

User's Guide to
TurboBPR Version 2.5

Section 2

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Entering Data

Strategic Planning Module

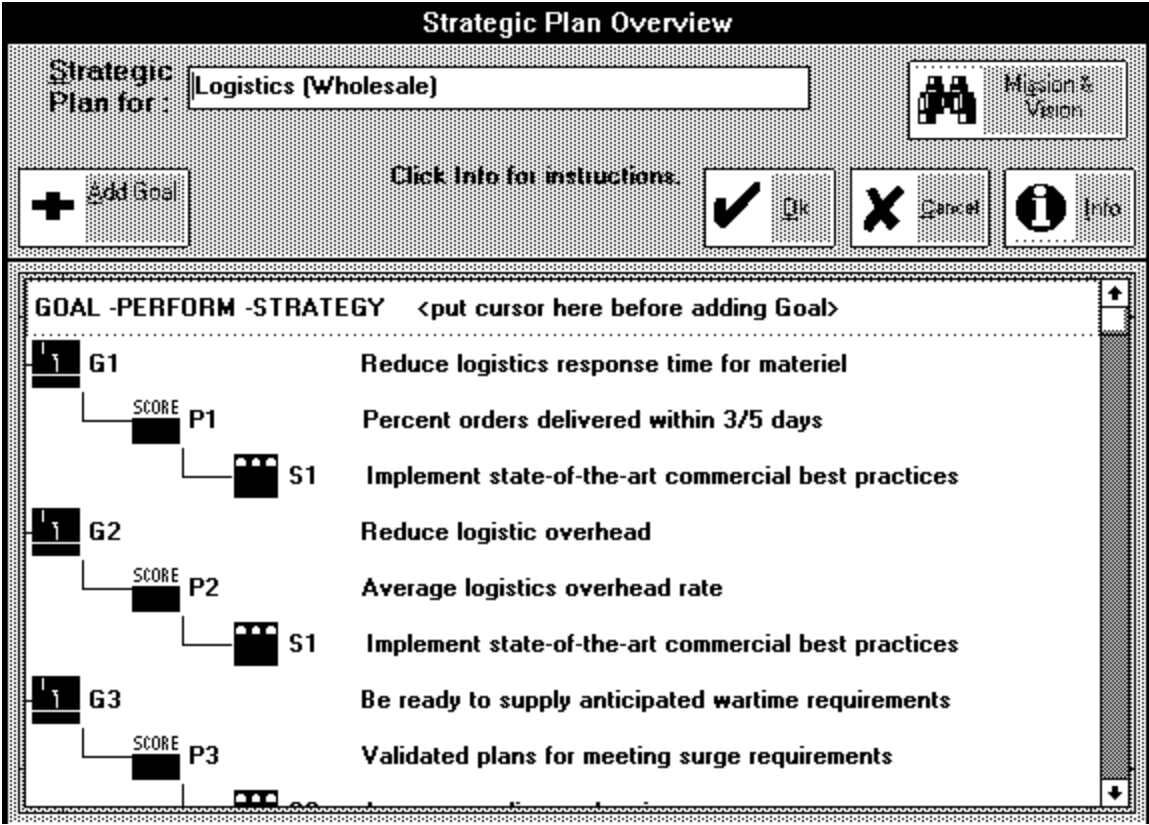
This module helps the user develop a strategic plan for the organization. It walks the user through a structured series of steps to create the:

- Mission
- Vision
- Goals to achieve the vision
- Performance measures to track progress toward the goals
- Strategies for the accomplishment of each goal

This module can be used by itself for strategic planning or as part of the FEA or BPR processes.

Strategic Plan Overview Window

Use this window to create and edit the data in your strategic plan.



Strategic Plan for text box

Use this text box to enter the name of your organization, for example Logistics.

Add button

Use this button when you want to add a goal, performance measure, or strategy. The caption on the button changes depending upon what's currently selected.

Selection: GOAL-PERFORM-STRATEGY (topmost row)

Button Caption: Add Goal

Action: Creates a new a goal. (You may have to scroll through the strategic planning map to see it.)

Selection: GOAL

Button Caption: Add Perform

Action: Creates a default performance measure and links it to the selected goal.

Selection: PERFORMANCE MEASURE

Button Caption: Add Strategy

Action: Creates a default strategy and links it to the selected performance measure.

Delete button

Use this button when you want to delete a goal, performance measure, or strategy. The caption on the button changes depending upon what's currently selected.

Selection: GOAL

Button Caption: Delete Goal

Action: Deletes selected goal.

Selection: PERFORMANCE MEASURE

Button Caption: Delete Perform

Action: Deletes selected performance measure.

Selection: STRATEGY

Button Caption: Delete Strategy

Action: Deletes selected strategy.

Mission & Vision button

Use this button to open the "Mission and Strategic Vision Statements" Window, where you can enter your function's mission and vision statements.

Strategic Planning Map

This area of the window displays the goals, performance measures, and strategies that you have created, and the links between them. If you double-click on a goal, the "Goals: Details" window opens. If you double-click on a performance measure, the "Performance Measures: Details" window opens. If you double-click on a strategy, the "Strategies: Details" window opens.

OK button

Use the **OK** button to save all of the changes you made since you last opened the active window (or saved the file).

Cancel button

Use the **Cancel** button to undo all of the changes you made since you last opened the active window (or saved the file).

Info button

Each TurboBPR window contains an **INFO** button. Use this button, to view data entry instructions for the active window. Click the **Help** button on the info window to view context-sensitive Help.

Mission and Strategic Vision Statements Window

Use this window to enter and edit information about your function's mission and future vision.

Mission Statement text box

Use this text box to enter your organization's mission statement.

Strategic Vision Statement text box

Use this text box to enter your organization's vision statement.

Opening Mission and Strategic Vision Statements Window

1. Click on the **Plan** module button. The "Strategic Plan Overview" window appears.
2. Click on the **Mission & Vision** button.

Goals: Details Window

Use this window to enter and edit detailed information about your functional goals.

The screenshot shows a window titled "Goals: Details". On the left, there is a goal ID "G1" and a text box containing "Reduce logistics response time for materiel". Below this is a "Goal Description" section with a text area containing: "Logistics response time is measured from the submission of a requisition to the delivery of the requested materiel. This goal addresses both the 'better' (delivery of the correct materiel) and 'faster' components of the vision statement." Below the description is a "Related Goal(s) in Other Plan(s)" section with a text area containing: "Supports DoD Logistics' goal to 'reduce logistics cycle time.' (DoD Logistics Strategic Plan)". On the right side of the window, there are three buttons: a checkmark icon labeled "OK", an 'X' icon labeled "Cancel", and an information icon labeled "Info".

Goal text box

Use this text box to enter a title for your goal. The goal title should be relatively short, but descriptive (i.e., less than 250 characters). It should easily convey the direction in which you need to move.

Performance Measures: Details Window

Use this window to enter and edit detailed information about your function's performance measures.

Year	1994	1995	1996	1997	1998	1999
Value	50	51	70	80	90	100

Performance Measure text box

Use this text box to enter a title for your performance measure. The title should be relatively short, but descriptive (i.e., less than 250 characters). It should easily convey what you're trying to measure.

Type of Measure combo box

Use this combo box to indicate what type of measure the current performance measure is. For example, is it an outcome measure or an output measure? You can choose a measure type from the entries in the combo box list or you can enter a value of your own.

Unit of Measure combo box

Use this combo box to enter the units in which you gauge this performance measure. For example, hours, million dollars, pounds, percentage, etc. If the type of measure is cost or timeliness, you can select a unit of measure from the combo box's list. Or, you can enter a value of your own.

Historical Performance

Use these text boxes to enter the start and end year for your historical performance values. The historical end year must precede the projected start year.

Target Performance

Use these text boxes to enter the start and end year for your target performance values.

Performance Values worksheet

Use this worksheet to enter the historical and target values for the performance measure.

All performance values must be represented numerically. If you have a performance measure that gauges qualitative information, you should translate that information into numbers. For example, if you rate performance as **poor**, **fair**, or **good**, you can let **poor** = 1, **fair** = 2, and **good** = 3

Performance Measure Description text box

Use this text box to enter a description for your performance measure. The description can include any information, and should include: the definition of the performance measure, data sources, verification and validation information, and the interpretation of performance changes.

Goal display box

This locked display box shows the name of the goal gauged by this performance measure. Each performance measure can be linked to one and only one goal. You **cannot** change the name of the goal using this box.

Performance Measure Identifier

The performance measure identifier displays the unique label given to the performance measure.

Strategies: Details Window

Use this window to enter and edit information about your strategies to improve the performance of your function.

Strategies: Details

Strategy

S1 **Implement state-of-the-art commercial best practices**

Strategy Description

Best practices include direct vendor ordering, delivery by commercial transportation, electronic commerce / electronic data interchange, etc.

Will help to achieve performance target

	Performance Measure		Goal
P1	Percent orders delivered within 3/5 d	G1	Reduce logistics response
P2	Average logistics overhead rate	G2	Reduce logistic overhead

Ok
Cancel
Info

Strategy text box

Use this text box to enter a title for your strategy. The title should be relatively short, but descriptive (i.e., less than 250 characters). It should easily convey the improvement you're making.

Strategy Description text box

Use this text box to enter a description for your strategy. The description can include any information. For example, which internal strengths and external opportunities does this strategy exploit? Which internal weakness does it improve? Which external threats does it address? Why should this strategy improve performance?

Performance Measure/Goal display box

This locked display box shows the name of each performance measure and goal affected by this strategy. You **cannot** change the name of performance measures or goals using this box.

Strategy Identifier

The strategy identifier displays the unique label given to the strategy.

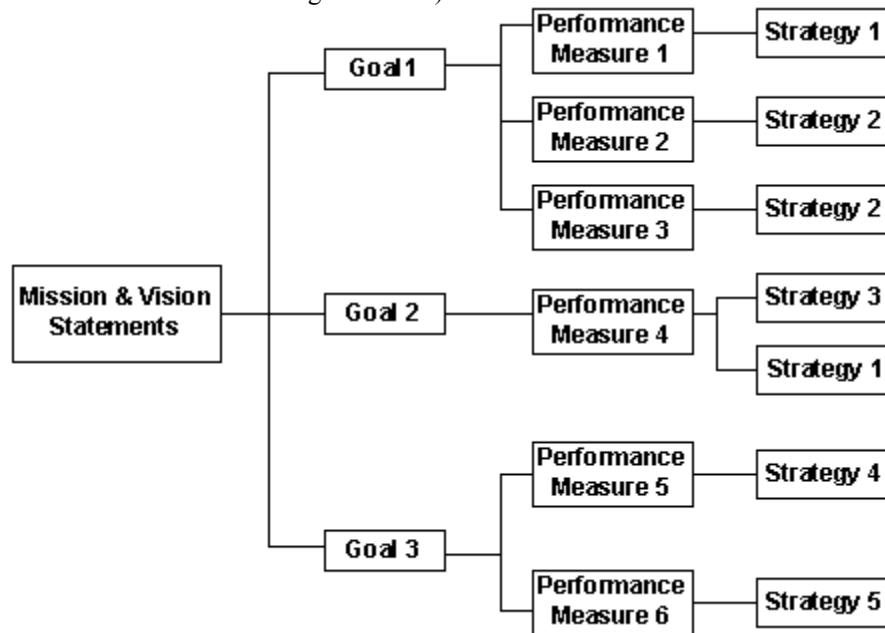
Entering Data for the Strategic Plan

Mapping Rules

Strategic planning requires a hierarchy of information, starting with the mission for the organization or function. Based upon the mission statement, you can create a vision for the future. Next, you form specific goals relating to the vision. You then develop performance measures to track your progress towards each goal. Finally, you create strategies to improve performance.

A performance measure can map to one and only one goal. However, a goal can have many performance measures.

A strategy can map to one or more performance measure. The performance measures supported by a strategy do not have to map to the same goal (see **Strategy 1** in the diagram below).



See Also

Overview of Strategic Planning

Adding Goals, Performance Measures, or Strategies

1. If the "Strategic Plan Overview" window is not active, open it.
2. Click the left mouse button once on the row to which you will add data. This

action highlights your selected row.

- To add a goal, select the **GOAL-PERFORM-STRATEGY** row.
- To add a performance measure, select the **GOAL** that it measures.
- To add a strategy, select the **PERFORMANCE MEASURE** that it helps to achieve.

3. Click the **Add** button.

Notes

- A performance measure can map to one and only one goal. However, a goal can have many performance measures.
- When a strategy supports the achievement of more than one performance measure, add the strategy to one of the performance measures, then copy the strategy to the remaining performance measures.
- To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

See Also

Mapping Rules

Example: Adding Goals, Performance Measures, and Strategies

The following example describes how to add goals, performance measures, and strategies to a TurboBPR project file.

In this example, we will be adding the **first** goal to the database (**G1**). This goal has **two** supporting performance measures (**P1** and **P2**). **P1** has **three** supporting strategies (**S1**, **S2**, and **S3**) and **P2** has **one** supporting strategy (**S4**).

