# Tutorial **GE Portfolio Matrix**



*Marketing Engineering for Excel* is a *Microsoft Excel* add-in. The software runs from within Microsoft Excel and only with data contained in an Excel spreadsheet.

After installing the software, simply open *Microsoft Excel*. A new menu appears, called "*ME* + *XL*." This tutorial refers to the "*ME* + *XL*/*GE Portfolio Matrix*" submenu.

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### **Overview**

The GE Portfolio approach evaluates a business on the basis of two composite dimensions: industry attractiveness and business strength. These dimensions, in turn, consist of a series of weighted factors. Both the factor weights and the factors themselves may vary from one application to another; for example, industry attractiveness includes measures of market size, growth rate, competitive intensity, and the like, whereas business strength normally includes such measures as market share, share growth, and product quality. Analysts assign each business a rating for each factor and a weight to each factor. Multiplying the factor ratings by the weights produces a position for each business on the strength/attractiveness matrix.

Although designed to mimic the GE approach to portfolio management, this model can also be used for any situation in which a certain number of entities (e.g., companies, products, sales territories) can be ranked on one or more sets of weighted factors.

The GE Portfolio approach helps firms answer such questions as:

✓ On which products, offerings, or divisions should we focus our efforts?

- ✓ What method can we use to assess and understand the weights that various members of the management team assign to different dimensions?
- How can we reconcile different points of view regarding weights and evaluations given to various factors by different groups within an organization?

## **Getting Started**

The GE Portfolio matrix software allows you to use your own data directly or to use a template preformatted for the GE analysis.



The next section explains how to create an easy-to-use template to enter your own data.

If you want to run the GE Portfolio Matrix immediately, open the example file "*OfficeStar Data (GE).xls*" and jump to "Step 3: Running analysis" (p. 7). By default, the example files install in "*My Documents/My Marketing Engineering/.*"

# **Step 1 Creating a template**

#### Using the interactive assistant

In Excel, if you click on ME  $\blacktriangleright$  XL  $\rightarrow$  GE PORTFOLIO MATRIX  $\rightarrow$  CREATE TEMPLATE, a dialog box appears. This box represents the first step in creating a template for running the GE Portfolio matrix software. The first dialog box prompts you to use an interactive assistant.

Unless you are already familiar with the methodology, you should select "yes."

🏧 Create GE Template 🛛 💽 🔀
Please select how you would like to create the GE/McKinsey Template.
Interactive Assistant
Would you like to use the Interactive Assistant to create a GE/McKinsey template
Yes
C No (recommended for expert users only)
Cancel <u>N</u> ext >

#### Listing items

The first step of the template generation process requires you to label and list the items (e.g., business units, products) you want to compare.

🍱 Create GE Te	mplate	? 🗙								
Please label the type of items (e.g., business units or products), and list the different items that will be rated and compared.										
Type of Items										
Business Units/Product:										
Business Units/Produc	ts s/Products:									
Add										
List of Business Units/Pi	oducts:									
Up	Down	Delete								
Cancel	< <u>P</u> revious	<u>N</u> ext >								

Label the type of entities you will be analyzing. "Business Units/Products" already has been entered as a default.

Enter the names of your business units/products in the drop-down box. Press ENTER or click on the Add button to add your entry to the list of business units/products.

After entering the items, you may reorder your list by selecting an item and clicking the Up or Down button. You may also delete the highlighted item.

🍱 Create GE Template 👘  🔀										
Please label the type of items (e.g., business units or products), and list the different items that will be rated and compared.										
Type of Items										
Products										
Business Units/Products										
Enter new Products:										
Add										
List of Products:										
Office Supplies Furniture										
Computers Software										
Ink & Toner										
IIIn Down Delate										
Delete										
Cancel < <u>Pr</u> evious <u>N</u> ext >										

After entering all your business units/products (at least two), click on the Next button to proceed to the next step of the template creation process.

#### Defining the horizontal axis

In the next step, you label and define the underlying components of the horizontal axis, labelled "Business Strength" by default.

🍱 Create GE	Template	e ? 🔀										
Please name the horizontal axis, and select the underlying factors that contribute to it.												
Horizontal Axis Label												
Business Strength												
Factors												
Enter new factor o	Enter new factor or select from list:											
Add												
Factors contributir	ng to Business Stre	ength										
Up	Down	Delete										
Cancel	< <u>P</u> revious	<u>N</u> ext >										

Enter the names of your business strengths for this analysis. Alternatively, you may choose from a list of preset alternatives in the drop-down box. (Note: Items with a "C#" after them refer to the factors defined by Cooper [1993].) Press ENTER or click on the Add button to add your entry to the "Factors contributing to Business Strengths."

After entering the names, you may reorder your list by selecting an item and clicking the Up or Down button. You may also delete the highlighted item.

🏧 Create GE Template 💦 🛛 🔀									
Please name the horizontalaxis, and select the underlying factors that contribute to it.									
Horizontal Axis Label									
Business Strength									
Factors									
Enter new factor or select from list:									
Add									
Factors contributing to Business Strength:									
Product Fit Brand Reputation Market Share Competitive Advantage									
Up Down Delete									
Cancel < <u>P</u> revious <u>N</u> ext >									

After entering all your business strengths (at least one), click on the Next button to proceed to the next step of the template creation process.

