**Acct**		
2	B3291	B3291				Ainsworth	A6623		
3	C9767	C9767				Air Canad	A3481		

Quickly Sorting Your Data

Here's the Situation

You can quickly sort data with one click, but it is important to understand the rules for trouble-free sorting.

Here's What to Do

When you sort using the AZ or ZA buttons in the Standard toolbar, you are relying on Excel's Intellisense to accurately find the correct range to sort and to identify that you have headings above the data.

3. Make sure that every column in your data has a one-cell heading above the data. This is important. It is very common to add a new column to the end with a formula and to forget to put a heading above this column. When Excel encounters a blank cell at the top of just one column, the Intellisense assumes that you have no headings and sorts the top row down into your data. Make sure to fill in every heading and you will not have this problem.

4. To sort, select a single cell in the column.
Do not select the whole column. Do not select two cells. Select just one cell. If you select more than one cell, Excel will think that you want to sort just the selected range. This will lead to disastrous results.

Figure 126

Never select an entire column to sort

5. Once you have selected one column, press the AZ button to sort in ascending order or the ZA button to sort in descending order. In the following figure, cell F2 is selected. When you press the ZA button, the dataset will be sorted with the largest sales at the top.
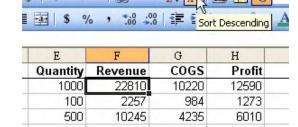
 Note:

When you need to sort one field within another, do the inner sort first. For example, say that you want the data sorted by region. Within each region, the customers should be in alphabetic sequence. Within each customer, the data should be in date sequence. You can complete this sort in six clicks of the mouse. See below.

Data

Figure 127

Selecting a single cell to sort and clicking ZA to sort descending

1. Click any one cell in the Data column.

2. Click the AZ button to sort by date.

3. Select one cell in the Customer column.

4. Click the AZ button.
The data will be sorted by customer. When a tie is encountered, the previous sort order will be retained, resulting in the prior Date sort remaining within each customer as shown below.

Figure 128

After sorting by Customer, the original date sort is used to break ties

	A	B	C	D
1	**Region**	**Product**	**Date**	**Customer**
2	Central	XYZ	3-Jan-04	Ainsworth
3	Central	XYZ	4-Jan-04	Ainsworth
4	East	XYZ	10-Jan-04	Ainsworth
5	West	XYZ	12-Jan-04	Ainsworth

5. Select a cell in the Region column.

6. Click AZ to complete the sort. The data will now be sorted by Date within Customer within Region.

Figure 129

Sorted data

	A	B	C	D
1	**Region**	**Product**	**Date**	**Customer**
144	Central	XYZ	8-Dec-04	P&G
145	Central	XYZ	27-Feb-04	Phillip Morris
146	Central	ABC	16-Oct-04	Phillip Morris
147	Central	DEF	18-Jun-04	SBC Communic
148	Central	XYZ	10-Jul-04	Sears

Gotcha

Having one blank cell in the heading will usually cause the headings to be sorted into the data. This would cause the Region heading to move to row 411, just between values for "East" and "West". If you see your headings disappear after a sort, press Ctrl+Z to undo.

Data

![Note icon] Note:

In the rare case where you have a narrow dataset and a numeric heading, you will have to apply bold format to the heading in order to prevent the heading from sorting into the data.

Custom Sorts

Here's the Situation

Any consumer can tell that the new model 1100 must be better than the old model 900. However, Excel will treat this data as text and sort "Model 1100" before "Model 900".
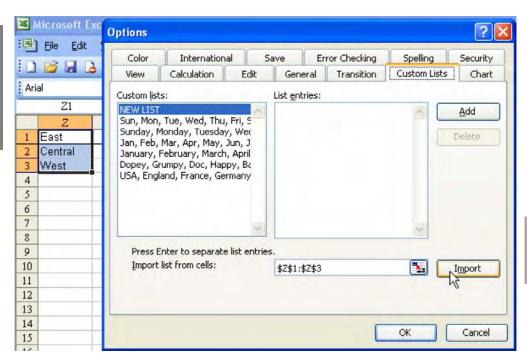
A similar opportunity is where your company's custom is to sort regions into a sequence of East, Central, West. There is not a standard sort order that will cause the East region to sort first.

Here's What to Do

It is easy to add a custom list to Excel on your computer. You will then be able to use a custom sort sequence to have the products sort into the proper sequence.

1. In a blank region of a worksheet, type the regions or products in the proper sequence. Select the range containing this list. From the menu, select Tools – Options. In the Options dialog, choose the tab for Custom Lists.

2. Provided that you selected your list before invoking the command, the range will be pre-entered in the Import List from Cells box. Ensure this is the correct range and choose the Import button.

Figure 130

Configuring and importing a new custom list in the desired order
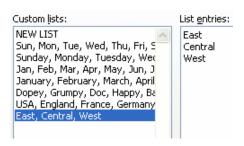
Data

The new list will be imported to the list of Custom lists on this computer. You only have to import the list once per computer. The list will be available to you in the future on this computer.

Figure 131

The new custom list appears in the Custom lists

3. When you need to sort regions using this custom sequence, you will have to use the Sort dialog instead of the AZ or ZA buttons.
Select a cell in your data. From the menu, select Data – Sort.

4. In the Sort dialog, choose to sort by Region. Then, press the Options button in the lower left corner of the dialog.

Figure 132

Choose Options to reach the custom sort options

Data

5. In the Sort Options dialog, choose the dropdown next to Normal and choose your new custom list as the sequence. Note that this custom sort sequence only applies to the first sort key.

Figure 133

Selecting the new custom sort

6. Click OK to return to the Sort dialog and then OK to sort the data. The result is that the East region will appear first.

Figure 134

Data sorted in the desired East, Central. West order

Additional Details

There is a shortcut if you only have one custom sort field. After doing the first sort with the Sort dialog, Excel will remember the East, Central, West setting. You can now do subsequent sorts using the AZ button on the Standard Toolbar. However, if you need to sort Region in a custom sequence and Country in another custom sequence, you will be forced to keep using the Sort dialog box.

Gotcha

If you need to sort by Region within Product, you would have to first use the Sort dialog to do a custom sort on Region. Then, do a second sort to sort by Product.

Excel Details

Custom lists are also used for extending a series with the fill handle. Type any entry from your list in a blank cell. Grab the fill handle and drag to fill in the remaining items from your list. The fill handle is the square dot in the lower right corner of the selected cell.

Data

Dealing with Dates

Here's the Situation

Excel can frustrate you when it comes to dates. You might have real dates in Excel, do a calculation, and be frustrated that the results appear wrong because the resultant cells have the wrong numeric format. Or, you might have dates that look like real dates, but are really text. These always look good, but they never calculate correctly.
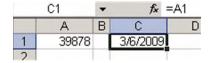
Here's What to Do

Excel stores dates as the number of days since January 1, 1900. When you enter a date such as 6/17/2006, Excel converts it to the number 38885 and then formats the cell to display this number as a date.

1. Try this – enter 39878 in any cell. Select the cell. Choose Format – Cells from the menu. On the Format dialog, go to the Number tab. Choose a date format. Excel will display this number as March 6, 2009.

Figure 135

Formatting a number as a date

2. Excel stores times as a decimal portion of a day. Try entering 0.75 in a cell and then formatting the cell with a time format. The cell will appear as 6PM.

Excel uses this method of storing dates as numbers in order to make date arithmetic possible.

3. Enter your next birthday in cell A1. In cell A2, enter =A1–TODAY(). The result should tell you how many days until your next birthday. The problem is that sometimes Excel's Intellisense will format the result as a date. 78 days from January 1, 1900 is a day in the middle of March.

Figure 136

Unexpected results when subtracting with dates

Data

4. Select this cell and format it as a number; you will see the result is 78 days. This is a situation where Excel performed the right calculation but used the wrong formatting, which made it initially appear wrong.

Figure 137

Formatting the result as a date provides the expected result

5. In cell A3, type Ctrl+; to enter today's date. To find the last day of this month, enter = DATE(YEAR(A3),MONTH(A3)+1,1)-1 in cell A4.

Figure 138

Finding the last day of the month
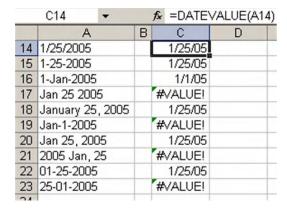
Converting Text That Looks Like a Date to a Real Date

If a calculation on a date returns 0 or a #VALUE! error, it is possible that the cell contains a text that looks like a date. It is worth your time to spend a couple of minutes to try to convert this information to real dates. If the format of the text cells happens to be one that Excel can recognize, you can use the DateValue Function to convert the text dates to real dates.

This figure shows which cells work and which do not. The only difference between the format in row 20 that works and the format in row 17 that doesn't work is a comma after the month.

Figure 139

Dealing with zero and #VALUE errors

Fiscal Responsibility (Fiscal Years NOT Ending on 12/31)

Data

Here's the Situation

Excel does a horrible job dealing with data where the fiscal year end is not 12/31. Excel offers functions that can group by year and quarter, but all of these assume that your fiscal year ends December 31.

Figure 140

Excel assumes fiscal years end on 12/31

Here's What to Do

Say that your fiscal year ends March 31. Thus, all dates from April 1, 2006 through March 31, 2007 are classified as fiscal year 2007.

The MONTH function will return a month number from 1 to 12. The YEAR function will return the calendar year. The basic logic then, is that the fiscal year is equal to the year if the month is ≤3. Otherwise, the fiscal year is the calendar year + 1.

You can write an IF function to handle this: =IF(MONTH(C2)<=3,YEAR(C2),1+YEAR(C2))

Figure 141

Using IF, MONTH, and YEAR to deal with fiscal years that do not end on 12/31

	D2		fx	=IF(MONTH(C2)<=3,YEAR(C2),1+YEAR(C2))	
	A	B	C	D	E	F	Re
1	Region	Product	Date	Year	Customer	Quantity
2	East	XYZ	2/7/07	2007	Kroger	114
3	Central	ABC	8/24/05	2006	Wal-Mart	599
4	Central	DEF	11/4/06	2007	Albertson's Inc.	747

Preparing Your Data: Joining Text

Here's the Situation

Data

You are trying to do a lookup between these two datasets. The model number in the lookup table contains "SKU-" before every model. Your dataset has the same models, but is missing the SKU.

Figure 142

Doing a lookup between two datasets

Here's What to Do

1. To join text, use the Ampersand (&) operator. ="SKU-"&B2 will take care of the problem.

Figure 143

Using the Ampersand to join text

2. In the next worksheet, you have an area code in column D and a phone number in column E. Join them using ="("&D2&") "&E2.

Figure 144

Joining and area code and a phone number

3. Finally, you have first name in column A and last name in column B. The customer's last order date is in column C. Use =A2&B2 to join the first and last names together.

Figure 145

Joining first and last names

4. To build a name with a space between first name and last name, use =A2&" "&B2.

Figure 146

Adding a space between the names

5. The result still feels like you are screaming the customer name. Use =PROPER(A2&" "&B2) to generate the names in upper and lower case.

Figure 147

Using PROPER to adjust capitalization for proper names

There is a problem when you want to join text and a date. Although C2 looks like a date, remember that it really contains the number of days since 1/1/1900.

The following formula fails.

=PROPER(A2&" "&B2)&" - thank you for your order on "&C2

Figure 148

Date displayed as number

To fix this, use the TEXT function to control the display of the date. You will have to know a custom number format for the display of the date. Some examples are "m/d/yy", "mmm d, yyyy", etc.

Figure 149   Using TEXT to properly display a number as a date

	A	B	C	D	E
			fx	=PROPER(A2&" "&B2)&" - thank you for your order on "&TEXT(C2,"mmmm d, yyyy")	
1	First Name	Last Name	Last Date		
2	DONALD	GOULD	11/1/2005	Donald Gould - thank you for your order on November 1, 2005	
3	RONALD	CRANE	3/13/2004	Ronald Crane - thank you for your order on March 13, 2004	
4	MARGARITA	ELLIOTT	12/18/2005	Margarita Elliott - thank you for your order on December 18, 2005	
5	JACQUELINE	ARNOLD	9/2/2003	Jacqueline Arnold - thank you for your order on September 2, 2003	

Turning Your Data on Its Side with Transpose

If there's one thing that's important in communicating information with data – it's making it LOOK the way you want it to. And Excel doesn't always do that very well.

When you're setting up data to make a table, it will plot rows a certain way – and columns a certain way – but those may not be the ways you want to see them. That's where the option called *Transposing* comes in handy. Transposing literally takes what's currently in a column and shifts it to down to rows or vice versa (takes what's currently in rows and shifts it over into columns).

I'm forever transposing data that I want to put into a table in a specific way.

Data

Here's the Situation

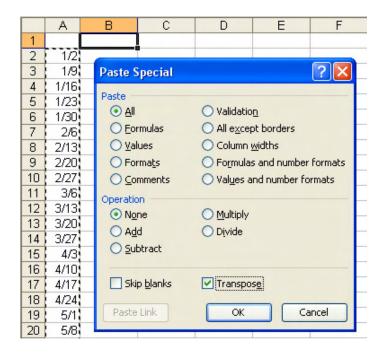You have a series of dates going down column A. You want these dates to go across row 1.

Here's What to Do

The process of turning a range on its side is called transposing.

1. Select the range containing the dates. Hit Ctrl+C to copy.

2. Move to a single blank cell in B1. From the menu, choose Edit – Paste Special. On the Paste Special dialog, choose the Transpose checkbox.

Figure 150

Selecting Transpose from the Paste Special dialog

The result: the range is turned from column-wise to row-wise.

Figure 151

Turning a range in its side

Data

Excel Details

This technique will also work when you want to turn a horizontal range into a vertical range. It will even work with a rectangular range.

Note:

Strangely enough, Paste Special does not work after using the Cut command. It only works after a Copy command.