1. In the "Strategic Plan Overview" window, select the **GOAL-PERFORM-STRATEGY** row.
2. Click the **Add** button once. A default goal appears.
3. Select the **GOAL** you just added. Click the **Add** button twice. Two default performance measures will appear.
4. Select the first **PERFORMANCE MEASURE**. Click the **Add** button 3 times to add the three strategies for performance improvement.
5. Select the second **PERFORMANCE MEASURE**. Click the **Add** button once to attach one supporting strategy.

The diagram below shows how the strategic planning map looks after these actions have been completed.



Note G1, P1, and S1 are examples of identifiers.

See Also

Adding Goals, Performance Measures, or Strategies

Mapping Rules

Copying Strategies

A strategy can map to multiple performance measures. For example, **Strategy 2** can be a strategy to achieve **Performance Measure 1** and **Performance Measure 3**. The performance measures supported by a strategy do not have to map to the same goal. For example, **Performance Measure 1** can measure **Goal 1** and **Performance Measure 3** can measure **Goal 2**.

When a strategy supports the achievement of more than one performance measure, add the strategy to one of the performance measures, then copy the strategy to the remaining performance measures.

To copy strategies

1. If the "Strategic Plan Overview" window is not active, open it.
2. Click the left mouse button once on the strategy that you want to copy. This action highlights the selected strategy.
3. To copy the strategy, do one of the following:
 - Choose Copy (Edit menu)
 - Press CTRL-C
4. Click the mouse button once on the performance measure to which you want to attach the strategy. This action highlights the selected performance measure.

5. To attach the strategy to the selected performance measure, do one of the following:

- Choose Paste (Edit menu)
- Press CTRL-V

Note To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

See Also
Mapping Rules

Example: Copying Strategies

We start with a goal (G1) supported by **two** performance measures (P1 and P2). P1 has **three** supporting strategies (S1, S2, and S3) and Performance Measure 2 has **one** supporting strategy (S4).

In this example, we will be copying strategy S3 to performance measure P2.

1. In the "Strategic Plan Overview" window, select strategy S3.
2. Choose the Copy command from the Edit menu.
3. Click the mouse button on performance measure P2.
4. Choose the Paste command from the Edit menu. Strategy S3 has been pasted to the end of the list of strategies to improve performance measure P2.

The diagram below shows how the strategic planning map looks after these actions have been completed. Notice that S3 now supports P1 and P2.



Note G1, P1, and S1 are examples of identifiers.

See Also
Copying Strategies

Deleting Goals

Warning: Please read the following before attempting to delete goals.

- You can only delete one goal at a time.
- If a goal is connected to one or more performance measures, you must delete all of the performance measures connected to that goal before deleting the goal.

*For example, suppose you want to delete goal **G1** which is linked to three performance measures **P1**, **P4**, and **P5**. You must delete **P1**, **P4**, and **P5** before you can delete **G1**.*

To delete a goal

1. If the "Strategic Plan Overview" window is not active, open it.
2. If the goal that you want to delete is gauged by one or more performance measures, you must delete these performance measures before you delete the goal.
3. Select the goal that you want to delete by clicking on it.
4. To delete the goal do one of the following:
Click the **Delete** button.
Press the **DEL** key.

Notes

- **G1**, **P1**, and **S1** are examples of identifiers.
- To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

See Also

Mapping Rules

Deleting Performance Measures

Warning: Please read the following before attempting to delete performance measures.

- You can only delete one performance measure at a time.
- If a performance measure is connected to one or more strategies, you must delete those strategies before you can delete the performance measure. You do **not** have to delete every copy of each strategy connected to the performance measure; only the copy that is connected to the performance measure that you want to delete.

*For example, suppose you want to delete performance measure **P1** which is linked to three strategies **S1**, **S2**, and **S3**. **S1** is also linked to **P2**. Before you can*

delete P1, you must delete S1, S2, and S3, but only where they are connected to P1. You do not have to delete all copies of these strategies.

To delete a performance measure

1. If the "Strategic Plan Overview" window is not active, open it.
2. If the performance measure that you want to delete is supported by one or more strategies, you must delete these strategies before you delete the performance measure.
3. Select the performance measure that you want to delete by clicking on it.
4. To delete the performance measure do one of the following:
 - Click the **Delete** button.
 - Press the **DEL** key.

Notes

- **G1**, **P1**, and **S1** are examples of identifiers.
- To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

See Also

Mapping Rules

Deleting Strategies

Warning: *Please read the following before attempting to delete goals, performance measures, or strategies.*

- You can only delete one strategy at a time.
- If a strategy has multiple copies, you can only select and delete one copy at a time. When you delete the selected strategy, you unlink it from the performance measure to which that copy was directly attached **only**. Links between that strategy and other performance measures still remain.

For example, if S1 is linked to P1 and P2 and you delete S1 from P1, S1 is still linked to P2.

- To completely delete a strategy from the project file, you must delete every copy of the strategy.
- If a strategy is connected to one or more initiatives, you must delete those initiatives before you can delete the strategy. You do **not** have to delete every copy of each initiative connected to the strategy; only the copy that is connected to the strategy that you want to delete.

For example, suppose you want to delete strategy S1 which is linked to two

initiatives I1 and I2. I1 is also linked to S2. Before you can delete S1, you must delete I1 and I2, but only where they are connected to S1. You do not have to delete all copies of these initiatives.

To delete a strategy

1. If the "Strategic Plan Overview" window is not active, open it.
2. If the strategy that you want to delete is supported by one or more initiatives, you must delete these initiatives before you delete the strategy.
3. Select the strategy that you want to delete by clicking on it.
4. To delete the strategy, do one of the following:
 - Click the **Delete** button.
 - Press the **DEL** key.

Notes

- **G1**, **P1**, and **S1** are examples of identifiers.
- To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

See Also

Mapping Rules

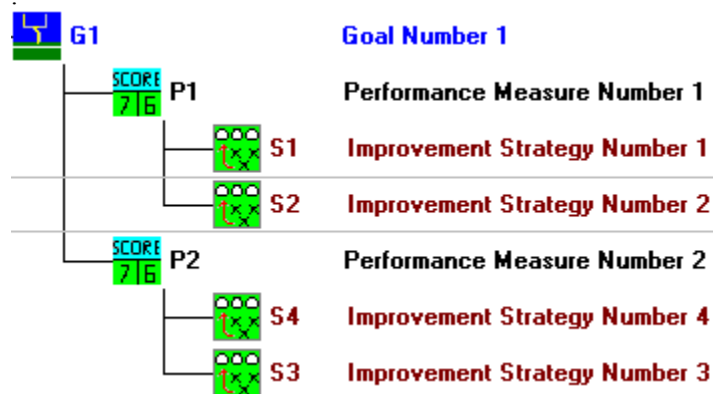
Example: Deleting Goals, Performance Measures, or Strategies

We start with a goal (**G1**) supported by **two** performance measures (**P1** and **P2**). **P1** has **three** supporting strategies (**S1**, **S2**, and **S3**) and **P2** has **two** supporting strategies (**S4** and **S3**).

In this example, we will be deleting strategy **S3** from performance measure **P1**.

1. In the "Strategic Plan Overview" window, select strategy **S3** which is attached to performance measure **P1**.
2. Click the **Delete** button.

The diagram below shows how the strategic planning map looks after these actions have been completed. Note that strategy **S3** is still attached to performance measure **P2**



Note G1, P1, and S1 are examples of identifiers.

See Also

Deleting Goals

Deleting Performance Measures

Deleting Strategies

Editing the Mission and Vision Statements

Use the Notes to document any additional information related to your function's mission and vision statements.

1. If the "Mission and Strategic Vision Statements" window is not active, open it.
2. Place the cursor in the text box for the statement you want to enter or edit.
3. Type in, edit, and delete text as necessary.
4. When you finish entering your data, click **OK** to save your changes and close the window.

See Also

Mission

Vision

Draft DoD Strategic Plan

Text Boxes

Editing Goals

Use the Notes to document critical success factor or any additional information related to your function's goals.

To edit goals

1. If the "Strategic Plan Overview" window is not active, open it.
2. In the strategic planning map section of the "Strategic Plan Overview" window, double-click the title of the goal that you want to edit. The "Goals: Details" window appears.
3. If you haven't already done so, overwrite the default Goal title with one of your own.
4. Add or edit the Description for the goal in the Goal Description text box.
5. Enter or edit any information about how this goal supports the goals and strategic plans of related organizations.
6. When you finish entering your data, click **OK** to save your changes and close the window.

Notes

- Use the "Strategic Plan Overview" window to add and delete goals.
- Identifiers (e.g., **G1**, **P2**, and **S3**) are used as search criteria for formatting the Word report. Because problems may occur when Word tries to format your report, you should not use identifiers in your descriptions.

See Also

Goals

Draft DoD Strategic Plan

Editing Performance Measures

In TurboBPR, all performance values must be represented numerically. If you have a performance measure that gauges qualitative information, you should translate that information into numbers. For example, if you rate performance as **poor**, **fair**, or **good**, you can let **poor** = 1, **fair** = 2, and **good** = 3.

Use the Notes to document data sources for your performance measures.

1. If the "Strategic Plan Overview" window is not active, open it.
2. In the strategic planning map section of the "Strategic Plan Overview" window, double-click the title of the performance measure that you want to edit. The "Performance Measures: Details" window appears.
3. If you haven't already done so, overwrite the default Performance Measure title

with one of your own.

4. Use the Type of Measure combo box to select or enter the type of measure.
5. Use the Unit of Measure combo box to type in the units that you use to measure performance.

If the Type of Measure is cost or timeliness, you can also use the Unit of Measure combo box to select a unit of measure from a predefined list.

6. Enter the time frame by doing one of the following:
 - Enter the *historical start year*.
Enter the *historical end year*.
Enter the *target end year*.
TurboBPR enters the target start year for you. The target start year = 1+ the historical end year.
 - Enter the *target end year*.
Enter the *target start year*.
Enter the *historical start year*.
TurboBPR enters the historical end year for you. The historical end year = target start year -1.

7. Enter or edit the historical and target performance values.

The targets for the projected period are the performance values that you would like to attain. TurboBPR assumes that without changes to your AS-IS business future AS-IS performance will remain at the level of the last historical value.

8. Add or edit the description for the performance measure.
9. When you finish entering your data, click **OK** to save your changes and close the window.

Notes

- Use the "Strategic Plan Overview" window to add and delete performance measures, or to change the links between performance measures and goals.
- Identifiers (e.g., **G1**, **P2**, and **S3**) are used as search criteria for formatting the Word report. Because problems may occur when Word tries to format your report, you should not use identifiers in your descriptions.

See Also

Performance Measures

Types of Performance Measures

Editing Strategies

Use the Notes to document any information that is relevant to your strategies. For example, you could record the results of your operations analysis, environmental scan, and SWOT analysis.

1. If the "Strategic Plan Overview" window is not active, open it.
2. In the strategic planning map section of the "Strategic Plan Overview" window, double-click the title of the strategy that you want to edit. The "Strategies: Details" window appears.
3. If you haven't already done so, overwrite the default Strategy title with one of your own.
4. Add or edit the Description for the strategy in the Strategy Description text box.
5. When you finish entering your data, click **OK** to save your changes and close the window.

Notes

- Use the "Strategic Plan Overview" window to add and delete strategies, or to change the links between strategies and performance measures.
- Identifiers (e.g., **G1**, **P2**, and **S3**) are used as search criteria for formatting the Word report. Because problems may occur when Word tries to format your report, you should not use identifiers in your descriptions.

See Also

Strategies

Operations Analysis Module

This module helps the user define the activities, products, services, customers and stakeholders that comprise the operation being analyzed. It also helps the user attach costs to the activities, products, and services so improvement initiatives can be focused on high-cost activities or high-cost products and services.

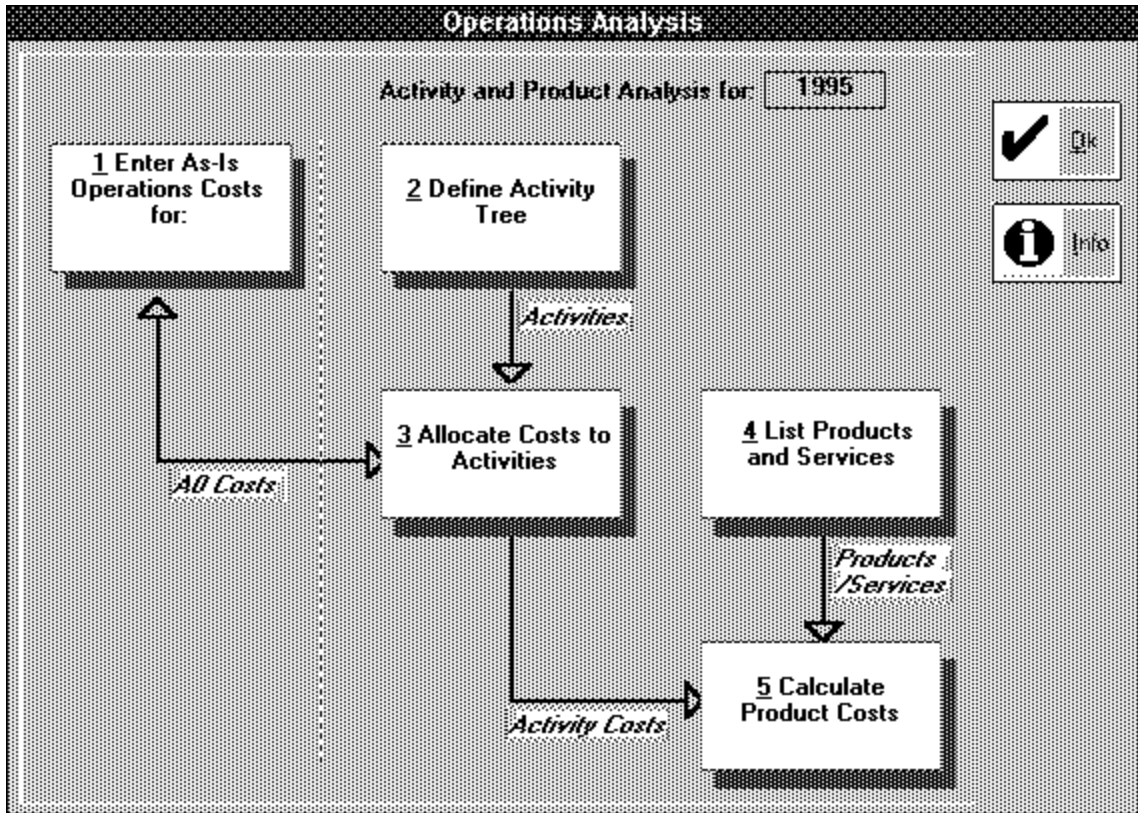
Some users will have completed their activity modeling and ABC before using TurboBPR. In this case, the **Operations** module provides a logical format for integrating the resulting information and highlighting missing data.