#### Defining the vertical axis

In this step, you label and define the underlying components of the vertical axis, labelled "Industry Attractiveness" by default.

🏧 Create GE Template 💦 💽 🔀										
Please name the vertical axis, and select the underlying factors that contribute to it.										
Vertical Axis Label										
Industry Attractiveness										
Factors										
Enter new factor or select from list:										
Add										
Factors contributing to Industry Attractiveness: Overall Market Size Annual Market Growth Rate Competitive Intensity Historical Margins										
Up Down Delete										
Cancel < <u>P</u> revious <u>N</u> ext >										

Enter the names of your industry attractiveness factors for this analysis. Alternatively, you may choose from a list of preset alternatives in the dropdown box. (Note: Items with a "C#" after them refer to the factors defined by Cooper [1993].) Press ENTER or click on the Add button to add your entry to the "Factors contributing to Industry Attractiveness."

After entering the factors, you may reorder your list by selecting an item and clicking the Up or Down button. You may also delete the highlighted item.

After entering all your industry attractiveness factors (at least one), click on the Next button to proceed to the next step of the template creation process.

#### Defining weight sets

The last step of the template generation process requires you to define the weight sets.

Different groups in the organization often believe the various factors from the previous two sections have different levels of importance. The analysis can take this divergence of opinion into consideration and help illustrate how two different groups might disagree about the importance of a factor, which indicates the relative positioning of the business units or products.

🍱 Create GE Template 💦 🛛 🔀												
Please select whether the analysis will be run with one or multiple weight sets, and name the weight sets under consideration.												
Number of weight sets												
C One set of weights												
<ul> <li>Multiple sets of weights</li> </ul>												
Weight sets												
Enter new Weight Set Label:												
Marketing Weights Finance Weights												
Up Down Delete												
Cancel < <u>P</u> revious <u>O</u> K												

To use the default, i.e., One set of weights, click OK. Otherwise, select Multiple sets of weights to enable the rest of the dialog box. Enter the names of your weight sets (groups or people in the organization) in the drop-down box, then press ENTER or click on the Add button. Your weight set appears in the List of Weight Sets.

By clicking OK, you generate a template.

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2	Horizontal	Axis (rating	gs, weights	)												
3	On a scale from	1 to 5, rate Prod	lucts on each fa	ctor, and weight	the importance o	of each factor.										
	Business	Office Supplies	Furniture	Computers	Software	Ink & Toner	11	Marketing	Finance Weights							
4	Broduct Fit						11	Weights								
5	Brand						1 1	5	-						-	
6	Reputation						11	5	5							
7	Market Share						11	5	5							
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8	Advantage			+l			i i									
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10	Vertical Av	is (ratings	weights)													
11	On a scale from	1 to 5 rote Bred	werginaj	ator and wolaht	the importance of	f each factor										
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13	Attractiveness	Office Supplies	Furniture	Computers	Software	Ink & Toner	11	Weights	Finance Weights							
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14	Size			ļ			Ļ	,	Ŭ							
15	Annual Market						11	5	5							
15	Competitive															
16	Intensity						11	5	5							
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17	Margins			اI					i							
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#### Not using the interactive assistant

You may skip the above intermediary steps and create a blank template. When you are prompted to use the interactive assistant, just click "no." The following dialog box appears:

🚾 Create GE Template	? 🗙
Please select the options to create the Matrix Template.	GE/McKinsey
Options	
• Number of items (e.g., products)	5 🕂
Number of factors, horizontal axis	4
Number of factors, vertical axis	4 📫
Number of weight sets	2 📫
Cancel < Previous	<u>0</u> K

When you click OK, you generate a new blank spreadsheet. You must enter the names of all entities and factor labels manually in the spreadsheet.

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Horizont	al Axis (ratin	as, weights	)											+
On a scale fro	m 1 to 5, rate item	is on each factor.	and weight the	importance of e	ach factor.									+
Enter	Enter item 1	Enter item 2	Enter item 3	Enter item 4	Enter item 5		Enter label for	Enter label for						
horizontal ax	is label here	label here	label here	label here	label here	11	weight set 1	weight set 2						
Enter factor 1	Enter rating here	Enter rating here				11	Enter weight							+
label here	(1-5)	(1-5)				i i	here (1-5)							
Enter factor 2						11								
label here						1								-
Enter factor 3						11								
Enter factor 4						i i								+
label here						11								
Vertical A	Axis (ratings,	, weights)												
On a scale fro	m 1 to 5, rate item	is on each factor.	and weight the	importance of e	ach factor.									
Enter vertica	Enter item 1	Enter item 2	Enter item 3	Enter item 4	Enter item 5	11	Enter label for	Enter label for						
axis label he	re label here	label here	label here	label here	label here	н	weight set 1	weight set 2						-
Enter factor i	Enter rating nere (1-5)	Conter rating nere (1-5)				11	Enter weight bere (1-5)							
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label here						11								
Enter factor 3						11								
label here						- 1								+
Enter factor 4						i i								
induct file to														+
Market S	ize													
On a scale fro	m 1 to 20, please	enter market size	for each item.											Ť
	Enter item 1	Enter item 2	Enter item 3	Enter item 4	Enter item 5									
	label here	label here	label here	label here	label here	<u>i –</u>								
Market Size	Enter market					1								
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	/						1.1						1	
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## Step 2 Entering your data



In this tutorial, we use the example file "*OfficeStar Data (GE).xls,*" which by default appears in "*My Documents/My Marketing Engineering/.*"

To view a proper data format, open that spreadsheet in Excel. A snapshot is reproduced below.