Counting Records

Here's the Situation

Excel has many transactions to count or sum records. =COUNT(E2:E523) will reveal that there are 522 records. Be careful, however, as =COUNT(A2:A523) shows no records.

Figure 152

Use COUNT to count only numeric records

	A	B	C	D	E
			A524	fx =COUNT(A2:A523)	
1	Region	Product	Date	Customer	Quantity
520	West	XYZ	29-Feb-04	Wal-Mart	500
521	West	XYZ	2-Oct-04	Wal-Mart	500
522	West	XYZ	4-Oct-04	Wal-Mart	1000
523	West	XYZ	19-Dec-04	Wal-Mart	800
524	0				522

This is because the COUNT function only counts numeric cells. If you want to count text cells as well, use the COUNTA function.

Figure 153

Use COUNTA to count text records as well

	A	B	C	D
			A524	fx =COUNTA(A2:A523)
1	Region	Product	Date	Customer
520	West	XYZ	29-Feb-04	Wal-Mart
521	West	XYZ	2-Oct-04	Wal-Mart
522	West	XYZ	4-Oct-04	Wal-Mart
523	West	XYZ	19-Dec-04	Wal-Mart
524	522			

Data

A more interesting task is to count records that match a certain criteria. How many transactions were in the East region? Use =COUNTIF(A2:A523,"East").

There are two parameters to configure with COUNTIF.

➢ The first parameter is the range of data.

➢ The second parameter is the value to match.

Excel will search through A2:A523 and count the number of records that contain the value of East.

Figure 154

Use COUNTIF to count records that meet certain criteria

Here's What to Do

1. To find total transactions for each region, type the regions in a blank section of column A.

2. Use this text as the second parameter of the COUNTIF function:
   =COUNTIF($A$2:$A$523,A525).
   Copy this formula down to create a summary table.

Figure 155

Using COUNTIF to create a summary table

Data

When you want to sum records that match a criteria, use the SUMIF function.

There are three arguments for SUMIF. Excel will search through the range specified in the first argument, looking for cells that match the second argument. When a match is found, Excel will add the corresponding cell from the range indicated by the third argument. The formula would be =SUMIF($A$2:$A$523,A525,$F$2:$F$523).

Figure 156

Using SUMIF to sum records that meet certain criteria

In the strange circumstance where the first and third ranges are identical, you can leave off the third argument. For example, if you wanted to sum all of the rows that were above average, you could use =SUMIF(F2:F523,">"&AVERAGE(F2:F523)).

Excel Details

Once someone learns that they can use SUMIF and COUNTIF, they invariably ask how to sum revenue for records where the Region is East and the Product is ABC. There is no way to do this with either SUMIF or COUNTIF. However, you can do it using an array formula. Array formulas are special formulas. When entering an array formula, you must finish the formula by hitting Ctrl+Shift+Enter. Excel adds the curly braces and executes the formula. For more details on using array formulas, see Replacing a Thousand Formulas with One on page 44.

=SUM(IF(A2:A523="West",IF(B2:B523="ABC",F2:F523,0),0))

Figure 157

Curly braces indicate an array formula

	A	B	C	D	E	F	G
	Region	Product	Date	Customer	Quantity	Revenue	COGS
519	West	XYZ	23-Dec-04	Verizon	900	18666	9198
520	West	XYZ	29-Feb-04	Wal-Mart	500	10445	5110
521	West	XYZ	2-Oct-04	Wal-Mart	500	12760	5110
522	West	XYZ	4-Oct-04	Wal-Mart	1000	24070	10220
523	West	XYZ	19-Dec-04	Wal-Mart	800	18560	8176
524	522				522		
525			601411				
526							

C525   *fx* {=SUM(IF(A2:A523="West",IF(B2:B523="ABC",F2:F523,0),0))}

Data

Breaking Apart Text

Here's the Situation

You might have product codes where you have two text characters followed by four numeric characters. Because the text characters indicate a product line, you need to isolate just the text characters.

Figure 158

Splitting apart text records

	A	B	C
1	Product	Customer	Quantity
2	BK-144	Kroger	114
3	BK-154	Wal-Mart	599
4	CD-112	Albertson's Inc.	747
5	CD-170	ConAgra Foods	118
6	EF-178	TransMontaigne	220

Here's What to Do

You can write formulas to isolate part of the text. The functions LEFT, RIGHT, MID, and LEN can be used alone or in combination. For example, if Cell A2 contains BK-144, then the functions will return as follows:

- ➢ =LEFT(A2,2)   returns BK   (the left two characters of A2)
- ➢ =MID(A2,4,3)   returns 144   (start at character four for a length of three)
- ➢ =RIGHT(A2,3) returns 144   (the right three characters)
- ➢ =LEN(A2)   returns 6   (tells the length of A2)

Figure 159

Using LEFT to capture characters on the left

The LEN function is useful if your product code contains two text characters and an unknown number of trailing characters. In this case, you know that the MID function needs to start at character 4, but you don't know how many characters to include. Use LEN to determine how many characters are in A2 and then subtract the three characters in the prefix with this formula: =MID(A2,4,LEN(A2)-2)

Data

Figure 160

Using MID and LEN to capture the numbers following a product prefix

It is also possible to shorten this formula to =TRIM(MID(A2,4,50)). In this case, using MID(A2,4,50) will capture any conceivable length of product code but will pad the right side of the result with numerous spaces. Using =TRIM will remove any leading and trailing spaces.

Competitive Analysis: Moving from Data to Information

Data is meaningless, but we have the power to give it meaning. Think about how many times you've just thrown some numbers up on a slide and let people come to their own conclusions.

Our global and competitive marketplace doesn't really offer us the luxury of NOT giving data meaning.

The most basic way marketing managers like to look at the world is by the markets we serve or want to serve. There are actually two different ways to look at that. The first is to literally measure your industry or market and compare yourself against the other participants. But there's more.

Served Market Share Model

Don't you just love how all the marketing textbooks and articles just go around quoting market share numbers? They've got dollars, they've got units, they've got these share numbers down to three decimal places! It all seems so easy and so simple. And it is – if you're selling consumer products or products or services that the great market-share calculators think is important enough to actually count.

But what if what you sell isn't deemed as important. What if what you're trying to count is really something that's as important as one of those plastic covers on the end of your shoelace – I mean, does anyone even know what that's called – but just you try tying your shoes without one. But I digress.

Analyze

I learned this little market share model from my favorite boss, Jorge, who was a trained engineer but was really a business, leadership, and management genius. At the time, we worked for a mature manufacturing company that had been in business for about 50 years. They were the market share leader in their industry and nearly every pharmaceutical company was or had been our customer for years. With a history like that, you can understand why we never really bothered to measure market share – we already had all of it.

But as years moved on and the market got bigger, competition was creeping in and our slice of it was getting smaller. We never even really noticed it at first because when you ship billions of widgets and a few hundred thousand go "missing", you don't really notice it. Management started noticing when we started coming up a few million units short one year and the search was on – where did they go and who got them.

Being a snot-nosed kid right out of college, I had to ask the question, "So what's our market share?". This is where Jorge said, "I don't really know – but let's find out." However, in our case, we couldn't just ask or look it up. (I was too young and stupid to know that. I thought market share numbers were just out there in the magical universe of all marketing data – the way they had been in college. We never seemed to be short on data when we worked on marketing problems in school.) Here in the real world, we had a problem.

Industry didn't really count our products. They were important – but not as themselves – they were only important as part of the end-use products. Sort of like the BASF commercial: "We don't make the shoelace – we make the plastic sheath that makes the shoelace lace!"
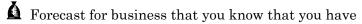
So, this is the model we came up with. It's so simple – I still can't believe I'd never seen anyone use it before. Maybe they already knew their market share numbers – but most of the companies I worked for only thought they knew – they didn't really.

This market share model is terrific for mature companies who either are the leading share holder in their market or participate in a relatively fixed market with a finite number of customers and less than five competitors.

The assumption is this. You will define your "served" market as those companies to whom you currently sell. (The important part of this assumption for us was that nearly every pharmaceutical company was our customer – so we had a pretty good estimate of the whole market.) But remember, YOU define your market. So list the customers that belong in the market you want and hopefully they will already be your customers. If not, then you will have to do some estimating. But the model should still be proportionately correct.
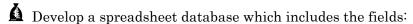
Collect your information as part of your forecasting process. As you're doing sales forecast by customer:

Analyze

- Forecast for business that you know that you have

- Forecast for business that you don't have

- List who has that business (your competition) and the amount of business they have either in units or dollars

- Develop a spreadsheet database which includes the fields:

  - ➢ Customer name
  - ➢ Product/service
  - ➢ Market segment
  - ➢ Total estimated usage
  - ➢ Your usage
  - ➢ Competitor 1 usage
  - ➢ Competitor 2 usage, etc.

🛄 Create a pivot table to tabulate total units and your share of the market – as well as each competitor's share of the market

Learning to Love Pivot Tables

I absolutely LOVE pivot tables. If you've done any market research or surveys, you might know this as *Cross-tabulation*. This is by far my most widely used Excel function. It allows you to group, compare, contrast, and start seeing patterns.

Here's one of my favorite real-life applications.

Here's the Situation

You have 5000 rows of data representing sales over a ten year period. You want to determine trends and be able to drill into the data.

Figure 161

Dataset with ten years of records that you need to summarize

	A	B	C	D	E	F	G
1	**Product**	**Date**	**Customer**	**Quantity**	**Revenue**	**COGS**	**Profit**
2	Model 300	9/26/03	Whirlpool Corp.	863	21086	11354	9732
3	Model 401	12/5/01	VF Corp.	116	2142	1374	768
4	Model 300	10/5/98	Leggett & Platt	566	10584	7704	2880
5	Model 600	7/25/04	Liz Claiborne In	614	11983	8097	3886
6	Model 200	11/8/96	Triad Hospitals	444	8620	5851	2769

Here's What to Do

Pivot tables offer incredible power to a variety of summary analyses. This feature is the most powerful tool in the toolkit of any marketing manager.

Analyze

Pivot tables allow you to quickly produce any of these summaries, plus others:

- ➢ What products are we selling
- ➢ Which customers are buying our products
- ➢ Which products are being bought by which customers
- ➢ Are product sales trending up or down over time
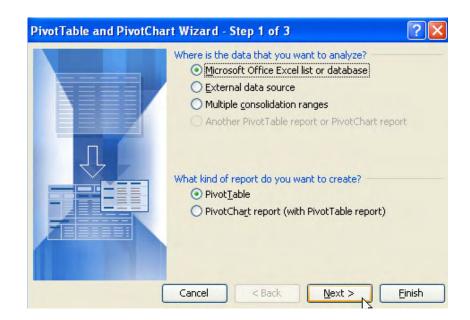
Creating Your First Pivot Table

1. Make sure that your data contains a unique one-cell heading above each column. Select one cell in the data. From the menu, select Data – PivotTable and PivotChart Report.

2. In Step 1 of the Wizard, accept the default selections that your data is in Excel and that you are creating a pivot table.

Figure 162

PivotTable wizard showing default settings

3. In Step 2 of the Wizard, confirm that Excel has chosen the right data source for your pivot table.

Figure 163

Confirming data source

4. For your first pivot table, choose the Layout button in step 3.

Analyze

Figure 164

Selecting the Layout button in Step 3

Note:

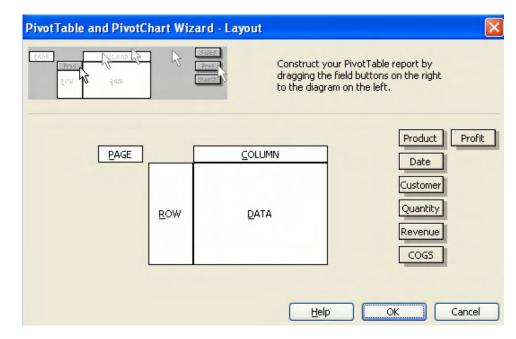In Excel 97 and before, the Wizard was four steps long. Step 3 required you to do the steps on the Layout dialog.

The Layout dialog allows you to build your report by dragging and dropping. It is a blank canvas. Notice that your field list is on the right side. On the left side, there are four areas of the pivot table, waiting for you to drag fields to them.

Figure 165

Using the Layout screen to drag and drop fields

5. For your first pivot table, get a summary of sales by product.

You have some choices. Do you want to see unit sales (Quantity) or revenue? Drag either field and drop it in the Data area of the dialog.

Figure 166

Producing a summary of sales by product

6. Next – do you want the product list going down the side of the report or across the top of the report? If you want the product list going down the side, then drag the Product field to the Row section of the dialog. If you want products going across the top, drag the product field to the Column area of the layout.

Figure 167

Position of fields in which product list will go down the side

The preceding layout will create a report with products going down the rows of column A and the total revenue dollars for each product in the heart of the report. This is a very basic but useful report. Go with this pivot table as your first – it is easy to add new fields once the pivot table is created.

Analyze
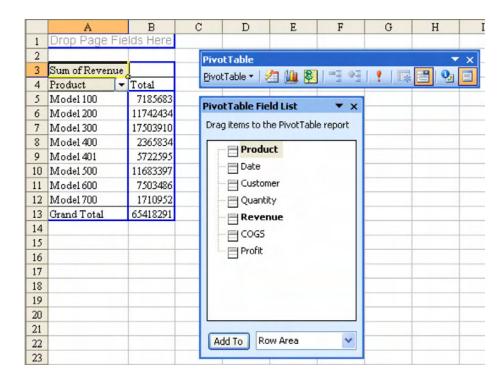
7. Click OK to return to the Pivot Table Wizard. In Step 3 of the wizard, choose to have the pivot table be created on a new worksheet and click Finish.

In seconds, your summary report will be presented on a new worksheet.