For the user who is just starting the AS-IS operations analysis, this module provides a good place for "brainstorming" and recording ideas.

This module can be used as part of the FEA process by focusing solely on entering and forecasting AS-IS operations costs. In addition, this module can also be used as part of the BPR process by relating AS-IS operations costs to activities, products, and services.

Operations Analysis Window

Use this window to navigate through the operations analysis.



Enter As-Is Operations Costs button

Use this button to open the "AS-IS Operations Costs" window, where you can enter historical and projected costs for your business.

Define Activity Tree button

Use this button to open the "Activity Tree" window, where you can create a high level activity tree for your business.

Allocate Costs to Activities button

Use this button to open the "Activity Costs" window, where you can describe your function's activity based costs.

List Products and Services button

Use this button to open the "Products and Services" window, where you can enter information about your function's products and services.

Calculate Product Costs button

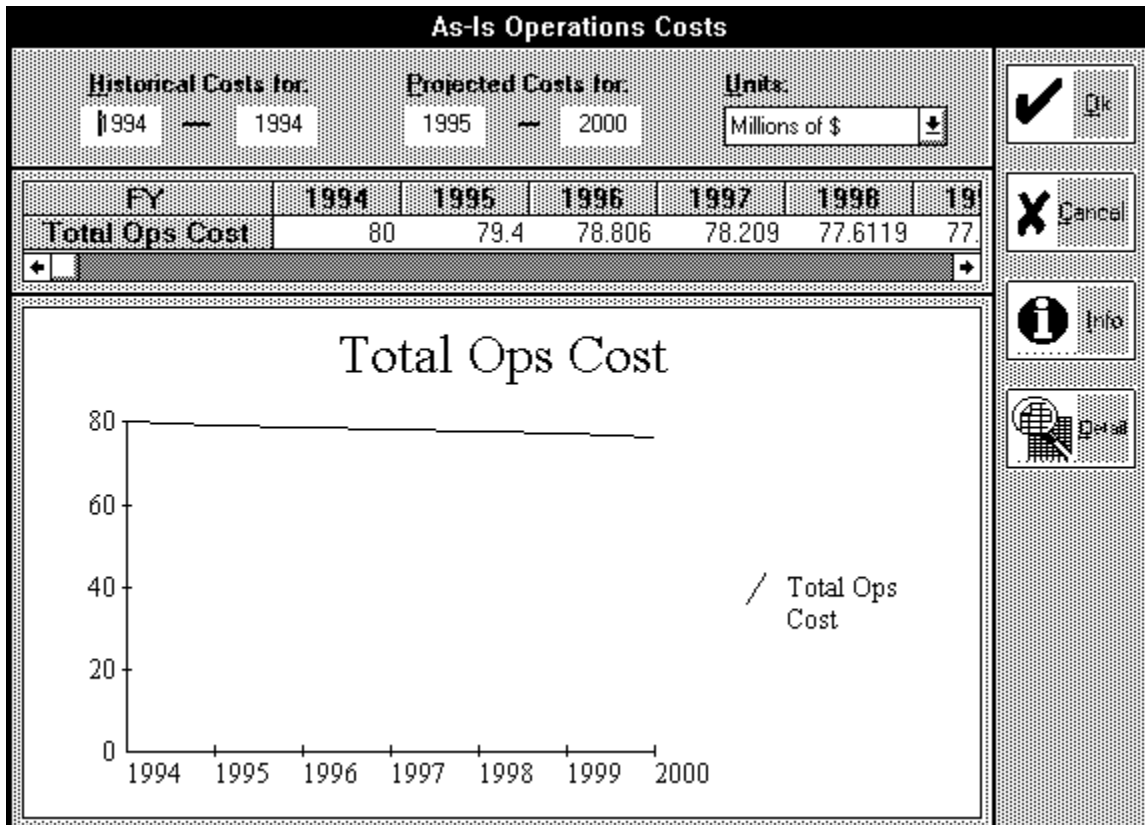
Use this button to open the "Product and Service Costs" window, where you can allocate activity based costs to products and services.

Activity and Product Analysis for display box

This display box shows the year you are using for your activity and product analysis. To change the year, you must go back to the "Activity Costs" window.

AS-IS Operations Costs Window

Use this window to enter historical and projected costs for your business.



Historical Costs for text boxes

Use these text boxes to enter the start and end year for your historical costs. The historical costs end year must precede the projected cost start year.

Projected Costs for text boxes

Use these text boxes to enter the start and end year for your projected costs.

Units combo box

Use this combo box to enter the units in which you measure costs: dollars, thousands, or millions. This combo box is locked.

Total Ops Costs worksheet

Use this worksheet to enter the annual total operations cost for your business.

Total Ops Costs graph

This graph displays the annual total operations cost for your business, as specified by the A0 Costs worksheet.

Detail button

Use this button to open the "Operations Costs Details" window, where you can create a detailed worksheet to help you compute and document your operations cost forecast assumptions.

Opening the Operations Costs window

1. If the "Operations Analysis" window is not active, click on the **Operation** module button.
2. Click on the **Enter As-Is Operations Costs** button.

Operations Costs Details Window

Use this window to create a detailed worksheet documenting your total AS-IS operations cost forecast assumptions.

Operations Costs Details						
C:\TURBO2\FILES\SUPPLY OPS				Units: Millions of \$		
AI	76.4179					Ok
FY	1994	1995	1996	1997	1998	
Total Ops Cost	80	79.4	78.806	78.209	77.6119	
	A	B	C	D	E	F
1	Item	1994	1995	1996	1997	1998
2						
3	Labor	30	29.776119	29.552239	29.328358	29.104
4	Non-labor	10	9.9253731	9.8507463	9.7761194	9.70149
5	Material buys	15	14.88806	14.776119	14.664179	14.552
6	Depot costs	15	14.88806	14.776119	14.664179	14.552
7	External overhead	10	9.9253731	9.8507463	9.7761194	9.70149
8						
9	TOTAL	80	79.402985	78.80597	78.208955	77.6119
10						
11	Cost of Sales	670	665	660	655	650
12	Workload Mult		0.9925373	0.9850746	0.9776119	0.970149
13						

Worksheet Name display box

This display box shows the name of the detailed worksheet. TurboBPR names and saves the detailed worksheet for you. This box is locked. You **cannot** use it to change the name of the worksheet.

Units display box

This locked display box shows the units that you are using for your costs, i.e. dollars, thousands, or millions. You specify the units in the "AS-IS Operations Costs" window of the Operations Analysis Module. You **cannot** use this box to change the cost units.

Total worksheet

Use this worksheet to store the total cost derived from the detailed worksheet. You can either enter totals from the detailed worksheet into this worksheet or use the **Transfer Row to Total** button, and TurboBPR will copy the active row for you.

Cell Reference display box

This locked box displays the cell reference for the active cell(s). You **cannot** enter data in this box.

Formula Bar

The formula bar displays the constant value or formula for the active cell. You can use it to enter or edit data in worksheet cells. Simply click the formula bar with the mouse, type the data or your changes in the formula bar and press **ENTER**.

To cancel your changes, press **ESC**.

You can also use the **BACKSPACE**, **DELETE**, **LEFT ARROW**, and **RIGHT ARROW** keys as if you were working in a text box.

The formula bar displays the constant value or formula for the active cell.

Operations Costs Detail worksheet

Use this worksheet to enter any information that will help you better estimate and document your cost forecast. This can include the annual POM program element cost forecast, annual activity by activity cost forecast, annual forecasts by cost element, product/service workload projections, etc.

Transfer Row to Total button

Use this button to copy the annual totals from the bottom (detailed) worksheet to the top (Total) worksheet. TurboBPR copies the values from the active row in the bottom (detailed) worksheet. Only numerical values can be copied.

TurboBPR changes the color of the text in the transferred row so that you can easily see from which row the totals came.

Import button

Use this button to import data from a Microsoft Excel 4.0 worksheet into the detailed worksheet. In the Initiatives Module, you can also use this button to import initiative investment costs details from a Microsoft Project 4.0 file.

The data stored in the imported worksheet overwrites any data displayed on the screen.

Expand Button

Use this button to maximize the detailed worksheet. Once maximized, you can close the restore the worksheet to its normal size by clicking either OK or Cancel. If you click OK, all of your work will be saved. If you click Cancel, all of you changes to the worksheet will be deleted.

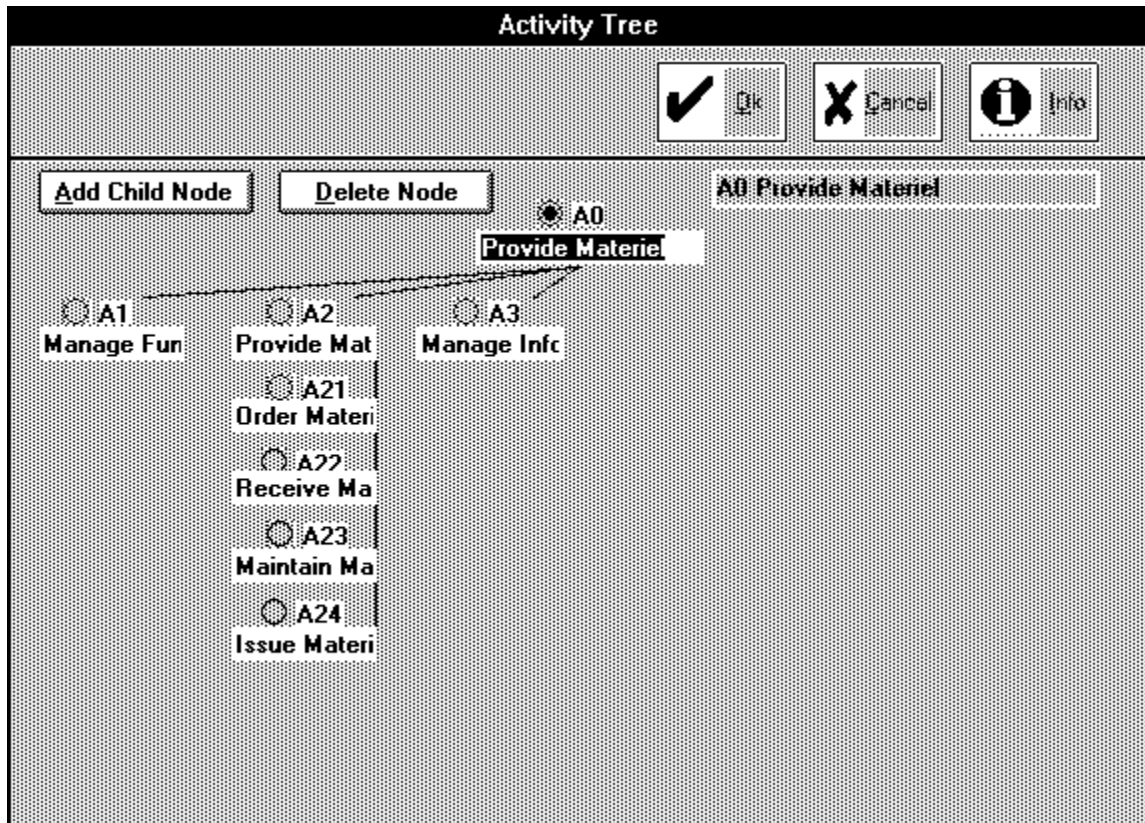
When you maximize a worksheet, only the commands in the Edit and Help menus will be available to you.

Opening the Operations Costs Details window

1. If the "Operations Analysis" window is not active, click on the **Operation** module button.
2. Click on the **Enter As-Is Operations Costs** button. The "AS-IS Operations Costs" window appears.
3. Click on the **Detail button**. The "Operations Costs Details" window will open.

Activity Tree Window

Use this window to create a high level activity tree for your business.