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1	1						1.0		0	K	100		~	-	^
2	Horizontal	Axis (rating	gs, weights	)											
3	On a scale from	1 to 5, rate Prod	lucts on each fa	ctor, and weight	the importance of	of each factor.									
4	Business Strength	Office supplies	Furniture	Computers	Software	Ink & Toner	Π	Marketing weights	Finance weights						
5	Product Fit	4	4	3	2	5	11	5	3						
6	Brand Reputation	5	3	2	1	4		5	2						
7	Market Share	3	2	1	3	3	i i	3	5						
8	Competitive Advantage	4	5	3	2	з		5	1						
9														<b>—</b>	
11	Vertical Ax	is (ratings	weights)												
12	On a scale from	1 to 5, rate Prod	ducts on each fa	ctor, and weight	the importance of	of each factor.									-
13	Industry Attractiveness	Office supplies	Furniture	Computers	Software	Ink & Toner	Π	Marketing weights	Finance weights						
14	Overall Market Size	4	4	5	3	2		2	5						
15	Annual Market Growth Rate	1	2	4	3	4	Π	2	4						
16	Competitive Intensity	2	4	5	2	2		4	2						
17	Historial Margins	2	2	1	3	4	Π	3	5						
18 19														_	
20	Market Siz	е													
21	On a scale from	1 to 20, please o	enter market size	e for each item.											
22		Office supplies	Furniture	Computers	Software	Ink & Toner									
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A typical GE Portfolio matrix spreadsheet contains:

- **Horizontal (vertical) ratings:** Consensus estimates of the *relative* strengths of each item (e.g., business units, products) on the underlying factors that constitute the horizontal (vertical) axis.
- Horizontal (vertical) weights: The weights of the underlying factors that constitute the horizontal (vertical) axis. The higher the weight, the more impact the ratings have on the overall axis. You can use different sets of weights to see how the weighting of various factors affects the overall analysis.
- **Market sizes:** These sizes affect the size of the bubbles in the final GE Portfolio charts.



All weights and ratings have positive connotations, meaning that a higher rating means "better" and a higher weight means "more important."

For example, if you take into account a "Competitive Intensity" factor, a rating of 1 would mean that competition is very intense in the market (usually an undesirable characteristic), and a rating of 5 indicates the market is largely free of major or aggressive competitors.

## Step 3 Running analyses

After you enter your data in the Excel spreadsheet using the appropriate format, click on ME  $\triangleright$  XL  $\rightarrow$  GE PORTFOLIO MATRIX  $\rightarrow$  RUN ANALYSIS. The dialog box that appears indicates the next steps required to perform a GE Portfolio matrix analysis of your data.

🖫 Run GE Analysis 🛛 🛛 🚦	X
Please select the options to run a GE/McKinsey Mat Analysis.	ńx
Data Selection	
Next, you will be asked to select Cell Ranges for:	
1. Horizontal Axis Ratings	
2. Horizontal Axis Weights	
3. Vertical Axis Ratings	
4. Vertical Axis Weights	
5. Market Sizes	
Save choices in current spreadsheet Cancel	1

When you have selected all the options, then select the cells containing the data.

GE Matrix 🛛 🔀
Please select Cell Range for Horizontal Axis Ratings.
The first column should contain Horizontal Factor Labels, and the first row should contain Item Labels (e.g., business units, products).
GE Template'!\$B\$4:\$G\$8
OK Cancel





GE Matrix 🛛 🔀
Please select Cell Range for Vertical Axis Weights.
The first row should containWeight Labels.
GE Template'!\$I\$13:\$J\$17
OK Cancel
GE Matrix 🛛 🔀
Please select Cell Range for Market Sizes.
The first row should contain Item Labels (e.g., business units, products), and the second row should contain Market Sizes.
GE Template'I\$C\$22:\$G\$23

The new generated spreadsheet contains the results of your GE Portfolio matrix analysis.

OK Cancel

## Step 4 Interpreting the results

#### **GE matrices**

The software generates a GE matrix for each weight set. If you have specified different weight sets, you might switch from one matrix to the next to help identify how the different sets of weights affect the overall diagnostic results.





When interpreting the matrices, keep in mind that the most desirable items (e.g., business units or products on which you should focus most of your efforts and allocate resources) are those that are large enough and ideally those in the upper right corner of the matrix. You have particular strengths in pursuing these businesses, the industry is particularly attractive, and the market is large enough to sustain the business.

#### **References**

Cooper, Robert G. (1993), <u>Winning at New Products</u>, Perseus Books: New York.