Figure 168

Producing a summary report

Whenever you select a cell within the pivot table report, the PivotTable Field List will appear. It has looked different in every version of Excel. In early versions of Excel, it was part of the PivotTable toolbar. Later, it became its own floating pane. If the PivotTable Field List disappears, you have selected a cell outside of the range of the pivot table. Select a cell inside the pivot table to bring it back.
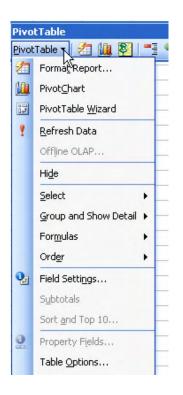
Analyze

Figure 169

Select PivotTable Wizard from the PivotTable toolbar dropdown to return to the wizard

If you are comfortable using the Layout dialog to change the pivot table, the first dropdown on the PivotTable toolbar will allow you to go back to the PivotTable Wizard.

Changing the Pivot Table Using the Add To Button

Excel 2002 added a new button to the field list called the Add To button. If you want to move the Product field so that it is going across the top row of the report, you can do this using the Add To button.
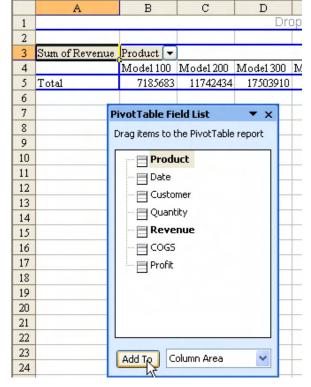
Figure 170

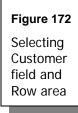Using the Add To button to add fields to the desired pivot table area

1. First, select the Product field in the field list. Then use the dropdown to change Row area to Column area.

2. When you press the Add To button, the report will change to show the products going across the top of the report.
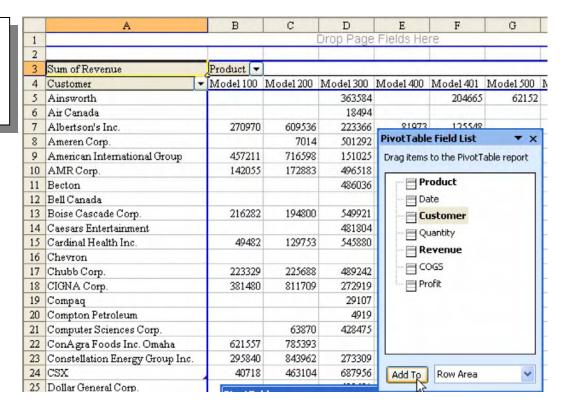
Figure 171

Selecting Column area

You can use this method to add new fields to the report. Choose the Customer field and add it to the Row area. You will have a report with customers going down column A and products going across the top.

Figure 172

Selecting Customer field and Row area
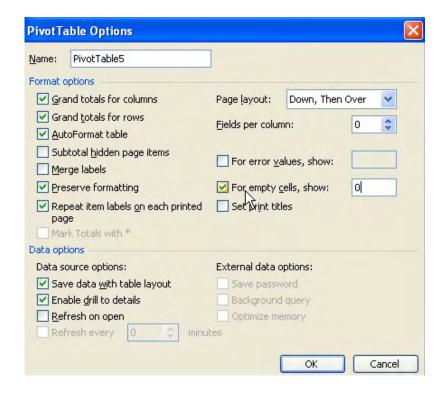
Analyze

Eliminating Blank Cells from the Data Section

In the above figure, notice that Ainsworth did not buy any of Model 100. Excel chooses to put a blank cell instead of a zero in this cell. If you have numeric data, blank cells are evil. You really want to have zeros instead of blanks. The fix is somewhat buried. From the PivotTable toolbar, choose the PivotTable dropdown and choose Table Options.

1. On the right side of the PivotTable Options dialog, there is a setting "For empty cells show:". Type a zero in that box.

Figure 173

Using the PivotTable Options dialog to replace blank cells with zeros
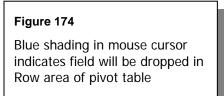
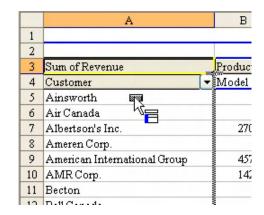## Changing a Pivot Table by Dragging Fields

Pivot Table veterans find it easiest to change the pivot table by simply dragging fields around the report. You can take the gray field names on a report and drag them to a new location. You can also take fields from the PivotTable Field List and drop them on the report.

The key to getting this right is to watch the mouse cursor and the gray squiggly insertion point.

1. Say that you want to add dates to the left side of the report. Drag the Date field from the field list and move it over column A.

Analyze

Figure 174

Blue shading in mouse cursor indicates field will be dropped in Row area of pivot table

While you are dragging the field, the mouse pointer changes to an outline of the pivot table. One of the four sections of the outline will be highlighted in blue. When your mouse is over column A, the Row area of the pivot table outline is highlighted in blue to indicate that you are about to drop the field in the Row area of the pivot table.

In the preceding figure, notice the gray squiggly line between columns A and B. This indicates that if you drop the field, you will see dates within each customer.

Figure 175

Result if Date field is dropped in column A

2. Instead, if you drag the field to the left side of column A, the gray squiggly insertion point will be on the left side of column A (although it is barely visible in this book).
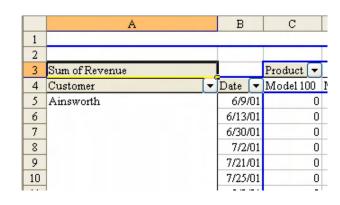
Figure 176

Note location of gray squiggly line to determine targeted drop area

3. Dropping the field here will show customers within each date.
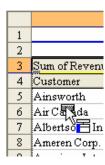
Figure 177

Showing customers within date

Analyze

4. To remove a field, drag the field heading off the page until the mouse cursor changes to a red X.
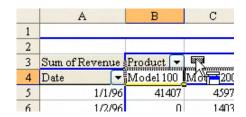
Figure 178

Cursor indicates that you are removing a field by dragging it off the page

5. To move a field to the top row of the report, the mouse pointer will have the Column area of the toolbar highlighted.

Figure 179

Blue highlight in Column area of mouse pointer indicates that's where the field will be dropped

	A	B	C
1			
2			
3	Sum of Revenue	Product ▼	
4	Date	▼ Model 100	Mo 200
5	1/1/96	41407	4597
6	1/2/96	0	1403

Showing Two or More Fields in the Data Area

You can choose to show Quantity, Revenue, and Profit in the Data section of the pivot table.

1. Drag a new field and drop it in the middle of the table. The mouse pointer will highlight the Data area.

Figure 180

Data area is highlighted in the mouse pointer

0	0
0	0
0	0
0	0
4628	0

Figure 181

Default Data area view in Row area

	A	B	C	D
1				D
2				
3			Product ▼	
4	Date ▼	Data ▼	Model 100	Model 200
5	1/1/96	Sum of Revenue	41407	45970
6		Sum of Quantity	1958	2004
7		Sum of Profit	13349	14830
8	1/2/96	Sum of Revenue	0	14039
9		Sum of Quantity	0	598

2. Once you've added multiple data fields, you will have a new gray field called Data. You can drag this heading around to show the data items in various views. The default view is to show the three data fields as the innermost Row area item.

Analyze

Figure 182

Moving Data field to the Row area provides a better view

	A	B	C	D
1		Drop Page Fields Here		
2				
3		Data ▼		
4	Product ▼	Sum of Revenue	Sum of Quantity	Sum of Profit
5	Model 100	7185683	333361	2681109
6	Model 200	11742434	548838	4264271
7	Model 300	17503910	817766	6892334
8	Model 400	2365834	111460	731629
9	Model 401	5722595	267327	2210715
10	Model 500	11683397	550323	4313654
11	Model 600	7503486	350584	2624176
12	Model 700	1710952	79693	569802
13	Grand Total	65418291	3059352	24287690
14				

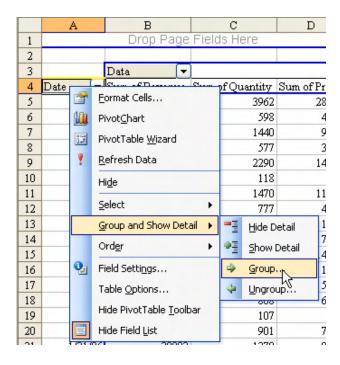3. It often makes more sense to move the Data field to be a field in the Column area.

Grouping Date Fields by Year

The data in this example is transactional data down to the daily level. You will usually want to spot trends by month or year. It is easy to group the transactional dates up to a year level.

1. Move the Date field as a field going down column A of the report. (With 10 years of data, there will not be room for the dates to go across the top of the report).

2. Right-click the Date field. Choose Group and Show Detail – Group.

Figure 183

Selecting Group and Show Detail from the Data field right-click menu

Analyze

3. In the Grouping dialog, choose Years and unselect Months.

Figure 184

Changing Data field from months to years

Your Data field will now reflect years.

Figure 185

Pivot table showing sums of revenue, quantity, and profit by year

	A	B	C	D
1		Drop Page Fields Here		
2				
3		Data ▼		
4	Date ▼	Sum of Revenue	Sum of Quantity	Sum of Profit
5	1996	6264944	292794	2066444
6	1997	4709818	220105	1681366
7	1998	5588907	259001	2051946
8	1999	4665053	218555	1767228
9	2000	4837081	227504	1646789
10	2001	8212906	384871	3073868
11	2002	6061011	283166	2455101
12	2003	6636130	309649	2540745
13	2004	6936306	325240	2591398
14	2005	5695985	267202	2130630
15	2006	5810150	271265	2282175
16	Grand Total	65418291	3059352	24287690
17				

Grouping Date Fields by Month

This is not intuitive, but if you want data by month, you must group by month and year.

1. Try grouping by month, only. Notice that you get a silly report that is useful only for seasonality analysis.

Figure 186

Data fields grouped by month only are virtually useless

(Cell B5 shows the total of each January from 1996 through 2006.)

Analyze

	A	B	C	D
1		Drop Page Fields Here		
2				
3		Data ▼		
4	Date ▼	Sum of Revenue	Sum of Quantity	Sum of Profit
5	Jan	5083632	238832	1866289
6	Feb	4773779	224272	1776199
7	Mar	5348827	248850	1985872
8	Apr	4788869	224543	1768825
9	May	5175961	241772	1934794
10	Jun	4950889	231315	1841828
11	Jul	5368540	252266	1992978
12	Aug	5642857	265473	2121519
13	Sep	5349302	248798	1968614
14	Oct	6363691	295944	2384791
15	Nov	6323059	294923	2334412
16	Dec	6248885	292364	2311569
17	Grand Total	65418291	3059352	24287690

2. Instead, choose to group by Month and Year. Now the Date field reflects months and a new field called Year is available.

Figure 187

Data fields grouped by month and year provide useful information

	A	B	C	
1			Drop Page Fields
2				
3			Data	▼
4	Years ▼	Date ▼	Sum of Revenue	Sum
5	1996	Jan	543792	
6		Feb	457302	
7		Mar	392130	
8		Apr	400204	
9		May	410700	
10		Jun	476777	
11		Jul	492456	
12		Aug	542395	
13		Sep	750449	
14		Oct	703926	
15		Nov	645638	
16		Dec	449175	
17	1997	Jan	436829	
18		Feb	333304	
19		Mar	372658	

3. The fact that month and year are now two different fields allows you to build an interesting report with years going across the top and months down the side. Move the fields as shown in the following figure. This allows you to compare year vs. year results by month.

Figure 188

Comparing yearly results a month at a time

	A	B	C	D
1				
2				
3		Data ▼	Years ▼	
4		Sum of Revenue		
5	Date ▼	1996	1997	1998
6	Jan	543792	436829	355190
7	Feb	457302	333304	308366
8	Mar	392130	372658	533256
9	Apr	400204	405547	499009
10	May	410700	394613	267360
11	Jun	476777	271721	389425
12	Jul	492456	392247	361578
13	Aug	542395	338793	440566
14	Sep	750449	268504	497829
15	Oct	703926	524628	616258
16	Nov	645638	483528	645353
17	Dec	449175	487446	674717
18	Grand Total	6264944	4709818	5588907
19				

Analyze

Removing one of Many Data Items

In the preceding figure, you may want to focus only on revenue.

4. To remove Quantity and Profit, use the dropdown on the Data field. You can now uncheck Quantity and Profit.

Figure 189

Remove data items by selecting dropdown and unchecking the items

Building an Ad-Hoc Report Using PageFields

There is a fourth area of a pivot table called the Page area.

1. Move several fields to the Page area at the top of the report.

Figure 190

Moving fields to the Page area
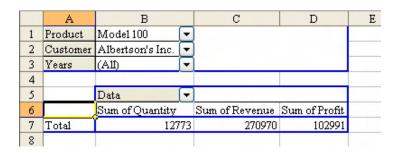
2. There is now a drop-down for each field in the Page area.
    If you select the dropdown, you can query to find just the sales of Model 100 to Albertsons or any other conceivable ad-hoc query.

Analyze

Figure 191

Using dropdown to make queries

Showing Top 10 Customers

In the figure below, the customers are presented in alphabetical order.

Figure 192

Pivot table with Customer field in alphabetical order is of limited use

	A	B
1	Product	Model 100 ▼
2		
3	Sum of Revenue	
4	Customer ▼	Total
5	Albertson's Inc.	270970
6	American International Group	457211
7	AMR Corp.	142055
8	Boise Cascade Corp.	216282
9	Cardinal Health Inc.	49482
10	Chubb Corp	223329

1. Double-click the Customer field to get to the nearly useless PivotTable Field dialog. From this dialog, choose the Advanced button.

Figure 193

Select the Advanced button to make many useful options available

PivotTable Field

Name: Customer

Subtotals
- ⦿ Automatic
- ○ Custom
- ○ None

Sum
Count
Average
Max
Min
Product

☐ Show items with no data

OK · Cancel · Hide · Advanced... · Layout...