Add Child Node button

Use this button to add a child node to the selected node. To select a node, click the option button next to the node identifier. When you start your activity tree, A0 is the selected node.

Since the Activity Tree can be no more than two levels deep, you cannot add child nodes to nodes A11 - A66. You can add up to six child nodes to any other nodes.

The maximum activity tree has nodes A1 through A6 on the first level, and A11 through A66 on the second level.

Delete Node button

Use this button to delete the selected node.

Activity Node text box

Use this text box to enter the title of the selected activity node. The title should begin with an action verb, followed by a noun or a short noun phrase.

Activity Node Identifier

The activity node identifier indicates the location of the selected node within the tree. Each child node assumes the identifier of the parent activity. Another numeral is then appended to the end of the identifier of the child node, to indicate its relative position among its peers.

For example, *Receive Supplies* has the identifier A22 since it is the second child node in the decomposition of A2.

Activity Node display box

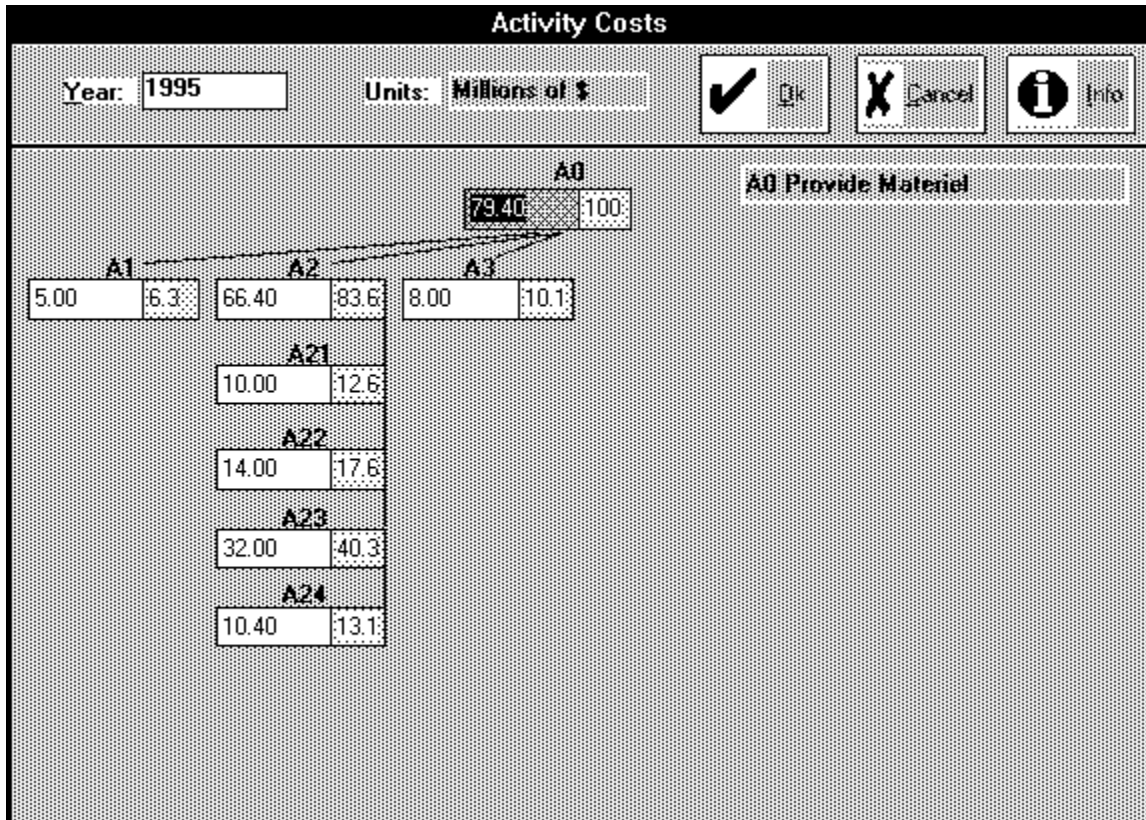
This locked display box shows the (complete) name of the selected node. You **cannot** change the name of the node using this box.

Opening the Activity Tree window

1. If the "Operations Analysis" window is not active, click on the **Operation** module button.
2. Click on the **Define the Activity Tree** button.

Activity Costs Window

Use this window to describe the relationship between resources and the activities that consume them.



Year text box

Use this text box to enter the year you are using for your activity and product analysis.

Activity Node Cost text box

Use this text box to enter the cost of the activity node. When you enter a cost for a node, the ABC Assistant colors the node red, evenly allocates the node's cost among its children, and locks the node.

Activity Node Cost Percentage display box

This locked box displays the percentage of total cost allocated to the activity node. You **cannot** enter data in this box.

Opening the Activity Costs window

1. If the "Operations Analysis" window is not active, click on the **Operation** module button.
2. Click on the **Allocate Costs to Activities** button.

Products and Services Window

Use this window to enter information about your function's products, services, and stakeholders.

Products and Services

+ Add Product/Service **- Delete Product/Service**

Product / Service List

Peacetime supplies and equipment
Wartime materiel

Ok **Cancel** **Info**

Product/Service Peacetime supplies and equipment

Customer / Stakeholders Military service members and families
Vendors

Annual Volume 670000000 **Units** \$

Unit Cost (\$) \$0.08

Product/Service list box

This box lists the products and services that you have entered. When you click on an item in the list, the information for that product or service appears in the lower portion of the window.

Add Product/Service button

Use this button to add a product or service to the list.

Delete Product/Service button

Use this button to delete the selected product or service from the list.

Product/Service text box

Use this text box to enter the name of your product or service. The product/service name should be relatively short, but descriptive (i.e., less than 150 characters).

Customer/Stakeholders text box

Use this box to enter the customers and other stakeholders for this product and service. (This list must be less than 150 characters long.) This is also a good place to document information related to the stakeholders that you gathered in the stakeholder analysis.

Annual Volume text box

Use this text box to enter the annual volume of the product or service.

Units text box

Use this text box to enter the units in which you measure the product or service. For example gallons, days, people, etc.

Unit Cost display box

This locked box displays the cost per unit product or service. Unit cost equals the total cost allocated to the product divided by the annual volume. This box will not appear on the screen until you complete Step Five of the operations analysis. You **cannot** change unit cost using this box.

Opening the Products and Services window

1. If the "Operations Analysis" window is not active, click on the **Operation** module button.
2. Click on the **List Products and Services** button.

Product and Service Costs Window

Use this window to allocate activity costs to products and services. You must complete Steps Two through Four of the operations analysis before you can complete this step.

Activity Cost	\$79.40	100%
Peacetime supplies and equipment	\$56.00	71%
Wartime materiel	\$9.50	12%

Unallocated	\$13.90	18%
-------------	---------	-----

Activity combo box

Use this combo box to select an activity node. You can only enter costs for the childless nodes (i.e., the nodes that haven't been decomposed).

Product and Services Costs worksheet

Use this worksheet to allocate activity costs to your function's products and services. You can only enter data for activities that have not been decomposed.

Unallocated display boxes

TurboBPR displays the unallocated costs for the current activity and the percent of total activity cost that is unallocated in these text boxes. You **cannot** enter data in these boxes.

Unallocated Cost Driver text box

Use this text box to enter any notes, comments, or additional information that would explain the cause of any unallocated costs.

Product/Service Cost button

Use this button to open the "Product/Service Cost Summary" window, where you can view the total cost, volume, and unit cost for each product and service.

Year display box

This display box shows the year you are using for your activity and product analysis. This box is locked. To change the year, you must go back to the "Activity Costs" window.

Opening the Product and Service Costs window

1. If the "Operations Analysis" window is not active, click on the **Operation** module button.
2. Click on the **Calculate Product Costs** button.

Product/Service Cost Summary Window

This window displays the total cost, volume, and unit cost for each product and service.

Product/Service Name	Total Cost (M\$)	Volume	Unit Cost (\$)
Peacetime supplies and equip	\$56.00	670,000,000	\$0.08
Wartime materiel	\$9.50	1	\$9,500,000.00

Summary worksheet

<u>Column</u>	<u>Is used to</u>
1	Display your function's products and services.
2	Display the total cost allocated to each product or service.
3	Display the volume of the product or service.
4	Display the unit cost for the product or service.

Opening the Product/Service Summary window

1. Open the "Product and Service Costs" window.
2. Click on the **Product/Service Cost** button.

Entering Data for AS-IS Operations

Entering AS-IS Operations Costs

You can use the Notes to document your cost data sources.

1. If the "AS-IS Operations Costs" window is not active, open it.
2. Enter the time frame by doing one of the following:
 - Enter the *historical start* year.
Enter the *historical end* year.
Enter the *projected end* year.
TurboBPR enters the projected start year for you. The projected start year = 1+ the historical end year.
 - Enter the *projected end* year.
Enter the *projected start* year.
Enter the *historical start* year.
TurboBPR enters the historical end year for you. The historical end year = projected start year - 1.
3. Enter the annual AS-IS operations costs by doing one of the following:
 - For each year, enter the annual AS-IS operations cost.
 - Enter detailed (itemized) AS-IS operations costs.
 - Import a detailed AS-IS operations costs forecast worksheet.
4. When you are finished entering data, click **OK** to save your work and close the window.

See Also

Forecasting the Cost of AS-IS Operations
Worksheets

Entering Detailed AS-IS Operations Costs

You can use the Notes to document your cost data sources.

1. If the "Operations Costs Details" window is not active, open it.
2. Enter the name of the cost item in the Item column of the first empty row in the **bottom** (detailed) worksheet.

A cost item could be a POM program element.

3. Enter the annual cost related to the item under the appropriate years.
4. Repeat steps 2 and 3 as needed.
5. When you have finished entering all of the cost items, do one of the following:
 - Type the annual total AS-IS operations costs into the top (Total) worksheet.
 - Compute the annual total AS-IS operations costs in the detailed worksheet. Use the Transfer Row to Total button to copy the totals from the detailed worksheet into the Total worksheet.
 - Compute the annual total AS-IS operations costs in the detailed worksheet. Use the Edit menu to copy and paste the totals from the detailed worksheet into the Total worksheet.
6. Click **OK** to save your work and close the window.

Example

The worksheet shown below demonstrates one way to enter detailed AS-IS operations costs.

	A	B	C	D
1	Item	1994	1995	1996
2	Workload	\$2,670.00	\$2,589.90	\$2,536.50
3	Personnel	\$370.00	\$358.90	\$351.50
4	Supplies	\$1,530.00	\$1,484.10	\$1,453.50
5	Facilities	\$69.00	\$66.93	\$65.55
6	Info Tech	\$22.00	\$21.34	\$20.90
7	Other	\$146.00	\$141.62	\$138.70
8	Total	\$2,137.00	\$2,072.89	\$2,030.15

Costs were forecasted using projected workload. For example, in 1995, workload is expected to be \$2,589.9 M in sales, or 97% of the 1994 value. The personnel cost

for 1995 is \$358.90 M or 97% of the 1994 value.

Note You can also import a pre-built Excel 4.0 worksheet into the detailed worksheet.

See Also

Forecasting the Cost of AS-IS Operations
Worksheets

Copying to the Total worksheet

TurboBPR copies as many values as needed to fill the top (Total) worksheet. The first value in the Total worksheet is copied from the **second column** of the bottom (detailed) worksheet. The second value in the Total worksheet is copied from the **third column** of the bottom (detailed) worksheet, and so forth.

To copy from the detailed worksheet to the Total worksheet

1. If the worksheet already has a row that stores your annual totals, go to step 5.
2. Go to the an empty row in the bottom (detailed) worksheet and enter the words "GRAND TOTAL" in the first column of that row.
3. In the next column of your "GRAND TOTAL" row, enter the annual total for the first year in the top (Total) worksheet.
4. Repeat step 3 for each subsequent year in the top (Total) worksheet. For example, the value for the fifth year in the top worksheet would be stored in the sixth column of the "GRAND TOTAL" row.
5. When you have finished entering data in the "GRAND TOTAL" row, place the cell marker anywhere in that row, and click the **Transfer Row to Total** button. TurboBPR copies the values from that row to the **top** (total) worksheet.

Note You don't have to call the row "GRAND TOTAL." However, it is suggested that you somehow mark the row that you will be using for your totals for future reference. Also, TurboBPR changes the color of the text in the transfer row so that you can easily see from which row the totals came.

Defining the Activity Tree

If you have already done some IDEF modeling for your business, you can just enter the first two levels of your tree into TurboBPR. Otherwise, you can use this portion of the module to create a high level activity tree for your business.

Use the Notes to document descriptions for each activity and data sources or assumptions for the activity model.

To add an activity node

1. If the "Activity Tree" window is not active, open it.
2. Choose the node to which you will add data. Click the option button to the left

of its node identifier.

3. Enter the title of the selected node into the text box beneath the node identifier.
4. If necessary, add child nodes to the selected node by clicking the **Add Child Node** button. Your tree can be no larger than the maximum activity tree.
5. Repeat steps 2 through 4 to add more nodes to the activity tree. Click **OK** to save your changes and close the window.

To delete an activity node

Before you attempt to delete a node, make sure that you have deleted all links to other modules and zeroed out all costs.

1. If the "Activity Tree" window is not active, open it.
2. Select the node that you want to delete by clicking the option button to the left of its node identifier.
3. Click **Delete Node**.

Notes

- You can only delete one node at a time.
- If the activity node that you want to delete has child nodes, you must delete all of the children before deleting the activity node.

For example, you want to delete node A4 which has three child nodes A41, A42, and A43. You must first delete nodes A41, A42, and A43, and then delete node A4.

See Also

Activity Tree Defined

Activity Tree Development

Allocating AS-IS Costs to Activities

If you have already completed a detailed ABC analysis, you can enter those figures into this portion of the module. If you haven't done any ABC for a quick initial analysis, enter total costs at the A0 level. You can refine the ABC later.

Use the Notes to document data sources or assumptions for your activity costs.

To allocate AS-IS costs to activities

1. If the "Activity Costs" window is not active, open it.
2. Enter the year of costs that you want to allocate.
3. Enter the cost for each activity node in the left text box under each node. The

TurboBPR ABC Assistant evenly distributes the costs for a parent node between each of its child nodes.

4. Repeat step 2 as needed. When you are finished entering data, click **OK** to save your changes and close the window.

Notes

- The right text box under each activity node displays the node's percentage of the total cost. As you enter costs for each node, the percentages are updated. The right text boxes are for display only.
- The text box to the right of A0 displays the name of the node for which you are entering data.
- You may decide to add children to a previously childless node. If you do, TurboBPR will allocate **all** the activity costs of the parent node to its first child.

See Also

Activity Based Costing

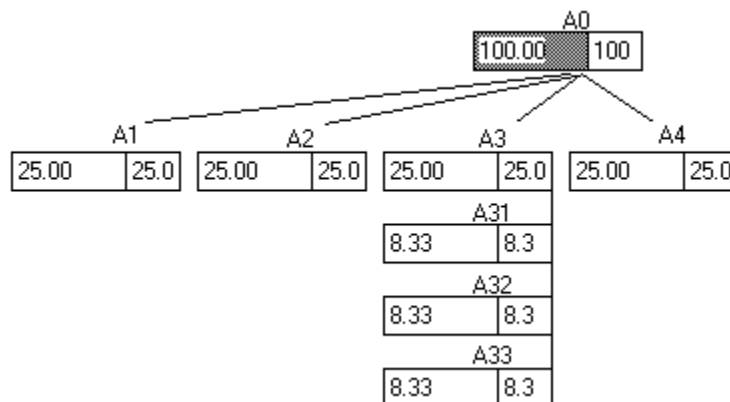
The ABC Assistant

TurboBPR's ABC Assistant makes doing ABC easy. Whenever you enter costs for an activity node, TurboBPR's ABC Assistant locks that node (i.e., turns the node red). The ABC Assistant prevents TurboBPR from overwriting any costs that you enter.

If you enter a cost for an activity node that has sub-activities, the ABC Assistant evenly distributes the cost of the parent activity across each of the sub-activities.

While this is useful for an initial cost allocation, it is usually not realistic. Unless you make changes, every peer activity will have the same cost.

Suppose you enter \$100 as the cost for A0. The ABC Assistant distributes that \$100 as shown in the figure below.

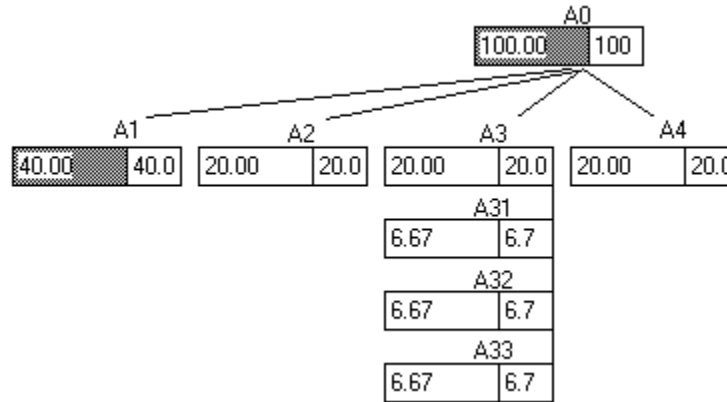


A1, A2, A3, and A4 are all children of A0. The ABC Assistant evenly divides the A0 cost across each of them. Because A0 has four children, each child node receives one-quarter of the total A0 cost, or \$25.

A3 has three children of its own. The ABC Assistant evenly distributes the A3 cost across each of its sub-activities. Because A3 has three children, each node receives

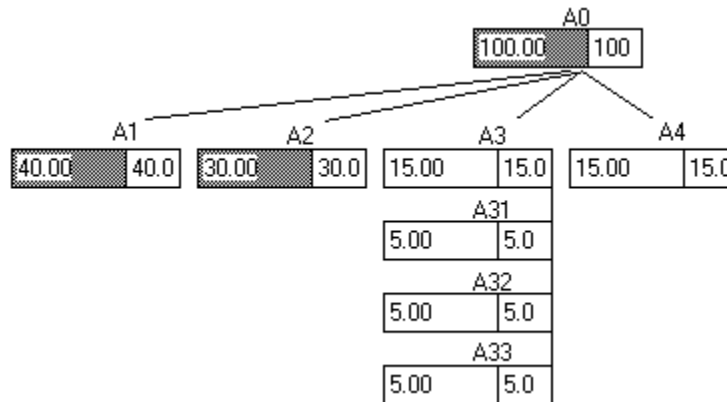
one-third of the A3 cost, or \$8.33.

Suppose you decide that the costs for A1, A2, A3, and A4 aren't all equal. You can type in the values you want. You decide that you want to enter \$40 as the cost for A1. The ABC Assistant subtracts \$40 (A1) from the total \$100 (A0), and evenly distributes the remaining \$60 to the unlocked (white) nodes.



Now A0 and A1 are locked. A2, A3, and A4 are not locked. The ABC Assistant evenly divides the \$60 across A2, A3, and A4. Because A3 has three unlocked children, the cost for A31, A32, and A33 is updated to \$6.67, which is one-third the cost of A3.

Suppose you have also decided that the true cost for A2 is \$30. You type in this value. Now A0, A1, and A2 are locked. A3 and A4 are not locked.



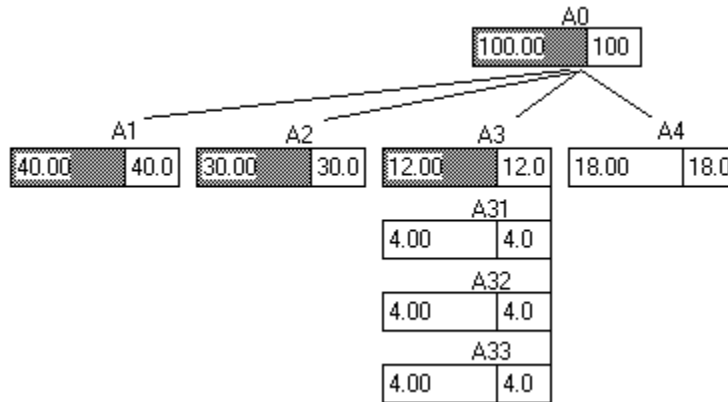
The ABC Assistant subtracts \$70 (\$40 for A1 and \$30 for A2) from the total \$100 (A0), and evenly distributes the remaining \$30 across A3 and A4.

Note To unlock a locked (red) node or cell, double-click on the node or cell.

Unlocking Nodes

Sometimes the changes you want to make require you to unlock a node or cell.

Suppose you have been entering costs and nodes A0, A1, A2, and A3 are all locked.

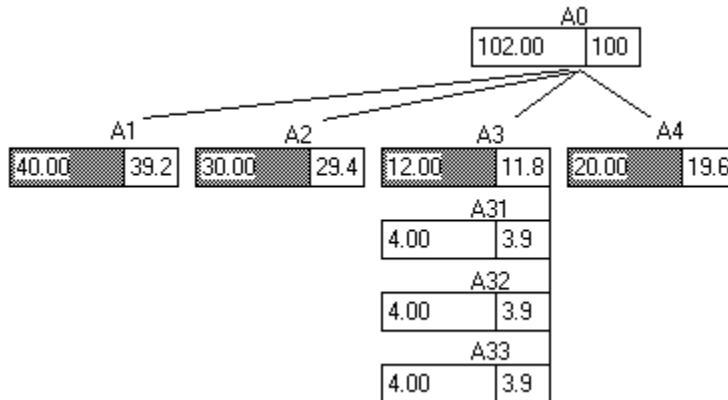


You would like to change A4 to \$20. When you enter the value, you get a message saying:

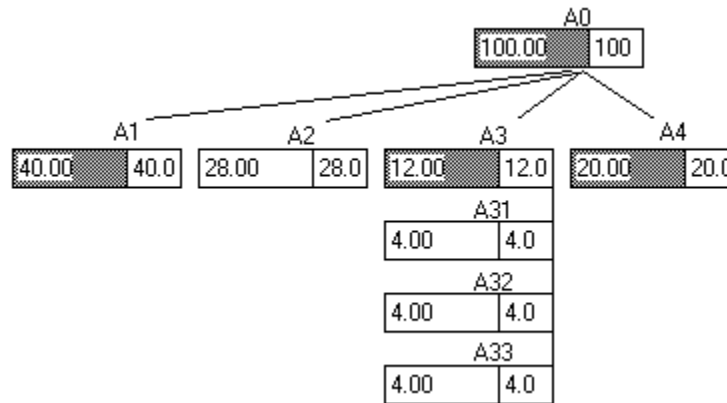
Parent node and all neighbor nodes are locked. Please unlock the parent or one of the neighbor nodes by double-clicking on it.

Entering \$20 for A4 could, for example, make $A0 = \$102$. But A0 is locked and cannot be changed. You have three options:

1. Do nothing. The cost for A4 remains \$18.
2. Unlock A0 and change A4 to \$20. The total cost (A0) becomes \$102.



- Unlock a neighbor node (A1, A2 or A3) and change A4 to \$20. The total cost remains \$100. The cost for the unlocked neighbor node (in the diagram below, A2) decreases by \$2. Note that if the neighbor node had children, then their costs would also change.



Changing the Base Year

When you enter the year of costs that you want to allocate, you may receive the following warning:

Changing the base year will also change the A0 activity cost based on the forecast from Step 3.

Don't worry. The purpose of this message is to let you know what will happen when you click **OK**:

- TurboBPR pulls the A0 cost for the new base year that you've just selected from Step 1 **Enter As-Is Operations Costs**.
- TurboBPR will change the A0 cost in the ABC tree to the new value.
- TurboBPR will reallocate the new A0 value equally among all child nodes, regardless of any preset locks.

Listing Products and Services

If you have already done some IDEF modeling for your business, you can just enter the outputs shown on your activity model into TurboBPR. You can also use the IDEF activity model as a guide for linking products and services to stakeholders.

If you haven't done any activity modeling, you can use this portion of the module to think about your products, services, and stakeholders.

In either case, you don't have to list all products, services, and stakeholders. You should however list those that are crucial to your business process reengineering plans.

Use the Notes to document data sources or assumptions for your activity outputs.

To enter products and services

1. If the Products and Services window is not active, open it.
2. Click the **Add Product/Service** button.
3. Enter the name for the product or service in the Product/Service text box.
4. Enter the key customers and other stakeholders that require or somehow support this product or service in the Customer/Stakeholder text box.
5. Enter the annual volume for this product or service in the Annual Volume text box.
6. Enter the units (e.g. lbs, hours, etc.) in which you measure the volume of this product or service.
7. Repeat steps 2 through 6 as needed. When you are finished entering data, click **OK** to save your data and close the window.

You may decide at some point to change the information you entered for a particular product or service. Or, you may decide to delete the product or service altogether.

To edit or delete a product or service

1. If the "Products and Services" window is not active, open it.
2. In the Product/Service list box, click on the name of the product or service you want to edit. The information for that product or service appears in the lower portion of the window.
3. To edit the data, simply type in or delete data as necessary. To delete the product or service, click the **Delete Product/Service** button.
4. Repeat steps 2 and 3 as needed. When you have finished editing products and services, click **OK** to save your work and close the window.

Notes

- Identifiers (e.g., **G1**, **P2**, and **S3**) are used as search criteria for formatting the Word report. Because problems may occur when Word tries to format your report, you should not use identifiers in your descriptions.
- Once you have completed Step Five of the operations analysis, you can view product/service unit costs, by doing either of the following:
 - Open the "Product/Service Cost Summary" window,
 - Open the "Products and Services" window.

See Also

Products and Services

Calculating Product Costs

Activity Cost = Unallocated Costs + Sum of Product & Service Costs

Use the Notes to document data sources or assumptions for your product costs.

1. If the "Product and Service Costs" window is not active, open it.
2. Select an activity from the Activity combo box. You can only enter data for the childless activity nodes.
3. For the activity node, consider the following questions:
 - Is this activity node associated in any way with the creation of any of the products and services listed?
 - Are any of the products and services listed outputs of this activity?
 - Are any of the outputs of this activity used to create any of the listed products or services?

If the answer to any of these questions is **yes**, some, if not all, of the activity's costs are assigned to one or more products and services.

4. Enter either the cost or the percent of activity resources spent on each product.

As you allocate the activity costs to products and services, the total unallocated cost will decrease. The total unallocated cost does not have to equal zero when you are done.