Analyze
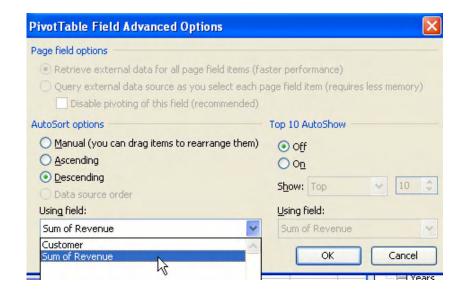
2. On the PivotTable Advanced Field Options dialog, you can control the sort order of the Customer field.

Figure 194

Sorting the Customer field in descending order based on sum of Revenue

PivotTable Field Advanced Options

Page field options
- ⦿ Retrieve external data for all page field items (faster performance)
- ○ Query external data source as you select each page field item (requires less memory)
  - ☐ Disable pivoting of this field (recommended)

AutoSort options
- ○ Manual (you can drag items to rearrange them)
- ○ Ascending
- ⦿ Descending
- ○ Data source order

Using field:
Sum of Revenue

Customer
Sum of Revenue

Top 10 AutoShow
- ⦿ Off
- ○ On

Show: Top   10 ▲▼

Using field:
Sum of Revenue

OK · Cancel

3. You can also use the AutoShow option to show just the top or bottom 5, 10, or 20 items.

Figure 195

Using Top 10 AutoShow to display top 12 customers

The result shows your top 12 customers in descending order based on revenue.

Figure 196

Resulting display has much more value than original alphabetical sort

	A	B
1	Product	Model 100
2		
3	Sum of Revenue	
4	**Customer**	Total
5	Host Marriott Corp.	804931
6	Triad Hospitals Inc.	783685
7	ConAgra Foods Inc. Omaha	621557
8	The Williams Cos. Inc.	518796
9	Wal-Mart	495294
10	American International Group	457211
11	CIGNA Corp.	381480
12	Leggett & Platt	346722
13	TransMontaigne Inc.	321591
14	Constellation Energy Group Inc.	295840
15	Albertson's Inc.	270970
16	The Dow Chemical Co.	266668
17	Grand Total	5564745
18		
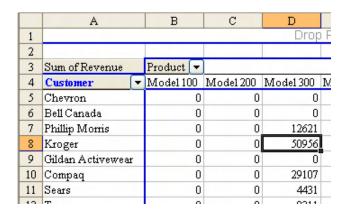
Drilling Down To See Detail

Analyze

As you are analyzing your data, you may spot something that doesn't look right. If you don't believe that Kroger ever bought model 300, you might wonder if something is in error.

1. Double-click cell D8 to drill down to see the detail behind that figure.

Figure 197

Double click a cell in a pivot table to see the underlying worksheet

	A	B	C	D
1				Drop F
2				
3	Sum of Revenue	Product		
4	**Customer**	Model 100	Model 200	Model 300 M
5	Chevron	0	0	0
6	Bell Canada	0	0	0
7	Phillip Morris	0	0	12621
8	Kroger	0	0	50956
9	Gildan Activewear	0	0	0
10	Compaq	0	0	29107
11	Sears	0	0	4431

You will be given a new worksheet with just the Kroger records for Model 300.

Figure 198

Underlying worksheet for Kroger records

	A	B	C	D	E	F	G
1	**Product**	**Date**	**Customer**	**Quantity**	**Revenue**	**COGS**	**Profit**
2	Model 300	4/24/2004	Kroger	899	21957	11269	10688
3	Model 300	4/12/2002	Kroger	1142	26098	14738	11360
4	Model 300	12/23/2001	Kroger	114	2901	1690	1211
5							
6							

Pivot Tables and Recalculation

If you change values in the original source data, the pivot table does not automatically recalculate! This is because Excel copied your source data into memory in order to allow the pivot table to calculate very quickly.

1. To force Excel to re-read the source data and re-calc the pivot table, use the red exclamation point on the PivotTable Toolbar.

Figure 199

Selecting the Refresh Data button to refresh the pivot table data source and calculations

Limitations on Using Pivot Tables

Analyze

While pivot tables are fantastic at summarizing data, they have a few strange limitations. You can not insert rows or columns in the middle of a pivot table.

Figure 200

Use Paste Special – Values to reformat as desired

You may find it convenient to use the pivot table feature to create a summary and then to change the report to static values in order to reformat the summary for use in a PowerPoint presentation or some other use.

1. Select the entire pivot table, including the blank rows where the page fields might go. Copy the table to the clipboard with Ctrl+C.

2. Then, use Edit – Paste Special – Values to convert the table to values. You can now reformat as needed.

Reporting Percentage of Row

So far, all of the examples have presented the Data field as a SUM of a field such as Revenue. There are many other options.

1. Double-click the Sum of Revenue field in A3 to access the PivotTable Field dialog for Revenue. While you can change from Sum to Count or Average here, the really powerful options are hidden behind the Options>> button.

Figure 201

Accessing powerful pivot table options

2. Choosing the Options button opens up additional choices where you can express the figures as percentages of the total, or other various items.

Figure 202

Using the "Show data as" option

Analyze

3. The "Show data as" dropdown offers Normal and several other percentage options.

Figure 203

Selecting "% of row" option

Show data as:

Normal

Difference From
% Of
% Difference From
Running Total in
% of row
% of column
% of total

4. Select the "% of row" option. Each row adds up to 100%.

Figure 204   Selecting % of row option shows percentage of each product purchased by each customer totally 100% of each customer's purchases
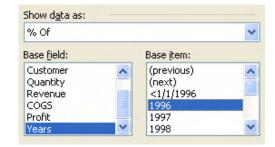
	A	B	C	D	E	F	G	H	I	J
1				Drop Page Fields Here						
2										
3	Sum of Revenue	Product ▼								
4	**Customer**	▼ Model 100	Model 200	Model 300	Model 400	Model 401	Model 500	Model 600	Model 700	Grand Total
5	Chevron	0.00%	0.00%	0.00%	0.00%	0.00%	35.80%	64.20%	0.00%	100.00%
6	Bell Canada	0.00%	0.00%	0.00%	0.00%	0.00%	65.96%	7.30%	26.74%	100.00%
7	Phillip Morris	0.00%	0.00%	22.57%	0.00%	0.00%	37.64%	39.80%	0.00%	100.00%
8	Kroger	0.00%	0.00%	96.49%	0.00%	0.00%	3.51%	0.00%	0.00%	100.00%
9	Gildan Activewear	0.00%	0.00%	0.00%	0.00%	0.00%	51.34%	48.66%	0.00%	100.00%
10	Compaq	0.00%	0.00%	66.53%	0.00%	0.00%	22.31%	11.17%	0.00%	100.00%
11	Sears	0.00%	0.00%	11.26%	0.00%	0.00%	25.33%	25.95%	37.46%	100.00%
12	Texaco	0.00%	0.00%	25.83%	0.00%	0.00%	39.19%	34.98%	0.00%	100.00%
13	Compton Petroleum	0.00%	0.00%	14.34%	0.00%	0.00%	33.37%	52.29%	0.00%	100.00%
14	Air Canada	0.00%	0.00%	56.43%	0.00%	0.00%	0.00%	16.15%	27.42%	100.00%
15	Grand Total	0.00%	0.00%	28.45%	0.00%	0.00%	32.85%	30.22%	8.48%	100.00%
16										

Analyze

The following setting shows each year's revenue as a percentage of 1996 revenue.

Figure 205

Selecting a "Show data as" option other than default of Normal enables the "Base field" and "Base item" options

Show data as:

% Of

Base field:

Customer
Quantity
Revenue
COGS
Profit
Years

Base item:

(previous)
(next)
<1/1/1996
1996
1997
1998

This setting would show each year's revenue as a percentage of the previous year's revenue.

Figure 206
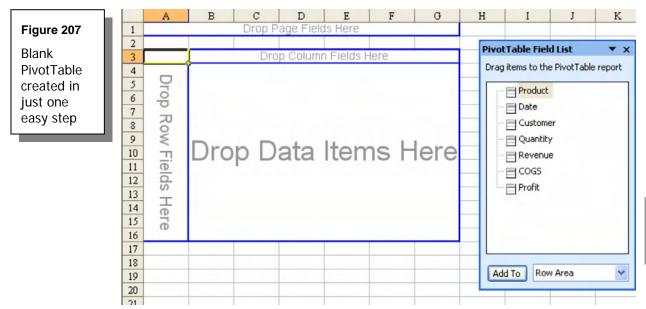
Experiment with these settings to discover the powerful ways they can help you interpret your data

Faster Pivot Tables

If your data is in a single range on an Excel worksheet, you can create a pivot table in fewer clicks.

1. Select a single cell in the data. Choose Data – PivotTable and then click Finish. You are presented with an entirely blank pivot table. Drag fields as necessary to complete the table.

Figure 207

Blank PivotTable created in just one easy step

Analyze
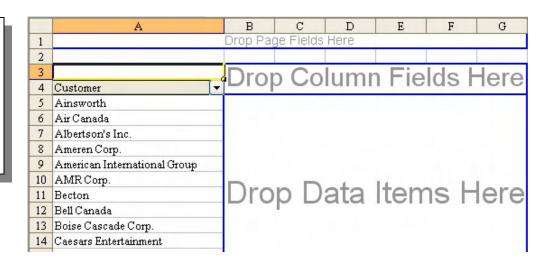
Using a Pivot Table to Generate a Unique List

You learned a rather convoluted method using the Advanced Filter in the Cleaning Your Database: Merging and Purging section on page 56 to find a unique list of customers. Using a PivotTable is a faster way of achieving this result.

1. Create a blank pivot table as shown in Figure 207. Drag Customer to cell A4.

2. Excel thinks that you have more to do – it is waiting for more fields. But, at this point, just copy column A and use Paste Special – Values to copy the unique customers to a new location.

Figure 208

Using pivot tables to generate unique customer lists is fast and easy

Analyze

Building Your Case: Presenting and Reporting Your Data

Whew - getting your data into ship shape for reporting can be a real challenge. Aren't you glad you took the time to learn these quick and easy data handling tricks?

But data is just data unless it's turned into real information that you can use to make decisions and to get what you want (like more budget dollars).

This section will give you the tools to churn that data into charts and reports that really give your presentations punch.

Making Reports Look Great

First impressions aren't just important when you're meeting new people. How your data looks says a lot about you, how you think, and whether you deserve to get what you want. I know that sounds harsh, but reporting your data is everything.

Take it from me, there is nothing more frustrating than putting in hours to collect, clean and understand your data, then having your case fall apart, just because you didn't know how to communicate it in a way that your audience could understand.

Here's the Situation

Your manager loves reports in color with fancy formatting, etc. All of your reports in Excel are boring black and white.

Figure 209

Typical boring black and white report

Report
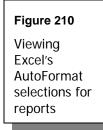
	A	B	C	D	E	F
1	XYZ CO					
2	Sales Results by Model					
3	FY2006					
4						
5	**Model**	**Q1**	**Q2**	**Q3**	**Q4**	**Total**
6	Model 100	1,774K	1,804K	1,843K	1,867K	7,288K
7	Model 200	1,176K	1,248K	1,259K	1,286K	4,969K
8	Model 300	1,036K	1,136K	1,220K	1,240K	4,631K
9	Model 400	987K	1,078K	1,165K	1,281K	4,512K
10	Model 500	916K	999K	1,063K	1,064K	4,042K
11	Model 600	1,406K	1,480K	1,569K	1,598K	6,053K
12	Model 700	1,834K	1,904K	1,940K	2,073K	7,750K
13	Model 800	1,932K	2,014K	2,212K	2,335K	8,494K
14	Model 900	983K	999K	1,006K	1,045K	4,034K
15	Model 950	1,008K	1,054K	1,133K	1,199K	4,393K
16	Total	13,050K	13,718K	14,408K	14,989K	56,165K

Here's the Solution

Since Excel 97, Microsoft has offered 18 easy-to-use formats.

1. Select your range of the report including and total row and the headings.

2. From the menu, select Format – AutoFormat. Choose from among the eighteen formats. Note that some of the best formats require you to scroll down through the list.

Figure 210

Viewing Excel's AutoFormat selections for reports

In the figure above, you will note that you already have your numbers in thousands. You don't want the AutoFormat to walk on these number formats.

3. On the right side of the AutoFormat dialog, choose the Options button. This will add six new checkboxes at the bottom of the dialog. Uncheck the option for Number.

Report

Figure 211

Accessing additional formatting options

The result – the report is quickly formatted with color and shading.

Figure 212

Create eye-catching reports quickly and easily

How to Wrap Text

Here's the Situation

You want to have a long heading in a cell. After turning on Word Wrap, Excel randomly breaks the heading depending on the width of the column.

Figure 213

Words in heading break in undesir-able ways

You will find yourself trying to adjust the word wrap by making the columns wider or narrower. One problem is that the row height is too tall and never adjusts.

Report

Figure 214

Row height does not shrink to fit when column width is increased

The next problem is that you never seem to have absolute control over where the heading breaks.

Figure 215

Heading breaks in undesired places
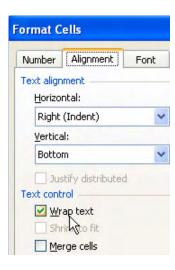
Here's What to Do

The preceding problems happen when you turn on Word Wrap using the checkbox on the Alignment tab of the Format Cells dialog.

Figure 216

There is a better choice than initiating the "Wrap text" option from the Format Cells dialog

Report

1. Instead of using that setting, go to a blank cell. Type the words for the first line of the heading and then type Alt+Enter.

2. Type the words for the second line of the heading and then type Alt+Enter. Continue doing this until the entire heading is entered.

This will turn on Word Wrap, but Excel will only break the headings where you've indicated with the Alt+Enter characters.

Figure 217

Properly placed heading text using Alt+Enter to control line breaks

E	F	G
2005	2006	Percentage Increase (Decrease) of 2006 compared to 2005
Purchases	Purchases	
$439K	$615K	40%
$196K	$284K	45%

Gotcha

If you later turn off Word Wrap in these cells, the Alt+Enter will show up as a rectangle indicating an unprintable character.