5. When you have finished entering data, click **OK** to save your work and close the window.

Notes

- While you can only enter data for the childless nodes, TurboBPR will allocate costs to the remaining nodes.
- You may decide to add children to a previously childless node. If you do, TurboBPR will allocate the old product, service, and unallocated costs to the first child.
- Once you have completed Step Five of the operations analysis, you can view product/service unit costs, by doing either of the following:
 - Open the "Product/Service Cost Summary" window,
 - Open the "Products and Services" window.

See Also

Allocating Activity Costs to Products and Services

Changing Product Costs

When you enter the year of costs that you want to allocate, you may receive the following warning:

Product/Unallocated costs for one or more activities has changed. Please go to Step 5 to review new costs.

When you change your allocation of costs to activities in Step 3, TurboBPR will recompute the costs of your products and services in order to keep your costs consistent. TurboBPR uses the following rules to recompute the costs:

1. If the activity's new cost is *less* than the old cost, keep the **product percentage** the same and adjust the product cost.
2. If the activity's new cost is *more* than the old cost, keep the **product cost** the same and adjust the product percentage.

The following example shows how TurboBPR reallocates costs. (The changes made by TurboBPR are shown in bold)

I. Original Activity and Product Costs

Activity	Activity Costs	Product1 Cost	Product1 % of Activity Cost
A1	\$25	\$25	100%
A2	\$25	\$25	100%
A3	\$25	\$25	100%
A4	\$25	\$25	100%

II. Decrease A1 to \$10.

Note that

1. The **product percentage** of the A1 activity cost is the same as before.
2. The **product cost** for A2, A3, and A4 is the same as before.

Activity	Activity Costs	Product1 Cost	Product1 % of Activity Cost	Explanation of Change
A1	\$10	\$10	100%	The new A1 activity cost is less than the old A1 activity cost
A2	\$30	\$25	83%	The new A2, A3 and A4 activity costs are more than their old activity costs
A3	\$30	\$25	83%	
A4	\$30	\$25	83%	

III. Increase A4 to \$50.

Note that

1. The **product percentage** of the A2 and A3 activities is the same as before.
2. The **product cost** for A4 is the same as before.

Activity	Activity Costs	Product1 Cost	Product1 % of Activity Cost	Explanation of Change
A1	\$10	\$10	100%	(None)
A2	\$20	\$16.67	83%	The new A2 and A3 activity costs are less than their old activity costs
A3	\$20	\$16.67	83%	
A4	\$50	\$25	50%	The new A4 activity cost is more than the old A4 activity cost

Initiatives Module

This module helps the user come up with improvement initiatives that implement each of the strategies in the strategic plan.

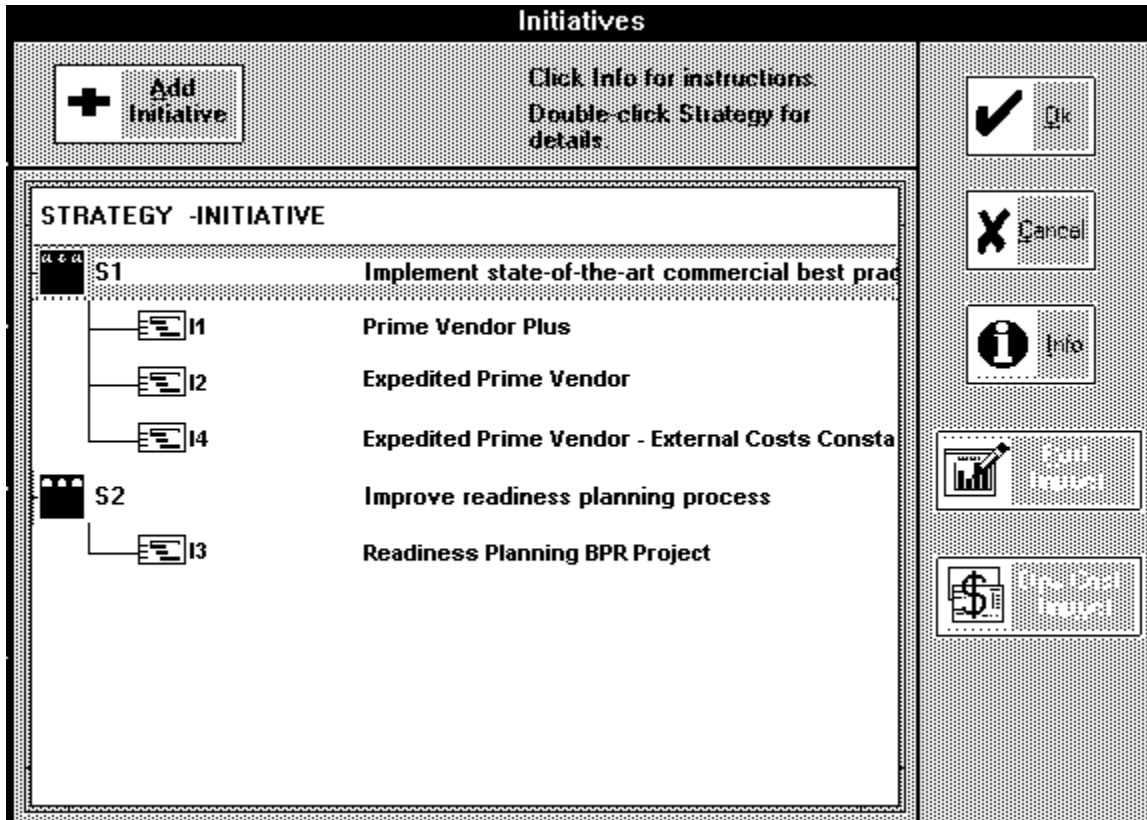
For each initiative, the module asks the user to record

- a description of the initiative,
- the time period over which the initiative will be implemented,
- the one-time cost of implementation (user selects the level of cost detail),
- the on-going impact upon operations costs (i.e., cost increases and cost decreases), and
- the impact upon related performance measures.

This module can be used as part of the BPR or FEA processes.

Initiatives Window

Use this window to enter and edit information about your proposed initiatives.



Perf Impact button

Use this button to open the "Performance Impact" Window, where you can enter the impact of the selected initiative upon related performance measures.

This button is disabled if an initiative hasn't been selected.

Ops Cost Impact button

Use this button to open the "Operations Cost Impact" Window, where you can enter the impact of the selected initiative upon operations costs.

This button is disabled if an initiative hasn't been selected.

Strategy - Initiative Map

This area of the window displays the strategies and initiatives that you have created, and the links between them. When you double click on a strategy, the "Strategies: Details" window opens. When you double click on an initiative, the "Initiative Costs" window opens.

Add Initiative button

Creates a default initiative and adds a link between it and the selected strategy.

This button is disabled if a strategy hasn't been selected.

Delete Initiative button

Deletes selected initiative.

This button is disabled if an initiative hasn't been selected.

Initiative Costs Window

Use this window to enter and edit information about your proposed initiatives.

The screenshot shows the 'Initiative Costs' window. At the top, the title is 'Initiative Costs'. Below the title, there is a field for 'Initiative' with the value '11 Prime Vendor Plus'. To the right of this field are four buttons: 'Ok' (checkmark), 'Cancel' (X), 'Info' (i), and 'Add' (globe with plus). Below the initiative name is the 'Initiative Description' field, which contains the text: 'Includes direct vendor ordering, commercial shipment, and EC/EDI. Implemented over a 4 year period.' Below the description are three fields: 'First Year' (1995), 'Number of Years' (4), and 'Units' (Millions of \$). Below these fields is a table with the following data:

FY	1995	1996	1997	1998
Init Cost	8	16	12	4

Below the table is a line graph titled 'Initiative Costs'. The graph shows three lines representing 'Expected Cost', 'High', and 'Low' over the years 1995 to 1998. The y-axis ranges from 0 to 20. The 'Expected Cost' line peaks at 16 in 1996. The 'High' line peaks at 18 in 1996. The 'Low' line peaks at 14 in 1996. Below the graph are two input fields: 'High [+ %]' with the value '10' and 'Low [- %]' with the value '5'.

Initiative text box

Use this text box to enter a title for your initiative. The title should be relatively short, but descriptive (i.e., less than 250 characters). It should easily convey how you will implement the related strategies.

Initiative Description text box

Use this text box to enter a description for your initiative. The description can include any information, and should include a description of what's being changed:

an input, output, control, mechanism, or activity.

First Year text box

Use this text box to enter the year in which you will begin to implement your initiative. Enter the year with four digits, e.g., 1993.

Number of Years combo box

Use this locked combo box to select the total number of years (including the first year) in the implementation schedule for this initiative. The maximum number of years is 20.

Init Cost worksheet

Use this worksheet to enter the annual most likely initiative investment cost for each year in the implementation schedule.

Initiative Costs graph

This graph displays the year-by-year low, most likely, and high investment cost for the initiative. This graph only appears if you selected more than one year in the Number of Years text box.

High and Low text boxes

Use these boxes to enter percentages that describe the upper and lower bounds on

- investment costs,
- performance impacts, or
- cost impacts.

The high percentage indicates the maximum percentage above the most likely value that costs or impacts can attain. The low percentage indicates the minimum value below the most likely that costs or impacts can attain.

Enter the highs and lows as percents, not decimals.

Detail button

Use this button to open the "Initiative Cost Detail" window, where you can create a worksheet with detailed information on your initiative investment costs and implementation schedule.

Initiative Identifier

The initiative identifier displays the unique label given to the initiative.

Initiative Cost Detail Window

Use this window to create a worksheet with detailed information on the one-time investment costs and implementation schedule for an initiative.

Initiative Cost Details

C:\TURBO2\FILES\SUPPLY.IT Units: Millions of \$

Initiative Name **Prime Vendor Plus**

A1 8

FY	1995	1996	1997	1998
Total	8	16	12	4

	A	B	C	D
	Item	1995	1996	1997
3	Proportion implemented per year	0.2	0.4	0
5	W1: Let vendor contracts	2	4	
6	W2: Establish commercial transp	1.2	2.4	
7	W3: Develop EC/EDI capability	4	8	
8	W4: Training	0.8	1.6	
10	TOTAL	8	16	

Initiative Name display box

This display box shows the name of the initiative for which you are entering information. You **cannot** change the name of the initiative using this box.

Initiative Cost Detail worksheet

Use this worksheet to enter any information that will help you better estimate the investment cost of your initiative. This can include an action plan and a list of the resources needed for implementation.

Opening the Initiative Cost Detail Window

1. If the "Initiatives" window is not active, open it.
2. Select the initiative for which you are entering costs. Double-click on that initiative. The "Initiative Costs" window will open.

- Click on the **Detail button**. The "Initiative Cost Detail" window will open.

Performance Impact Window

Use this window to enter and edit information about the impact of an initiative upon related performance measures.

Performance Impact

Initiative Name:

Performance Measure: Units:

FY	1995	1996	1997	1998
Current Performance	51	51	51	51
Target Performance	51	70	80	90
Initiative Impact on Perf	0	12.5	25	37.5

High [+ %] Low [- %]

Impact of Prime Vendor Plus

Ok
 Cancel
 Info
 Detail

Performance Measure combo box

Use this combo box to select a performance measure. TurboBPR lists only those performance measures that are related to the initiative. (To view the links between performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool).

This combo box is locked (i.e., you cannot type in a value).

Performance Impact worksheet

Use this worksheet to enter the impact of the initiative upon the performance measure displayed in the Performance measure combo box.

<u>Row</u>	<u>Displays</u>
1	Year

- 2 Current (AS-IS) performance level. You cannot edit this row.
- 3 Target performance level for each year. You cannot edit this row.
- 4 The impact of initiative upon the performance measure.

Performance Impact Graph

This graph displays the year-by-year low, most likely, and high performance impact for the initiative.

Detail button

Use this button to open the "Performance Impact Detail" window, where you can create a worksheet with detailed information on your long-term initiative performance impacts.

Performance Impact Detail Window

Use this window to create a detailed worksheet on the changes in performance that would result from implementing the proposed initiative.

The screenshot shows the "Performance Impact Detail" window. At the top, there is a title bar and a "Units" dropdown set to "%". Below this, there are fields for "Initiative Name" (Prime Vendor Plus), "Performance Measure" (Percent orders delivered within 3/5 days), and a value of "50" for "A1-IV1".

Below the form is a summary table:

FY	1995	1996	1997	1998	1999	Total
Total	0	12.5	25	37.5	50	

At the bottom is a main data table with columns A-F and rows 1-9:

	A	B	C	D	E	F	Total
1	Item	1995	1996	1997	1998	1999	20
2	Item1						
3	Item2						
4	Item3						
5	Item4						
6	Item5						
7	Item6						
8	Item7						
9	Item8						

On the right side of the window, there is a vertical toolbar with buttons: Ok, Cancel, Info, Import, Expand, Transfer Row to Total, and Transfer.

Performance Impact Detail worksheet

Use this worksheet to enter any information that will help you better estimate the recurring impact of your initiative upon the given performance measure.

Performance Measure display box

This display box shows the name of the performance measure for which you are entering information. You **cannot** change the name of the performance measure using this box.

Opening the Performance Impact Detail Window

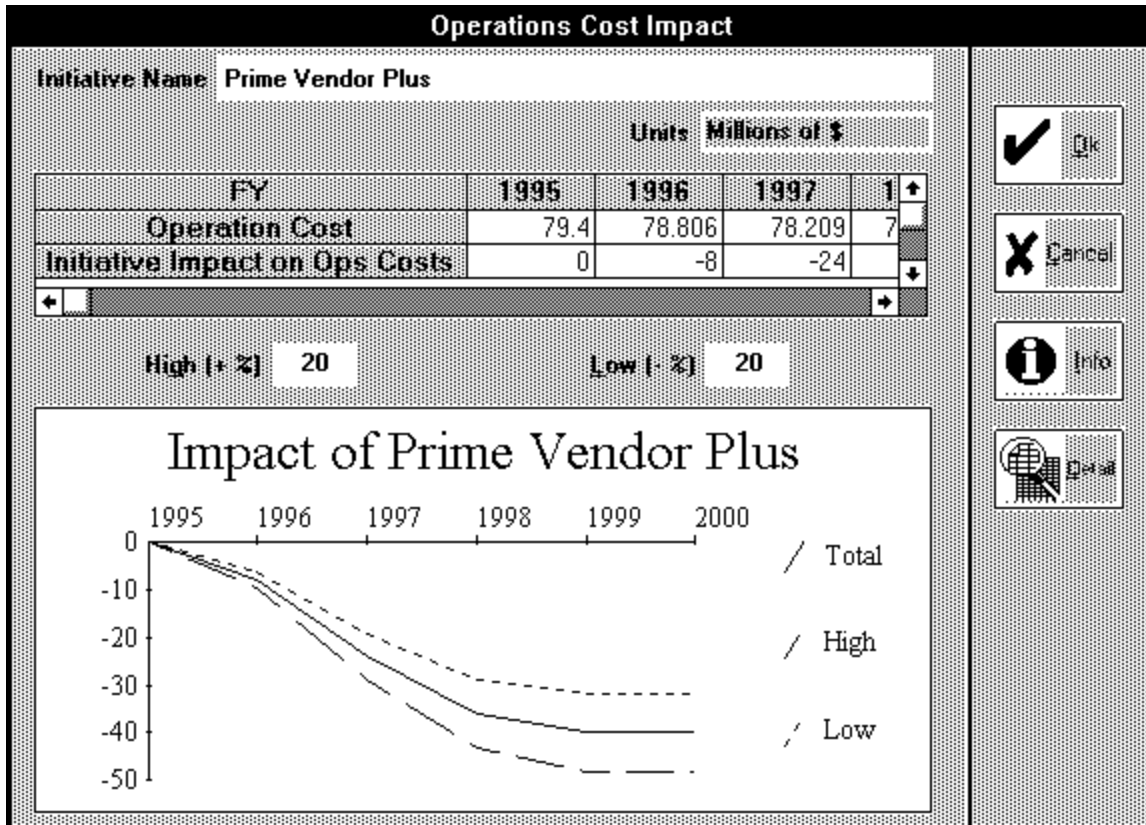
1. If the "Initiatives" window is not active, open it.
2. In the "Initiatives" window, click on the title of the initiative that you want to edit. This action highlights the selected initiative.
3. Click the **Perf Impact** button. The "Performance Impact" window appears.
4. Select a related performance measure from the Performance Measure combo box.

Only those performance measures that are linked to the active initiative appear in the combo box.

5. Click on the **Detail button**. The "Performance Impact Detail" window will open.

Operations Cost Impact Window

Use this window to enter the annual recurring impact of the initiative upon operations cost.



Cost Impact worksheet

Use this worksheet to enter the impact of the initiative upon the operations costs.

Row

Displays

- | | |
|---|--|
| 1 | Year (You cannot enter data in this row.) |
| 2 | Projected (AS-IS) operations cost (You cannot enter data in this row.) |
| 3 | The impact of the initiative upon operations costs (You can enter data in this row.) |

Cost Impact Graph

This graph displays the year-by-year low, most likely, and high cost impact for the initiative.

Detail button

Use this button to open the "Operations Cost Impact Detail" window, where you can create a worksheet with detailed information on your long-term initiative cost impacts.

Operations Cost Impact Detail Window

Use this window to create a detailed worksheet on the cost increases and decreases (savings) that would result from implementing the proposed initiative.

FY	1995	1996	1997	1998	1999	2000
Total	0	-8	-24	-36	-40	

	A	B	C	D
	Item	1995	1996	1997
1				
2				
3	Cumulative proportion implemented	0	0.2	0.6
4				
5	Change in costs for:			
6	Labor	0	-2	-6
7	Non-Labor	0	-1	-3
8	Materiel	0	-2	-6
9	Depot Costs	0	-2	-6
10	External Charges	0	-1	-3
11				

Cost Impact Detail worksheet

Use this worksheet to enter any information that will help you better estimate the recurring impact of your initiative upon operations costs. This can include a list of the cost increases and cost decreases (savings) for the period of analysis.

Opening the Operations Cost Impact Detail Window

1. If the "Initiatives" window is not active, open it.
2. In the "Initiatives" window, click on the title of the initiative that you want to edit. This action highlights the selected initiative.

3. Click the **Ops Cost Impact** button. The "Operations Cost Impact" window appears.
4. Click on the **Detail button**. The "Operations Cost Impact Details" window will open.

Entering Data for Initiatives

Adding Initiatives

1. If the "Initiatives" window is not active, open it.
2. Click the left mouse button once on the strategy to which you will add the initiative. This action highlights your selected strategy.
3. Click the **Add Initiative** button.

Notes

- An initiative can map to more than one strategy. Likewise, a strategy can be linked to more than one initiative.
- To add and delete strategies, go to the Strategic Planning Module.
- To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

Example: Adding Initiatives

The following steps describe how to add initiatives to a TurboBPR project file.

We start with two strategies (**S1** and **S2**) which were entered in the Strategic Planning Module.

In this example, we will add two initiatives (**I1** and **I2**) to **S1**.

1. In the "Initiatives" window, select strategy **S1**.
2. Click the **Add Initiative** button twice. Two default INITIATIVES appear.

The diagram below shows how the strategy-initiative map looks after these actions have been completed.



Notes

- An initiative can map to more than one strategy. Likewise, a strategy can be linked to more than one initiative.
- To add and delete strategies, go to the Strategic Planning Module.
- **I2** and **S1** are examples of identifiers.

See Also

Adding Initiatives

Copying Initiatives

An initiative can map to multiple strategies. For example, **Initiative 2** can be an initiative that implements **Strategy 1** and **Strategy 3**.

When an initiative implements (or partially implements) more than one strategy, add the initiative to one of the strategies, then copy the initiative to the remaining strategies.

To copy initiatives

1. If the "Initiatives" window is not active, open it.
2. Click the left mouse button once on the initiative that you want to copy. This action highlights the selected initiative.
3. To copy the initiative, do one of the following:
 - Choose Copy (Edit menu)
 - Press **CTRL-C**
4. Click the mouse button once on the strategy to which you want to attach the initiative. This action highlights the selected strategy.
5. To attach the initiative to the selected strategy, do one of the following:
 - Choose Paste (Edit menu)
 - Press **CTRL-V**

Notes

- An initiative can map to more than one strategy. Likewise, a strategy can be linked to more than one initiative.
- To add and delete strategies, go to the Strategic Planning Module.
- To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

Example: Copying Initiatives

We start with two strategies (**S1** and **S2**) which were entered in the Strategic Planning Module, and two initiatives (**I1** and **I2**) which implement strategy **S1**.

In this example, we will be copying initiative **I2** to strategy **S2**.

1. In the "Initiative" window, select initiative **I2**.
2. Choose the Copy command from the Edit menu.
3. Click the mouse button on strategy **S2**.
4. Choose the Paste command from the Edit menu. Initiative **I2** has been pasted to the end of the list of initiatives to implement strategy **S2**.

The diagram below shows how the strategy-initiative map looks after these actions have been completed.



Notes

- An initiative can map to more than one strategy. Likewise, a strategy can be linked to more than one initiative.
- To add and delete strategies, go to the Strategic Planning Module.
- **I2** and **S1** are examples of identifiers.

See Also

Copying Initiatives

Deleting Initiatives

Warning: Please read the following before attempting to delete goals, performance measures, or strategies.

- You can only delete one initiative at a time.
- You cannot delete an initiative with non-zero costs or impacts.
- You cannot delete strategies in this module. If you need to delete a strategy, you must return to the Strategic Planning Module.

- To completely delete an initiative from the project file, you must delete every copy of the initiative.
- If an initiative has multiple copies, you can only select and delete one copy at a time. When you delete the selected initiative, you unlink it from the strategy to which that copy was directly attached **only**. Links between that initiative and other strategies still remain.

*For example, if **I1** is linked to **S1** and **S4** and you delete **I1** from **S1**, **I1** is still linked to **S4**.*

To delete an initiative

1. If the "Initiatives" window is not active, open it.
2. If the initiative that you want to delete has non-zero costs and/or impacts, you must change the costs and/or impacts to zero before deleting the initiative.
3. Select the initiative that you want to delete by clicking on it.
4. To delete the initiative, do one of the following
 - Click the **Delete Initiative** button.
 - Press the **DEL** key.

Notes

- **I1** and **S1** are examples of identifiers.
- To see all the links between goals, performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool.

Example: Deleting Initiatives

We start with two strategies (**S1** and **S2**) which were entered in the Strategic Planning Module, and two initiatives (**I1** and **I2**). Initiatives **I1** and **I2** implement strategy **S1**. Initiative **I2** implements strategy **S2**.

In this example, we will be deleting initiative **I2** from strategy **S1**.

1. In the "Strategic Plan Overview" window, select initiative **I2** which is attached to strategy **S1**.
2. Click the **Delete Initiative** button.

The diagram below shows how the Strategy-Initiative display area looks after these actions have been completed.



Note I2 and S1 are examples of identifiers.

See Also

Deleting Initiatives

Editing Initiatives

Use the Notes to enter detailed initiative descriptions and document data sources or assumptions for your initiative timeline, cost, and risk.

1. If the "Initiatives" window is not active, open it.
2. In the "Initiatives" window, double-click on the title of the initiative that you want to edit. The "Initiative Costs" window appears.
3. If you haven't already done so, overwrite the default Initiative title with one of your own.
4. Add or edit the Description for the initiative in the Initiative Description text box.
5. Enter the first year in which the initiative will incur investment costs in the First Year text box.
6. Enter or select the number of investment years for the initiative using the Number of Years combo box.
7. Enter the annual most likely investment costs for the initiative by doing one of the following:
 - For each investment year, enter the annual most likely investment cost for the initiative in the Init Cost worksheet.
 - Enter detailed (itemized) investment costs.
 - Import a detailed initiative items and costs worksheet.
 - Import detailed initiative items and costs from Microsoft Project.

8. Enter the high and low percentages in the High and Low text boxes. These percentages describe the upper and lower bounds on investment costs (in terms of variance from the most likely value).
9. When you finish entering your data, click **OK** to save your changes and close the window.

Notes

- Use the "Initiatives" window to add and delete initiatives, or to change the links between initiatives and strategies.
- Identifiers (e.g., **G1**, **P2**, and **S3**) are used as search criteria for formatting the Word report. Because problems may occur when Word tries to format your report, you should not use identifiers in your descriptions.

See Also

Initiatives

Initiative Investment Costs

Estimating Costs and Impacts

Example: Entering High and Low Percentages

Example: Entering High and Low Percentages

(Although this example focuses on costs, the same ideas apply to performance.)

In the Initiatives module, you have to enter high and low values for the initiative investment costs and the initiative cost and performance impacts. The number you enter for the high percentage represents the upper bound in terms of variance from the most likely values you entered.

For example, if you enter **10** for the high percentage, then the upper bound is 10% greater than the most likely value. If the upper bound is twice as great as the most likely, then you would enter **100** as the high percentage. If costs could go as low as 90% of the most likely value, then you would enter **10** for the low percentage.

Thus, in any given year, the high value equals

$$(1 + \text{high percentage}/100) \times \text{most likely value}$$

Similarly, in any given year, the low value equals

$$(1 - \text{low percentage}/100) \times \text{most likely value}$$

Suppose you enter investment costs as follows:

\$100 in 1994,

\$200 in 1995, and

\$300 in 1996.

You enter 100 for the high percentage value and 10 for the low percentage value. Then investment costs range between

$$\begin{aligned} \text{high value} &= (1 + 100/100) \times \text{most likely} = 2.0 \times \text{most likely} \\ \text{low value} &= (1 - 10/100) \times \text{most likely} = 0.9 \times \text{most likely} \end{aligned}$$

The annual high and low investment cost values are:

<u>Year</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>Total</u>
High	200	400	600	1,200
Low	90	180	270	540

Suppose you enter initiative impacts as follows:

\$0 in 1994,

-\$50 in 1995, and

-\$1000 in 1996.

Note that since the costs you entered were negative, TurboBPR interprets them as *cost decreases* or savings. You enter 50 for the high percentage value and 50 for the low percentage value. Then cost impacts range between

$$\begin{aligned} \text{high (most negative) value} &= (1 + 50/100) \times \text{most likely} = 1.5 \times \text{most likely} \\ \text{low (most positive) value} &= (1 - 50/100) \times \text{most likely} = 0.5 \times \text{most likely} \end{aligned}$$

The annual high and low cost impact values are:

<u>Year</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>	<u>Total</u>
High	0	-75	-1,500	-1,575
Low	0	-25	-500	-525

Note that when you're dealing with negative numbers, the high is the most negative (largest savings) and the low is the most positive (smallest savings).