Figure 218

Line breaks show up as rectangles when word Wrap is cancelled

H	I	J	K
Percentage☐Increase (Decrease)☐of 2006☐c			
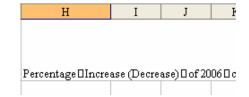
Chart Your Success

Here's the Situation

You want to produce a nice-looking chart from your data.

Figure 219

Producing a chart from a dataset

	A	B	C	D	E	F
1						
2		Jan-06	Feb-06	Mar-06	Apr-06	May-06
3	East	12,000	13,200	14,520	15,972	17,569
4	Central	17,000	19,550	22,483	25,855	29,733
5	West	8,000	8,400	8,820	9,261	9,724
6						

Report

Here's What to Do

In the image above, leaving cell A2 blank will allow Excel's Intellisense to build the correct chart.

Caution!

If one axis of your data contains dates or numbers, it is important to leave the upper left corner of your data range blank.

Creating a Chart with One Keystroke

1. Highlight your data including the headings.
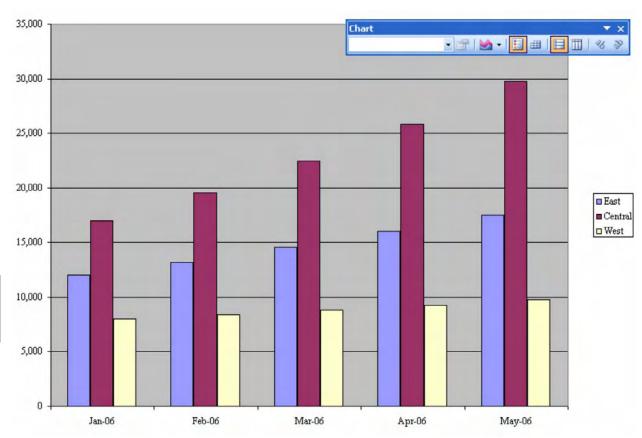
Figure 220

Be sure to include heading when highlighting data to create a chart

	A	B	C	D	E	F
1						
2		Jan-06	Feb-06	Mar-06	Apr-06	May-06
3	East	12,000	13,200	14,520	15,972	17,569
4	Central	17,000	19,550	22,483	25,855	29,733
5	West	8,000	8,400	8,820	9,261	9,724

2. Press the F11 key to create a default chart on a new sheet. Like all Excel charts, it is a pretty horrible looking chart.

Figure 221   Excel's default chart is somewhat lacking in panache

Report

3. This technique always creates the chart on a chart sheet. To move the chart back to be an embedded chart on the original sheet, right-click the chart and choose Location.

Figure 222

Selecting "As object in" to embed your chart in the original spreadsheet
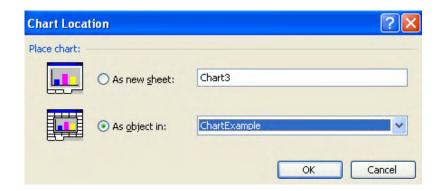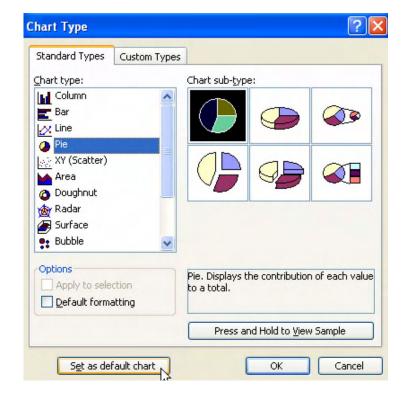
Figure 223

Selecting type of chart from the right-click dropdown menu

Report

Tip:

Using F11, the chart will always be created as a Column chart. If you need a Pie chart, right-click, choose Chart Type and choose Pie. If you will always create Pie Charts, choose a Pie Chart, right-click on the chart, choose Chart Type. On the Chart Type dialog, press the "Set as default chart" button in the lower left.

Making the Chart Look Better

Everything on a chart can be customized by right-clicking that portion of the chart and choosing Format.

1. For example, the plot area is an annoying gray. Right-click on the gray and choose Format Plot Area.

Figure 224
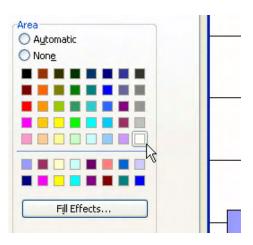
Be adventurous! Right-click in various areas of your chart to see the right-click menu options

2. To save toner on a black and white printer, choose a white color.

Figure 225

Changing the plot area from gray to white

3. To make a great-looking chart, choose the Fill Effects button. On the Fill Effects dialog, choose a two-color gradient from green to white or any other complementary colors.

Report

Figure 226

Try using fill effects to make your charts stand out from the rest

The result will be a chart that looks great when printed on a color printer.
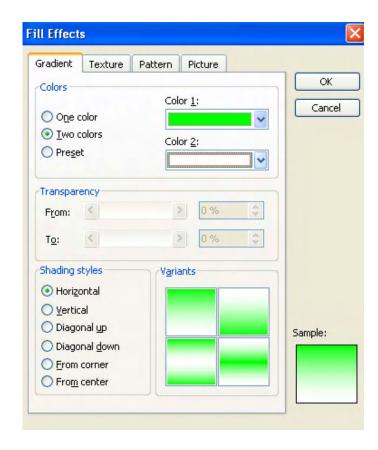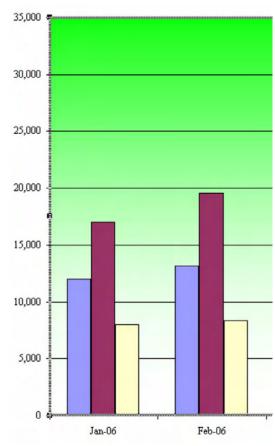
Figure 227

Fill effects add interest and provide a more professional look
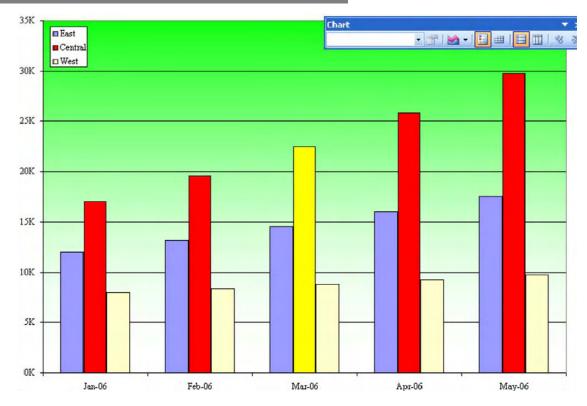
Everything on the chart can be customized.

4. Drag the legend box from the right side to a blank area inside the chart. This will allow you to resize the chart to fill more area.

5. Right-click the Y-axis numbers and choose a custom number format of #,##0,K to display numbers in thousands.

Report

6. Right-click a bar and choose Format Data Series to change the color of the bars in the series.

7. To change the color of a single bar, left-click the bar once to select the series. Left-click the bar again to choose the single data point. Now, right-click and choose Format Data Point. You can now change the color of the single bar to highlight that there was a material shortage that month.
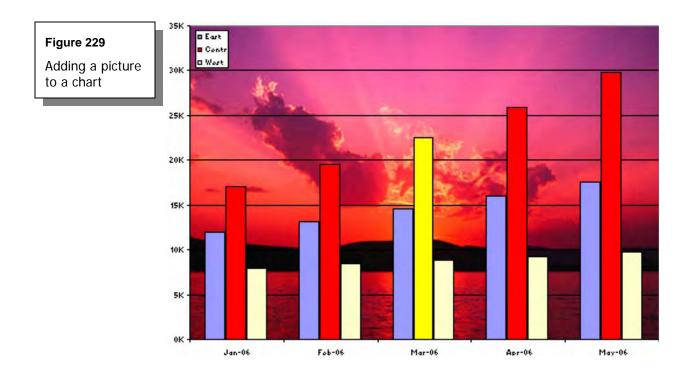
Figure 228   Customized Bar chart
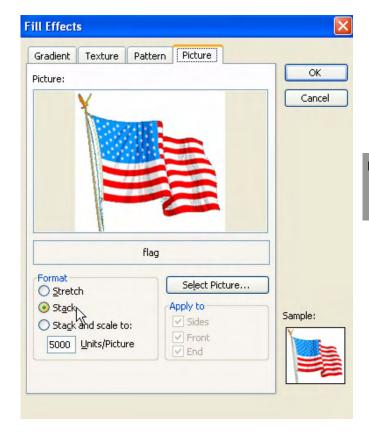
Use Pictures or Textures in a Chart

You can use the Texture or Picture tabs in the Fill Effects dialog shown in Figure 226 to add a picture as the background to a chart.

Figure 229

Adding a picture to a chart

1. To replace the data bars with a picture, right-click a bar and choose Format Data Series. Choose Fill Effects and go to the picture tab.

2. After choosing a picture, you should choose to stack the images.
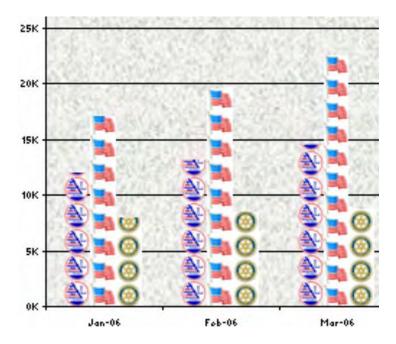
Figure 230

Using the Fill Effects dialog to select a picture that will be stacked to replace a solid bar

Report

The result is stacked clipart used to create the bar for the chart.

Figure 231

Bar charts using stacked pictures instead of solid bars will catch people's attention

Comparing Models of Different Scales on the Same Chart

This data compares forecast to plan for 12 model lines.

Figure 232

Dataset with a wide range of values to chart

Report
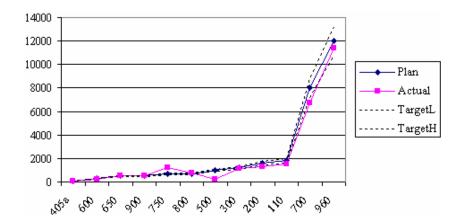
	A	B	C	D	E
1					
2	Model	Plan	Actual	TargetL	TargetH
3	405a	100	89	90	110
4	600	300	243	270	330
5	650	500	545	450	550
6	900	500	560	450	550
7	750	700	1210	630	770
8	800	700	742	630	770
9	500	1000	200	900	1100
10	300	1200	1116	1080	1320
11	200	1600	1296	1440	1760
12	110	1800	1494	1620	1980
13	700	8000	6720	7200	8800
14	960	12000	11400	10800	13200
15					
16	*Acceptable error is +/- 10% from plan*				

For some models, you sell 12,000 per month; for other models, you sell 90 per month. The scale of the chart will be large enough to show the sales of 12,000 but no one will be able to make out any detail for the smaller products.

Figure 233

Wide range of values makes smaller values impossible to read
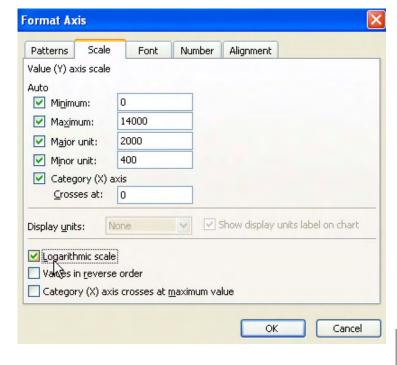
1. Right click the Y-Axis. Choose Format Axis. On the Scale tab, choose Logarithmic scale.

Figure 234

Using the Format Axis dialog to change to scale of the Y-axis
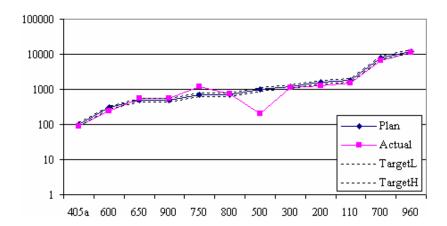
On a logarithmic scale, the gap from 1 to 10 is the same size as the gap from 10 to 100 and the gap from 100 to 1,000, and so forth. This will allow you to see details for the large and small products.

Figure 235

Using the logarithmic scale for the Y-axis makes the chart much easier to read
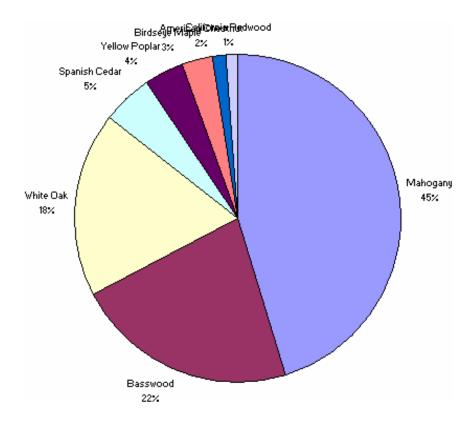
Pie Charts

Here's the Situation

If your data follows the 80-20 rule, you are going to have many very tiny pie slices in a small area of the pie. These slices typically fall toward the back of the chart where they are hard to see.

Figure 236
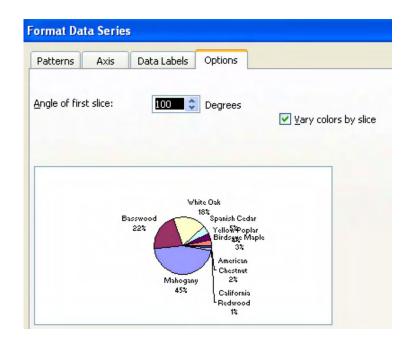
Smaller slices in a pie chart can be very hard to read

Report

Here's What to Do

1. Right click the Chart and Choose Format Data series. In the Format Data Series dialog, there is an options tab that is only available on pie charts and donut charts.

2. On this tab, use the spin button to change the Angle of First Slice to 100 or 110 in order to move the tiny slices to the front corner of the chart, where they will be easier to see.
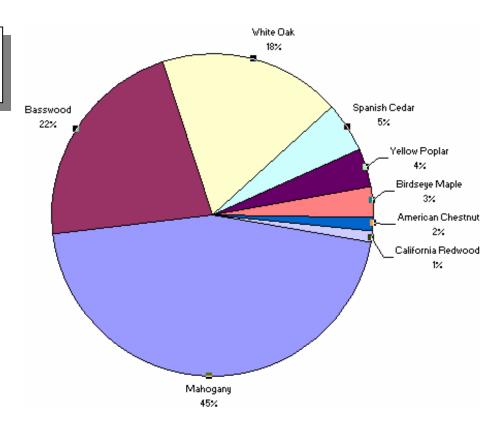
Figure 237

Rotating the pie chart to bring smaller slices closer to the front

By rotating the pie, you've allowed the labels to appear without overlapping each other.

Report

Figure 238

Smaller pie slices can now be read easily

Excel Details
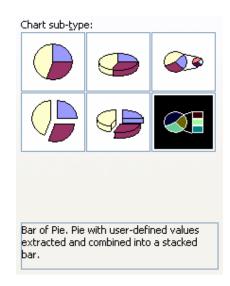
It is also possible to combine the small pie wedges into a single wedge and show a separate column chart with the breakout.

1. Right click the chart and choose Chart Type.

2. Choose the Bar of Pie chart.

Report
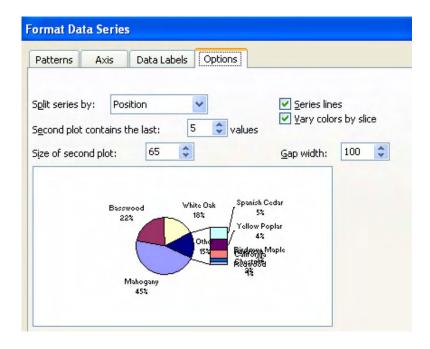
Figure 239

Selecting bar of pie from Chart Type right-click menu

Bar of Pie. Pie with user-defined values extracted and combined into a stacked bar.
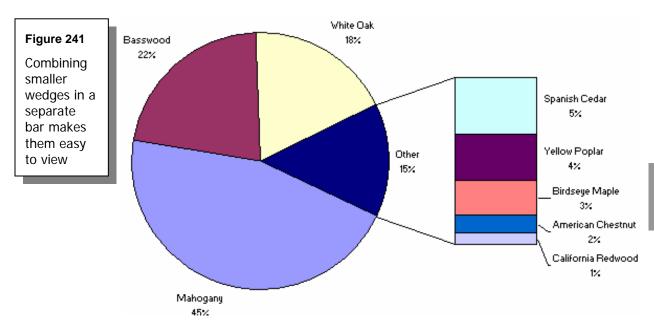
3. Right-click the chart and choose Format Data Series to control how many slices are combined into the final wedge.

Figure 240

Selecting number of smaller slices to combine

The result will be an alternate way to display many small data points.

Figure 241

Combining smaller wedges in a separate bar makes them easy to view

Report
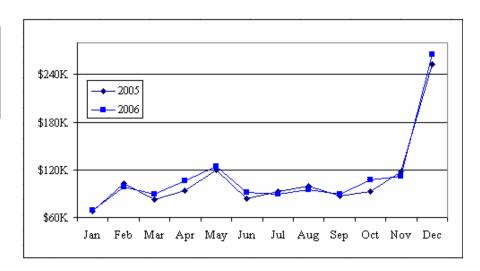
Combo Charts

Here's the Situation

You want to compare monthly sales this year vs. monthly sales last year. With two series represented as line charts, it is hard to follow which line is which year on a black and white printout.

Figure 242

Comparing two similar series as line charts can be confusing
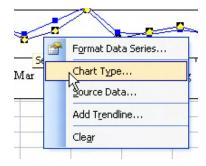
Here's the Solution

It is visually interesting to display the prior year sales as a surface chart while the current year is displays as a line chart.

1. Click on the line for 2005 in order to select that series.
   Right-click the line and choose Chart Type….

Report

Figure 243

Selecting chart Type
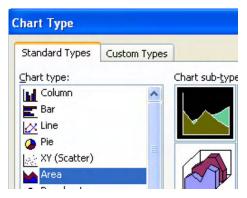
This will change the chart type of just the year 2005 series.

2. Select Area chart and then the first Area chart sub-type.

Figure 244

Changing the previous year's chart to a surface chart
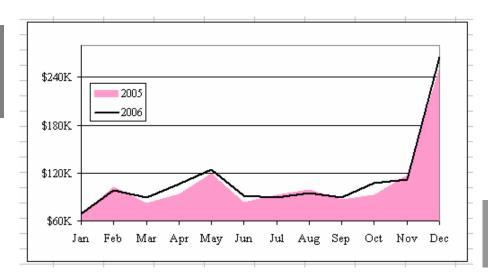
3. Format the data series for 2005. Choose a light color for the fill area and no line for the border.

4. Format the data series for 2006. Choose a heavy line weight and no marker.

The reader of the chart can now easily see where this year exceeded or lagged last year.

Figure 245

Comparing the two years is easily done at a glance

Report
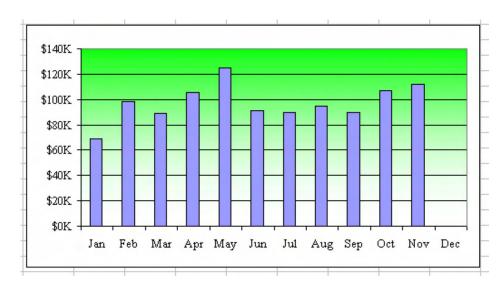
Charting with a Second Axis

Here's the Situation

You have a chart showing monthly sales. It is fairly easy to understand by itself, but you need to add a second series showing year-to-date sales.

Figure 246

Monthly sales chart

Here's the Solution

1. Add a new row with a formula to calculate year–to–date sales.

Figure 247   Adding a YTD row to the spreadsheet

Report

	C3	▼		*fx*	=C2+B3								
	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	2006	$69,205	$98,145	$89,103	$105,822	$124,738	$91,294	$89,537	$94,911	$89,535	$107,076	$112,250	
3	YTD	$69,205	$167,350	$256,453	$362,275	$487,013	$578,307	$667,844	$762,755	$852,290	$959,366	$1,071,616	
4													

2. Select the series from A3:M3. Grab the thick border of the range with the mouse.
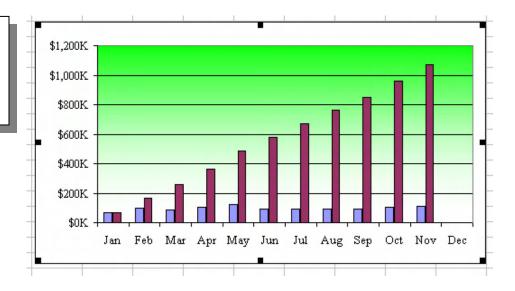
Figure 248   Selecting the new row

	A	B	C	D	E	F	G	H	I	J	K	L	M
1		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	2006	$69,205	$98,145	$89,103	$105,822	$124,738	$91,294	$89,537	$94,911	$89,535	$107,076	$112,250	
3	YTD	$69,205	$167,350	$256,453	$362,275	$487,013	$578,307	$667,844	$762,755	$852,290	$959,366	$1,071,616	
4													
5													

3. Drag the border towards the chart. Drop the new data on the chart to add the new series. The series is added, but it becomes difficult to make out the variation in the monthly series. In the figure below, is it very apparent that May outsold June?

Figure 249
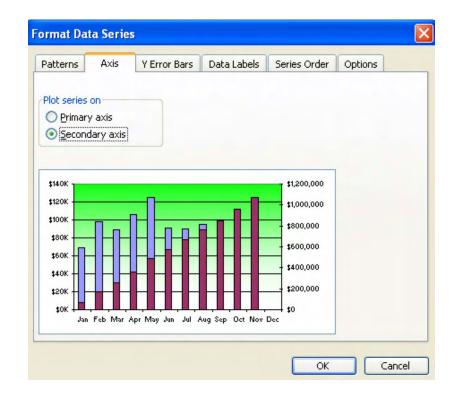
Adding new data to a chart by dragging and dropping a selected range

4. When the size of one series is of a vastly different scale than another series, you should have the larger series plotted against a secondary Y-axis.
Right-click any bar from the second data series and choose Format Data Series.

5. On the Axis tab, choose Secondary Axis.

Report

Figure 250
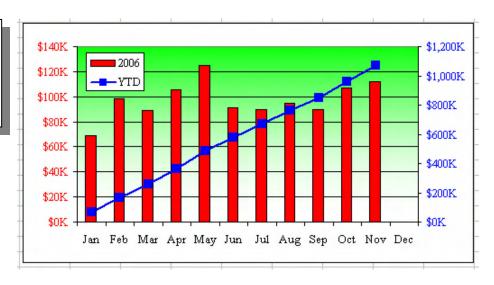
Using a secondary axis to compensate for the difference in scale between the two sets of data

6. Right-click the second series. Choose Chart Type and select a Line Chart.

Figure 251

Changing the chart type can also make the two sets of data easier to compare

Report

You need to provide some way to indicate that the bars correspond to the left scale and that the line corresponds to the right scale. You may not be able to tell in this black and white book, but the scale on the left side and the bars are red, while the scale on the right side and the line are both blue.

The Marketing Mix: Build an Irresistible Offering

Your offering is everything. It's NOT just your product, or your service – it's everything that makes your organization the ideal choice for your target market. Really think about this. If successful marketing is about being truly unique, then the only thing that will make you unique is your combination of people, product, and service.

This is the really tough stuff, especially if you're jumping into this process like most people – with very little information about who your ideal customer is and what's important to them when they're buying what you sell.

Take a measure of where you are.

Chances are you already have an entire product or service offering that you're selling to your customers. You might have done your customer and market research and found that all is well and that you can leave everything as is – and just manage what you have.

Maybe all you have to do is tweak. Your analysis might have shown that everything is going fairly well and you could eek out a few profitability points by simply tweaking a few things here and there. That might include introducing a new product or service for a segment or two or combining some products, bundling some products with services or any number of generally easy adjustments to your marketing mix.

But what if your analysis found that you have major opportunities with a brand new market segment or maybe you discovered a new market segment within your existing customers simply by shuffling them around based on some new segmentation attributes that you discovered? If that's the case, you're probably sitting there thinking, "Well, on the one hand this is great because I can really differentiate myself from the competition and with my customers by creating a marketing mix that meets these ignored customer wants – but on the other hand, where do I begin with something like this and how do I create a new marketing mix without getting the rest of the departments in the company to kill me because I've disrupted the precious and ages-old sales and marketing reporting system?".
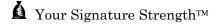
Offering

Creating an Offering That Your Ideal Customers Will Buy – Regardless of Price

While your offering may include a physical product with dimensions and specifications, that is not your offering. While your offering may include a service that you provide, that is not your offering. Your offering is that unique combination of product, service, communication, and passion that only you offer in the way that you offer it. More than that – your offering is all of these things described in terms that reflect your ideal customers' wants. Remember that overused metaphor – sell the hole and not the shovel? THAT is what I'm talking about.

If your customers hem and haw about price, that means that you're selling shovels and not holes. Here are a few things you can try that will help you turn your shovels into holes that your customers will be happy to trade cash for.

The secret lies in the combination of three things:

- Your Signature Strength™
- Your customers' wants
- Your marketing system

This is how it works.

When you combine your unique strength in terms of what your customers' really want and then use a reliable system to communicate that uniqueness and educate your customers, you will give them the information that they need to choose you—you will be the obvious choice. It's logical, it's simple, and it will make competition and pricing pressures go away.

Identify and develop your Signature Strength

This is a simple customer satisfaction survey. If you're a manufacturer that has to comply with ISO 9001, you can kill two birds with one stone by running this survey. The results will not only identify what's important to your customer, but you will also understand how well you perform in relation to what's important to your customers and get benchmark information on how well your competition performs in those same areas.

Understand your customers' wants

Become Columbo and talk to your customers. Ask them what's important to them when they are thinking about buying what you sell. Keep asking why this is important and what about it is important. Pretend that you are about six years old and keep asking "why?" and "what about…". Be sure to write down their answers in quotations – in their words and not yours. Whatever you do, do not over-analyze this. Your best bet is to hire someone to do this for you – it's the best investment you can make in your marketing strategy.

Offering

💰 Develop your marketing system

This is where everything comes together. This is your "manufacturing line" for new business. It includes:

➤ Raw materials
Your market research and customer and product/service information

➤ WIP (Work in Process)
How you add value (your Signature Strength), pricing, and communication to your physical product or service

➤ Inventory and logistics
How well you put your offering in front of the customer and how easy you make it for them to purchase your offering

If pricing and competition are an issue for you, then your customers are telling you that they simply do not have enough information to tell the difference between what you're offering and some two-bit competitor. If you're finding yourself negotiating on price, then your offering is not stated in terms of what your customers are really buying.

Implementation

Finally we get to the section that almost everyone considers to actually be marketing. This is the part of the process that includes all the really fun marketing activities that we do once we have the hard work done.

There are a few assumptions that we'll make for this book. The first is that you are primarily working with your ideal customer. That means that the customers you've segmented and targeted are those who – you could say – LOVE working with you. They value your offering and are happy to pay the price for it because it gives them what they want.

Thinking of your customers in these ideal terms, with you and your customer in a mutually "loving" relationship, it makes sense to ask yourself the same question that you would ask if you were talking about a friend, family member, or a significant other.

Let's pretend that you wanted to buy your friend a birthday gift. If you wanted to be sure that you got them what they wanted – you would probably think about those things that your friend valued and liked – you would think about how they spent their time, what they liked to do and you would try to find them something they would find useful, valuable, and/or beautiful. You would decide on a gift and how you would present this gift to them based on THEIR preferences – not yours.

Offering

Even while setting a budget you might consider the value that this person contributed to your life and your relationship with them.

So, the implementation stage of your marketing strategy should use that same thought process.

After all – you are thinking about your ideal customer. You want to make YOUR company and YOUR product the obvious choice for them as they are deciding on what's going to give them the result they're looking for.

Offering

Trade Shows: Make the Most of them

One of the on-going marketing debates is how valuable exhibiting at trade shows is to your company and to your overall marketing mix. As you would expect, the answer is – that depends. The best way to find out is to actually measure your return on trade show investments.

Trade shows just aren't what they used to be. Used to be – you would go to a show, see your industry buddies, check out the competition, seal a few deals, have a good time. Used to be – you HAD to be at the show. You were conspicuous by your absence and everyone thought that if your company wasn't there that you were sending some loud, negative message to the market, to your customers, and to your industry.

Over the last decade or so, trade shows have become much more focused. It's more than an opportunity to hang with the industry – it's an opportunity to really shop around. Companies send buying groups with vendors to see, deals to make, and shopping lists to fill.

Before the Show

Deciding Which Shows Are Best

If your company has been going to trade shows actively for years – you may have gotten into a trade show rut. How do you know if it's the right show for you? How do you even know what a right show is? You have a limited budget and have to choose the show with the most bang for the buck.

Hopefully this tool will help.

Trade Show Analyzer

Criteria:
List your criteria. (We've given you a few to start – you can use ours or add your own.) The point is that you focus on what objectives this show will help you achieve. Are you going to the show to generate leads? Are you going to the show to meet clients? Are you going to the show to launch a product or service? Whatever reasons you've established are important for the success of your marketing campaign – those need to be determined up front and the trade show needs to be the vehicle that will most efficiently and cost effectively achieve that objective.

Look for those shows that your ideal customers and decision makers attend:
A lot of companies go to their own industry shows – where they are compared to other vendor choices that their ideal customers have. Wouldn't it bet better to go to those shows where your ideal decision-makers go to learn about the latest and greatest?

Trade Show

For example, when I worked for a check valve manufacturer we often went to the industry shows that design engineers attended. They would walk around and compare one valve manufacturer to another. And that was ok – but it was not going to help us implement the pull strategy that we wanted to use in the medical market. So we decided to go to trade shows where our end-users were – and our customers were exhibitors. We tweaked our message for end-users and marketing managers and they were able to see our product as a differentiator for their products. They liked what they saw and told the engineers which part they wanted. Then when we were at the industry show – the engineers came to see us because that's what they were directed to do – not because they were undecided – the decision had been made.

To get your list you can:

➢ **Go to a trade show directory:**
There are lots to choose from online – but when you see the listing – notice how they're classified – it's really by industry. In other words, you're just going to see more people like yourself. So be careful about that.
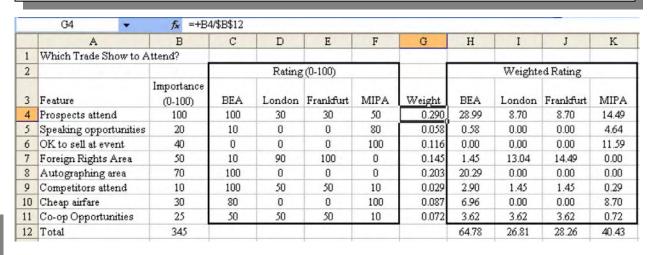
➢ **Search on your market segment:**
Go to your favorite search engine and search on your target segment with the words "trade show" attached. For example if I want to sell to medical device design engineers, I would search on "Medical Device trade show" and then I get the list of trade shows I'm looking for.

➢ **List the shows; list your criteria and rank:**
This little table will help you rank your shows by the criteria that are most important to you. Don't forget to list the budget. Hint: You might want to do this as a database and then use pivot tables to generate the list.

Figure 252   This decision matrix indicates that the BEA and MIPA tradeshows are the best choices. The formulas in the Weighted ranking section are similar to =C4*$G4.

G4			f_x =+B4/$B$12								
	A	B	C	D	E	F	G	H	I	J	K
1	Which Trade Show to Attend?										
2					Rating (0-100)					Weighted Rating		
3	Feature	Importance (0-100)	BEA	London	Frankfurt	MIPA	Weight	BEA	London	Frankfurt	MIPA
4	Prospects attend	100	100	30	30	50	0.290	28.99	8.70	8.70	14.49
5	Speaking opportunities	20	10	0	0	80	0.058	0.58	0.00	0.00	4.64
6	OK to sell at event	40	0	0	0	100	0.116	0.00	0.00	0.00	11.59
7	Foreign Rights Area	50	10	90	100	0	0.145	1.45	13.04	14.49	0.00
8	Autographing area	70	100	0	0	0	0.203	20.29	0.00	0.00	0.00
9	Competitors attend	10	100	50	50	10	0.029	2.90	1.45	1.45	0.29
10	Cheap airfare	30	80	0	0	100	0.087	6.96	0.00	0.00	8.70
11	Co-op Opportunities	25	50	50	50	10	0.072	3.62	3.62	3.62	0.72
12	Total	345						64.78	26.81	28.26	40.43

Trade Show

➢ **Choose your shows**

➢ **Track the show's "performance" on your criteria list:**
Rate how well you thought the show performed against your marketing objectives, track the number of leads you got.

Trade Show Calendar

Map out the shows that you've decided to go to on your marketing calendar. It helps to color code the shows and the activities that go towards supporting each show.

The organization that's putting on the trade show will send you a giant binder with all the critical activities and deadlines mapped out, all you have to do is transfer those to your calendar.

The most important thing to do before starting any trade show activity is to set firm goals and objectives that you have for each show:

- What product or service will you feature?

- What kind of budget do you have for the show – for the booth, your promotional items, etc.?

- Are there competitors or other companies are you interested in?
  Check out their booth: what products or services are they promoting, what's their booth traffic like, are they looking busy?

  Trade shows are huge opportunities to get the real scoop on your market. What specifically do you want to learn about these companies? Ask your management team if there are any special areas that they would like for the trade show attendees to scope out.

Collect all this information and get it down in writing. This will become the driver for every decision on shows for the rest of the year.

Pre-Show Mailings

Do you want to use a theme?   What will it be?
What visuals and promotional items will you use to support your theme?

Now that you have your goals and objectives – you can pick a theme. Some companies are really not into this, but a theme can really help you get your message across to your audience quickly and effectively – it will also help you differentiate yourself from everyone else.

Trade
Show

Where Does the Theme Come from?

Chances are that the show you're going to will have some kind of theme – they may even ask you to do something that matches up to their theme. So that's a great source of brainstorming material.

Another great source for themes is the products and services you want to feature. Look at what you're featuring – what's the primary benefit that it provides your target audience? Focus in on that.

Your audience is a fantastic source for theme ideas. Who is your audience? The trade show organizer will give you a ton of demographics on who will be at the show, their industry, function, age, and a variety of other interesting bits of information. Another great source for audience information is your sales force. Get them to talk about their customers: what kind of people are they, do they like puzzles, golf, fishing, etc. All of these little details can help you come up with a theme that both outlines the primary benefit of your product or service and makes the show both a success and a good time.

Prime the Audience

Reach out to attendees BEFORE the show. Get them thinking about you before the show. Get on their shopping and visiting agenda. Most shows are really huge and unless you get on the attendees agenda – they simply won't come.

My favorite way to get on their agenda is to send them a variety of communications that get them to understand that you know what's important to them as they're deciding on how to buy whatever it is that you sell.

➢ Start backwards from the date of the show – it helps to imagine yourself already there. What do you want your booth to look like? How do you envision your staff interacting with the visitors? What do you want the atmosphere to be like – fun, curious, serious, high-tech, low-tech…?

➢ Remember you have your objectives and you want to make sure that the trade show attendees follow your plan.

➢ Make sure they receive a communication just before they leave for the show with an irresistible reason to stop and see you.

➢ Create a contact or communication plan that has a lot of "texture." That means that it includes a variety of communication options such as mail, e-mail, web site, downloads, multi-media presentations – today's technology really makes the possibilities virtually endless.

Trade Show

You could start by sending a direct mail piece, get them to interact with it – meaning that they have a reason to maybe go on your web site, register, and download some kind of important information that will educate them BEFORE the show. The objective would be to hook them into providing their e-mail address so that you can send them more information.

Booth Camp

The most effective trade show tool I've come across is what I call "Booth Camp" It's actually a training session that I ran with all of our company's attendees to the shows – including the CEO and any other executives that planned on being there.

This showed them that we were focused on the company objectives, it allowed them to communicate any relevant information to "the troops" and it gave the marketing department the opportunity to outline exactly what out goals and objectives were and what our plan was to achieve them.

The Survival Guide

The *Trade Show Survival Guide* is a book I created that includes all the important as well as some nice-to-know information you would want at the show.
Things like:

Team itinerary:
This includes logistic information such as when people will be arriving at the airport and any transportation information that they might need to get to our destination. The itinerary also includes really nice little items such as

➢ Locations of restaurants where your team might want to eat

➢ Hotel amenities

➢ Site seeing suggestions

Goals and objectives for each day:
This is the most critical component of the Survival Guide – it's critical that everyone at the show communicate the same message, which supports the featured products and services and helps to achieve our objectives. Each day we have goals and objectives which can include

➢ Number of visitors to the booth

➢ How many leads we collect

➢ How many people come to the booth because of the marketing pieces we sent

➢ What questions we have and want answered

➢ What competitive information we want to collect

The show plan:
This includes the layout of the booth.

➢ What images are being used

➢ Why they are being used

➢ What marketing message is to be communicated with each graphic

Trade Show

Booth schedule:

A booth schedule is really handy to have. It outlines who will be at the booth and when they will be there. It also provides contact information for everyone who will be at the booth. Customers will be stopping by to see you and you if you're not there – it would be nice for the booth staff to be able to say, "Joe will be here this afternoon between 2 and 4, please stop back then – or you can call him directly, here's his cell phone number".

Do's and don'ts:

Every industry is different – and each country has its own accepted trade show etiquette. In the US and at industrial trade shows, it is understood that you want your booth to be inviting to attendees. People should feel like they are welcome to step into your booth space. If you have people eating, drinking, sitting, reading, and engrossed in each others' conversation – then visitors simply don't feel welcome. In Europe, providing a space for eating and drinking is exactly how they make visitors feel welcome.
The objective of every marketing activity is to be inviting, irresistible, and addictive to your audience – do the things that will achieve those objectives.

The essence of Booth Camp is to get everyone on the same page about what the show is about, what we want from the show and how we intend to get it.

It's a great opportunity for sales, marketing and technical people to review all the product and service information that will be presented. It's the time to ask technical questions, to formulate your unique selling proposition, to talk about which competitors will be there and how you compare against what they will be offering.

At the Show

Pre-and Post-Show Meetings

If you are at a show that runs multiple days, you need to have a pre- and post-show meetings.

The pre-show meeting is an opportunity to:

- Review the objectives

- Review what information you want to collect

- Review which customers to look out for, meet and greet, etc.

The post-show meeting is critical to:

- Review the number of visitors

- Review the number of leads

⚜ Get answers to these questions

- ➤ What was just as you expected?
- ➤ What was not as you expected?
- ➤ What surprised you most?
- ➤ What's changed?
- ➤ Do you need to tweak any messages?
- ➤ Is your promotional plan working? If not, what changes should you make?
- ➤ If you're not meeting your goals, what could you do differently to improve your performance?

After the Show

Lead Tracking System and Sales Cycle Calculator

Chances are you're using some kind of sales and Customer Relationship Manager (CRM) management software to track suspects, prospects, etc. While the companies I worked with generally had a sales tracking system – I always found that I needed to track certain things on my own – because I didn't want to "pollute" their data.

This may or may not be true for you. If your CRM system is not that easy to program for what you want to track – then Excel is the answer for you – especially because it gives you the flexibility and freedom to then import exactly the data you need into just about every CRM system on the market today.

⚜ **Lead collection form:**
Trade shows and companies will have some general lead collection forms with the basics – name, address, interest, and such. But if you're going to run a lean and mean marketing strategy – you'll need a form with more punch – one that addresses the specific market segments and targets that you want to go after and to watch. This is a sample of the information you will want to include:

- ➤ Name
- ➤ Address
- ➤ Company
- ➤ Title
- ➤ Department
- ➤ Purchasing position (influencer, recommender, decision-maker, etc.)
- ➤ Market segment
- ➤ What they want and why
- ➤ What product/service they're interested in and why

Trade Show

> ➢ What will they do with it – application, estimated revenue, estimated usage (units, dollars)

> ➢ What information to send

Lead database:

All the data you collected on the form goes straight into your database. You can now use that list as a mailing list to follow-up by sending e-mails, printed materials, samples, etc. When these prospects contact your company, you can bring up that information and use it to log their contact with you and their request. As they go through your sales process funnel, you can track them as they go through your process until they actually purchase the product.

Return on show:

You can actually generate what your return on show is by tracking the leads you got there. By following up on each lead and tracking the purchases that were influenced by their show attendance, you'll be able to calculate the return on that show.

Here's an example of this process. Before attending our annual trade show, we had decided on which products and services we were going to feature at that show, the market segments that would most benefit and the targeted customers we wanted to focus on. We purchased a list of show attendees that matched our criteria and sent them four waves of a direct mail campaign that we designed specifically for that audience that focused on our offering and their specific wants and issues. As people responded to the mailer, we tracked them in our database. The final mailing included a puzzle and an invitation to our booth to get a prize for filling out the puzzle. Nearly 40% of those we sent the mailings to came to the booth! We thought we had a good campaign, but didn't realize it was THAT good. Out of those 40% about half had asked for more information and several went further down our sales process to get samples. Within about 18 months (which was the average length of our selling cycle) we calculated that the respondents from that show campaign contributed about $500,000 in new product sales! This was a terrific tool for our department when we wanted to justify the enhancement of any trade show activity.

Trade Show

Measurement: Key to Market Management

There is an old management saying, "If you can't measure it, you can't manage it.". That is truer now than ever before.

Process improvement is not only for manufacturing or production anymore – everything is a process and marketing is no exception. One of the main reasons marketing budgets are so easy to slice and eliminate is because few marketing managers have PROVEN the return on the marketing investment.

Here are a few things you can do to start you on your measurement efforts.

> **Ask:**
> Ask new customers how they heard of you, how they chose you and why you were the obvious choice for them. Find out what triggered them to purchase from you.

> **Code and Categorize:**
> Put codes on brochures, advertisements, surveys – any materials that will serve as vehicles for bringing customers in.

> **Develop a budget:**
> There are lots of budgeting methods and your company has a favorite. Make sure that it is rooted in fact and data.

Table 5

Here is one budget method that will help you get to a ball-park number as well as give you a real sense of perspective on customer profitability and return on marketing investment

Customer Net Worth Budgeting		
Your Customer	**Your Marketing**	
How much is your average sale per customer?	How much do you spend on marketing per year?	
What is your average profit for a first time sale?	How many prospects do you get per year?	
How many times does this customer come back in a year?	How many new customers do you get per year?	
What is your profit for each additional sale?		
For how many years has this company been a customer?		
Lifetime Earned Profit per Customer	This is how much each new customer costs.	
Customer Net Worth	This is how much each new prospect currently costs	

> **Determine what can be measured:**
> Metrics can help you here.

Measure

Using Metrics

Metrics are both quantitative and qualitative. That means that you don't need "numbers" to measure something.

Metrics should be based on long term and short term marketing performance. Review what types of information sources exists in-house via automated computerized system.

Metrics – Quantitative

Develop a process to manage and control change. Measure on any of the following:

> ➢ Sales volume
>
> ➢ Sales growth
>
> ➢ Market share
>
> ➢ Customer satisfaction
>
> ➢ Budget
>
> ➢ Financial performance, etc.

Let's be clear on something. All of these things I've just listed are things you can quantitatively measure – but remember, these are numbers you track – they may or may not measure the actual effectiveness of your marketing program. I'm not saying it can't be measured. I'm saying that using any of these measurements in and of themselves simply measures that category: sales, budget or financial performance. You MUST be sure that you have a firm link between your marketing program and how you will measure its success.

Calculating Sales over Plan

Calculating sales over plan is typically a sales measurement and not a marketing measurement. But let's not be academic about this. The whole PURPOSE of doing any marketing is to develop and run strategies that will get customers to choose you. When they choose you, you want them to BUY from you and when they BUY from you, sales increase. So rather than bicker about semantics, let's measure sales.

Measure

Here's the Situation

In the report below, you want to create a formula to calculate sales in excess of plan for each model. If sales did not exceed plan, you do not want to display a negative number.

	Figure 253
	Preparing to show sales over plan

	A	B	C	D	E
1	XYZ CO				
2	BEST PRODUCT LINES - SALES IN EXCESS OF PLAN				
3	FY2006				
4					
5	**Model**	**2005** **Actual**	**2006** **Plan**	**2006** **Sales**	**Sales Over** **Plan**
6	Model 100	2,214K	2,300K	2,349K	
7	Model 200	2,470K	2,600K	2,594K	
8	Model 400	4,149K	4,400K	4,512K	
9	Model 700	1,113K	1,200K	752K	
10	Model 900	912K	1,000K	958K	
11	Model 1100	1,460K	1,600K	1,867K	

Here's What to Do

The formula of =D6–C6 will not provide the best result. In this analysis, you want to show that two products beat the plan. The negative numbers in the other model lines will cause the meaning of the report to be lost.

	Figure 254
	Negative numbers need to be removed to allow the full effect of the products that were over plan

	A	B	C	D	E
1	XYZ CO				
2	BEST PRODUCT LINES - SALES IN EXCESS OF PLAN				
3	FY2006				
4					
5	**Model**	**2005** **Actual**	**2006** **Plan**	**2006** **Sales**	**Sales Over** **Plan**
6	Model 100	2,214K	2,300K	2,349K	49K
7	Model 200	2,470K	2,600K	2,594K	-6K
8	Model 400	4,149K	4,400K	4,512K	112K
9	Model 700	1,113K	1,200K	752K	-448K
10	Model 900	912K	1,000K	958K	-42K
11	Model 1100	1,460K	1,600K	1,867K	267K
12					-69K

Using an IF function is an intuitive way to solve this problem. The IF function needs three arguments.

➢ The first argument is a test that will result in TRUE or FALSE.
In this case the test is if D6>C6.

➢ The second argument is the calculation to use if the test is true.
In this case, that would be D6–C6.

Measure

> ➢ The final argument is the calculation to use if the test is false.
> This might either be zero (0) or a blank indicated by two quotation marks.

The formula in the figure below creates a report where only the high-flying products show a result in column E.

Figure 255

Displaying the values only for those products that went over the sales plan

	E6		▼	*fx*	=IF(D6>C6,D6-C6,"")
	A	B	C	D	E
1	XYZ CO				
2	BEST PRODUCT LINES - SALES IN EXCESS OF PLAN				
3	FY2006				
4					
5	**Model**	**2005** **Actual**	**2006** **Plan**	**2006** **Sales**	**Sales Over** **Plan**
6	Model 100	2,214K	2,300K	2,349K	49K
7	Model 200	2,470K	2,600K	2,594K	
8	Model 400	4,149K	4,400K	4,512K	112K
9	Model 700	1,113K	1,200K	752K	
10	Model 900	912K	1,000K	958K	
11	Model 1100	1,460K	1,600K	1,867K	267K

Excel Details

A faster way to calculate sales over plan is to take the MAX of 0 and the calculation D6–C6. If sales exceed plan, then D6–C6 is positive and the result of this calculation will appear. If D6–C6 is negative, then zero will be larger than the result and MAX will return 0.

Figure 256

Using MAX to return a zero for products that were under the sales plan

	E6		▼	*fx*	=MAX(0,D6-C6)
	A	B	C	D	E
1	XYZ CO				
2	BEST PRODUCT LINES - SALES IN EXCESS OF PLAN				
3	FY2006				
4					
5	**Model**	**2005** **Actual**	**2006** **Plan**	**2006** **Sales**	**Sales Over** **Plan**
6	Model 100	2,214K	2,300K	2,349K	49K
7	Model 200	2,470K	2,600K	2,594K	0K
8	Model 400	4,149K	4,400K	4,512K	112K
9	Model 700	1,113K	1,200K	752K	0K

To produce the opposite report – the report showing the products that did not meet the plan, use MIN instead of MAX.

Measure

Figure 257

Using MIN to return a zero for products that were over the sales plan

	E6	▼	*fx*	=MIN(0,D6-C6)	
	A	B	C	D	E
1	XYZ CO				
2	WORST PRODUCT LINES - SALES BELOW PLAN				
3	FY2006				
4					
5	Model	2005 Actual	2006 Plan	2006 Sales	Sales Shortfall
6	Model 100	2,214K	2,300K	2,349K	0K
7	Model 200	2,470K	2,600K	2,594K	-6K
8	Model 400	4,149K	4,400K	4,512K	0K
9	Model 700	1,113K	1,200K	752K	-448K
10	Model 900	912K	1,000K	958K	-42K
11	Model 1100	1,460K	1,600K	1,867K	0K

Calculating Compound Growth Rates

Another thing we all want to measure is growth. How else would we know if we should jump on an opportunity, buy a company, or invest in a particular strategy?

Compound Growth Rates measure how much something grew on average, per year, over a multiple-year period, after considering the effects of compounding. It's among the most looked-at numbers in any marketing report or opportunity analysis and proposal. It's popular for a reason; it is the one number that will tell you how weak or strong a company or opportunity is.

Here's the Situation

If a widget sells 1000 units in year one and grows 10%, it will sell 1100 units in year two. In order to grow 10% in year three, the widget would have to sell 1210 units. With 10% growth again, the widget would sell 1331 units.

The formula to get from 1000 to 1331 is:

FinalYear = 1000 * 1.10 * 1.10 * 1.10

This can be restated as:

FinalYear = 1000 * 1.10^3

Or, you can generalize the formula to say:

FinalYear = StartYear x (1+GrowthRate)^# Years

So – how do you calculate a compound growth rate if you know the sales in year one and year n?

Measure

Here's What to Do

Using a little algebra, you can solve for the growth rate. However, you need to understand how Excel calculates exponents and roots. The formula of 1.10^3 is the same as saying 1.1 raised to the third power. In the formula for growth rate, you will have to find the cube root of the number. It turns out that to find the third root of a number, you have to raise the number to the (1/3) power.

1. To find the compounded growth rate, use this formula:

GrowthRate = (FinalYear/StartYear)^(1/# Years)–1

2. To calculate the growth rate for this series of sales, use the following:

=(E4/B4)^(1/3)–1.

Figure 258

Calculating the growth rate for a series of sales

Note that this formula does not look at the middle years at all. The following series will produce the same growth rate:

Figure 259
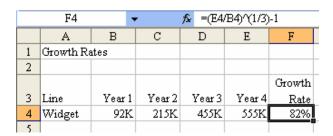
Calculating the growth rate for a different series, but getting the same result

This line grew very fast in year two and year three, but growth has stagnated in year four. Still, the compounded growth rate is 82%.

Figure 260

Calculating compounded growth rate

Measure

3. When a new data point comes along, adjust the formula to raise to a 1/4th power.

Figure 261

Changing the power to reflect the addition of another year's data

	G4	▼		*fx* =(F4/B4)^(1/4)-1			
	A	B	C	D	E	F	G
1	Growth Rates						
2							
3	Line	Year 1	Year 2	Year 3	Year 4	Year 5	Growth Rate
4	Widget	92K	215K	455K	555K	485K	52%
5							

Excel Details

Compound growth rates are significantly harder to figure out than single year growth rates. To find the growth from one year to the next, simply use =(Year2/Year1)–1.

Figure 262

Another way to calculate compounded growth rates

	F5	▼		*fx* =(F4/E4)-1		
	A	B	C	D	E	F
1	Growth Rates					
2						
3	Line	Year 1	Year 2	Year 3	Year 4	Year 5
4	Widget	92K	215K	455K	555K	485K
5	Growth		134%	112%	22%	-13%
6						

Measures – Qualitative

Qualitative measurements are the responses – bits and pieces of information that you gather while you're exploring opportunities.

Just because it's qualitative, and doesn't have thousands of lines of data, doesn't mean that it isn't valuable or can't be quantified, charted, or presented using Excel.

First, develop a process that taps into key constituents for feedback. Determine who to contact, when to contact them, and the vehicle to use. That is, develop a survey to collect the feedback. For example, weekly teleconference calls or face to face meetings or emails with salespeople, managers, or customer service department to solicit feedback on the new program.
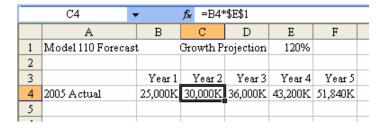
You can collect all of these things into an Excel data base to be used for analysis later.

Measure

Finding the Growth You Want with Goal Seek

Here's the Situation

You need to build a product forecast that will reach $100 Million in sales in year five. What growth rate is needed?

Figure 263

Working with growth rates

Finding the solution could be like playing the annoying game on the Price is Right: bump cell E1 up to 150% only to find out that this is too high. Try 140% in E1 only to find out that it is too low. Try 143% – too high; 141% – too low; 142% – too high;. 141.5% – almost there, but still too high. This could go on forever.
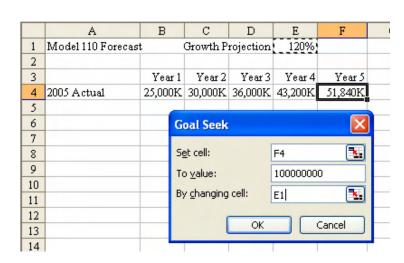
Here's What to Do

Instead of playing the higher/lower game, allow Excel to instantly narrow in on a selection.

1. Select cell F4 – the cell with the forecasted revenue for year five. From the menu, select Tools – Goal Seek.

2. In the Goal Seek dialog, indicate that you want to set cell F4 to $100,000,000 by changing cell E1.

Figure 264
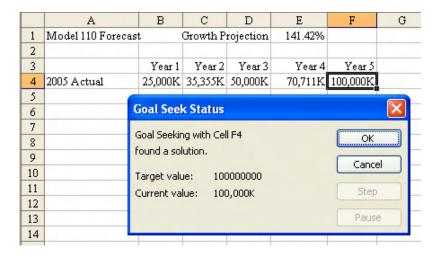
Determining necessary growth rate to reach a sales goal with Goal Seek

3. Choose OK and Excel will propose a growth rate of 141.42%. Choose OK to enter this value in cell E1.

Figure 265

Now you know how to reach that hundred million dollar goal!

Measure

Measure

Not Really the End

There is no way to really end this book. It would be like saying that a process and a system just stop – and we know that's not the way it is.

When we started writing this book, it was with the vision of giving marketing people a framework to grab onto that would help them identify opportunities and become heroes and geniuses within their organizations. But to do that will take more than just the two of us putting our heads together. It takes a shared knowledge and a community.

Our hope is that in your journey through this book, you've developed some wonderful improvements to what we've tried to document here. Please share them with us!

We'd love for this to be a community work in progress, so please tell us your war stories and send us you're spreadsheets.

Visit www.ThirdForce.net/mktgbook.html to access:

➢ Sample Excel files used throughout the book

➢ Forum for discussion of concepts

➢ Links to Excel tools and resources that you can use.

End?

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Ivana Taylor is the president of Third Force Marketing a consulting firm that specializes in making her clients the obvious choice for their customers.

Bill Jelen is MrExcel - a popular regular on the Call for Help television show and author of nine books about Microsoft Excel.

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