Entering Detailed Initiative Costs

Use the Notes to document data sources or assumptions for your initiative timeline and cost.

1. If the "Initiative Cost Detail" window is not active, open it.
2. Enter the name of the cost item (e.g. PCs, labor, COTS SW, etc.) in the Item column of the first empty row in the **bottom** (detailed) worksheet.

3. Enter the annual cost for the item under the appropriate year.
4. Repeat steps 2 and 3 as needed.
5. When you have finished entering all of the cost items for this initiative, do one of the following:
 - Type the annual total investment costs into the top (Total) worksheet.
 - Compute the annual total investment costs in the detailed worksheet. Use the Transfer Row to Total button to copy the totals from the detailed worksheet into the Total worksheet.
 - Compute the annual total investment costs in the detailed worksheet. Use the Edit menu to copy and paste the totals from the detailed worksheet into the Total worksheet.
6. Click **OK** to save your work and close the window.

Example

The worksheet shown below demonstrates one way to enter detailed initiative investment costs.

You would transfer the total row to the top worksheet in the "Initiative Cost Detail" window.

	A	B	C	D
1	Item	1995	1996	1997
2	Total	\$0.93	\$0.60	\$0.60
3	Change Mangement	\$0.00	\$0.60	\$0.60
4	Subject Experts	\$0.69	\$0.00	\$0.00
5	Contractor Support	\$0.24	\$0.00	\$0.00

Note You can also import data from a pre-built Excel 4.0 worksheet or from a Microsoft Project 4.0 file into the detailed worksheet.

See Also

Initiative Investment Costs

Initiative Action Plans

Estimating Costs and Impacts

Worksheets

Editing Initiative Performance Impacts

Use the Notes to document data sources or assumptions for your initiative's affect upon performance, including estimates for high and low impacts.

1. If the "Initiatives" window is not active, open it.
2. In the "Initiatives" window, click on the title of the initiative that you want to edit. This action highlights the selected initiative.
3. Click the **Perf Impact** button. The "Performance Impact" window appears.
4. Select a related performance measure from the Performance Measure combo box.

Only those performance measures that are linked to the active initiative appear in the combo box.

5. Enter the annual most likely performance impacts for the initiative by doing one of the following:
 - For each year, enter the annual performance impact for the initiative in the white row of the worksheet.
 - Enter detailed (itemized) initiative performance impacts.
 - Import a detailed initiative performance impacts worksheet.

Each year you should enter the total change relative to the current value, rather than to the previous year.

6. Enter the high and low percentages in the High and Low text boxes. These percentages describe the upper and lower bounds on investment costs (in terms of variance from the most likely value).
7. Repeat steps 4 through 6 for any remaining performance measures. When you have finished entering impact data for all performance measures, click **OK** to save your changes and close the window.

See Also

Initiative Costs and Impacts

Estimating Costs and Impacts

Example: Entering High and Low Percentages

Entering Detailed Initiative Performance Impacts

Use the Notes to document data sources or assumptions for your initiative's affect upon related performance measures.

1. If the "Performance Impact Detail" window is not active, open it.
2. Enter the name of the impact source in the Item column in the first empty row in the **bottom** worksheet.
3. Enter the annual impact related to the item under the appropriate years.

Each year you should enter the total change relative to the current value, rather than to the previous year.

4. Repeat steps 2 and 3 as needed.
5. When you have finished entering all of the performance impacts sources for this initiative, do one of the following:
 - Type the annual total performance impacts into the top (Total) worksheet.
 - Compute the annual total performance impacts in the detailed worksheet. Use the Transfer Row to Total button to copy the totals from the detailed worksheet into the Total worksheet.
 - Compute the annual total performance impacts in the detailed worksheet. Use the Edit menu to copy and paste the totals from the detailed worksheet into the Total worksheet.
6. Click **OK** to save your work and close the window.

Examples

In this example, the performance measure is Unit Cost. It is dependent upon the number of units produced (workload) and the total operations costs. The initiative will decrease operations costs without affecting the number of units produced.

	A	B	C	D	E	F
1	Item	1995	1996	1997	1998	1999
2	Current Unit Cost	\$2.10	\$2.10	\$2.10	\$2.10	\$2.10
3	Workload	300	310	320	330	340
4	Current Operations Costs	\$630	\$651	\$672	\$693	\$714
5	Initiative Cost Impacts	\$0	\$0	(\$10)	(\$25)	(\$50)
6	Future Operations Costs	\$630	\$651	\$662	\$668	\$664
7	Future Unit Cost	\$2.10	\$2.10	\$2.07	\$2.02	\$1.95
8	Initiative Impact	\$0.00	\$0.00	(\$0.03)	(\$0.08)	(\$0.15)

In this example, the performance measure is Customer Satisfaction. It is dependent upon the Timeliness, Quality and Cost of service. Customers rank each factor on a scale from 1 (poor) to 5 (excellent). Overall satisfaction is the sum of the scores for each factor divided by 3. In years 1996 to 1999, the initiative will improve all three factors as shown below.

	A	B	C	D	E	F
1	Item	1995	1996	1997	1998	1999
2	Current Timeliness	3	3	3	3	3
3	Initiative Impact	0	0.25	0.5	0.75	1
4	Future Timeliness	3	3.25	3.5	3.75	4
5						
6	Current Quality	2	2	2	2	2
7	Initiative Impact	0	0.5	1	0.5	2
8	Future Quality	2	2.5	3	2.5	4
9						
10	Current Cost	2.4	2.4	2.4	2.4	2.4
11	Initiative Impact	0	0	0.2	0.4	0.6
12	Future Cost	2.4	2.4	2.6	2.8	3
13						
14	Current Total	7.4	7.4	7.4	7.4	7.4
15	Total Impact	0	0.75	1.7	1.65	3.6
16	Future Total	7.4	8.15	9.1	9.05	11
17						
18	Future Rating	2.47	2.72	3.03	3.02	3.67

Note You can also import a pre-built Excel 4.0 worksheet into the detailed worksheet.

See Also

Initiative Costs and Impacts
 Estimating Costs and Impacts
 Worksheets

Editing Initiative Cost Impacts

Use the Notes to document data sources or assumptions for your initiative's affect upon operations costs, including estimates for high and low impacts.

1. If the "Initiatives" window is not active, open it.
2. In the "Initiatives" window, click on the title of the initiative that you want to edit. This action highlights the selected initiative.

3. Click the **Ops Cost Impact** button. The "Operations Cost Impact" window appears.
4. Enter the annual cost impact for the initiative by doing one of the following:
 - For each year, enter the annual cost impact for the initiative in the white row of the worksheet.
 - Enter detailed (itemized) cost impacts.
 - Import a detailed initiative operations cost impacts worksheet.

For a given year you should enter the total change relative to the forecasted operations cost value for the year. Enter cost decreases as negative numbers and cost increases as positive numbers.

5. Enter the high and low percentages in the High and Low text boxes. These percentages describe the upper and lower bounds on investment costs (in terms of variance from the most likely value).
6. When you have finished entering cost impact data for this initiative, click **OK** to save your changes and close the window.

See Also

Initiative Costs and Impacts

Estimating Costs and Impacts

Example: Entering High and Low Percentages

Entering Detailed Initiative Cost Impacts

Use the Notes to document data sources or assumptions for your initiative's affect upon operations costs.

1. If the "Operations Cost Impact Detail" window is not active, open it.
2. Enter the name of the cost item in the Item column in the first empty row in the **bottom** worksheet.
3. Enter the annual impact related to the item under the appropriate years.

Each year you should enter the total change relative to the current value, rather than to the previous year. Enter cost decreases as negative numbers and cost increases as positive numbers.

4. Repeat steps 2 and 3 as needed.

5. When you have finished entering all of the cost items for this initiative, do one of the following:
 - Type the annual total cost impacts into the top (Total) worksheet.
 - Compute the annual total cost impacts in the detailed worksheet. Use the Transfer Row to Total button to copy the totals from the detailed worksheet into the Total worksheet.
 - Compute the annual total cost impacts in the detailed worksheet. Use the Edit menu to copy and paste the totals from the detailed worksheet into the Total worksheet.
6. Click **OK** to save your work and close the window.

Example

The worksheet shown below demonstrates one way to enter detailed initiative cost impacts. It shows that you can use POM program elements, activities, or an categorization scheme of your choice in order to detail initiative cost impacts.

You would transfer the total row at the bottom of the sheet to the top worksheet in the "Operations Cost Impact Detail" window.

	A	B	C	D	E	F
1	Item	1997	1998	1999	2000	2001
2	Military Pay	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
3	Civil Pay	\$0.00	\$39.40	\$39.40	\$39.40	\$39.40
4	Equipment	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	Supplies	(\$5.00)	(\$10.00)	(\$15.00)	(\$20.00)	(\$20.00)
6	Facilities	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
7	G & A	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
8	Other	(\$15.00)	(\$30.00)	(\$45.00)	(\$60.00)	(\$60.00)
9	Total	(\$20.00)	(\$0.60)	(\$20.60)	(\$40.60)	(\$40.60)

Note You can also import a pre-built Excel 4.0 worksheet into the detailed worksheet.

See Also

Initiative Costs and Impacts

Estimating Costs and Impacts

Worksheets

Alternatives Module

You must complete the Initiatives module before you use this module.

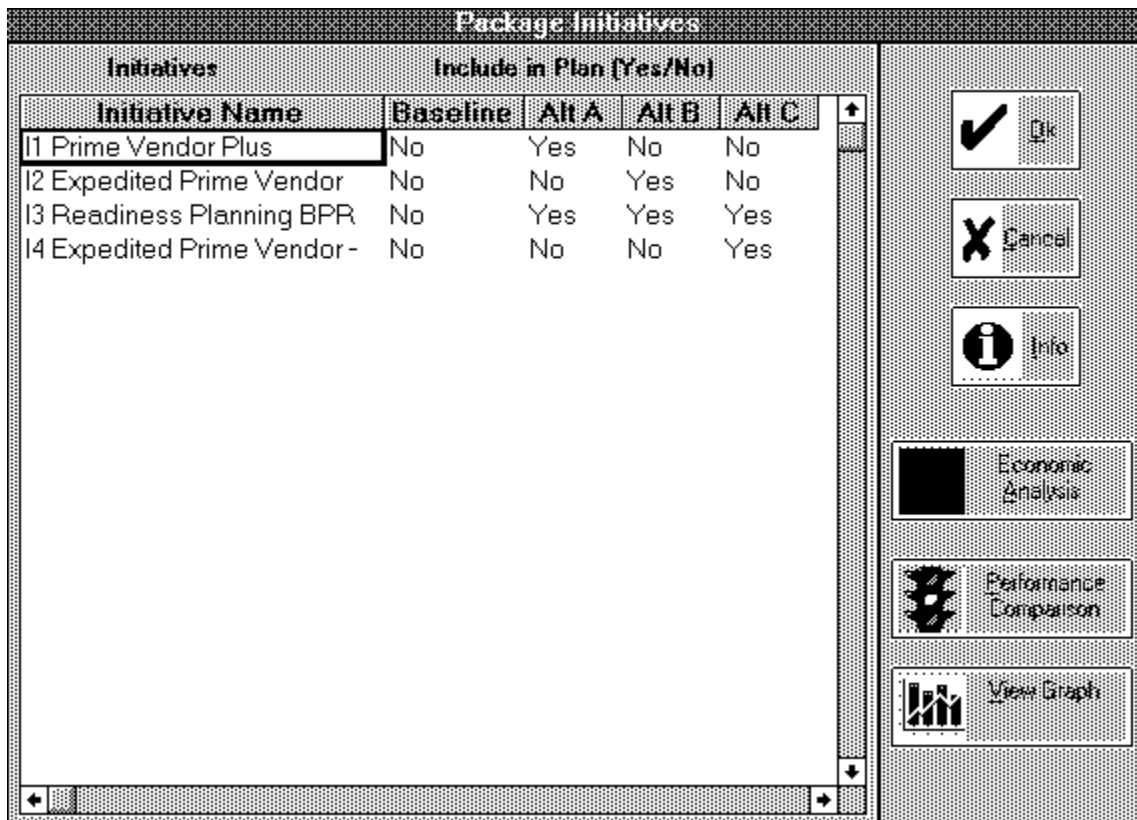
This module allows the user to group individual initiatives into as many as three packages, called alternatives, for the purpose of cost-benefit analysis and performance comparison.

The module provides the user with an economic analysis (risk-adjusted discounted savings, return on investment and payback period for each alternative) and a performance comparison showing the impact of each alternative on each performance measure using a red-yellow-green coding scheme.

This module can be used as part of the BPR or FEA processes.

Package Initiatives Window

Use this window to package initiatives into alternatives.



Package Initiatives worksheet

Use this worksheet to include initiatives in the baseline or in any of the three alternatives. To include an initiative in a plan, double-click on the cell where the initiative row and baseline/alternative column intersect.

<u>Column</u>	<u>Depicts</u>
1	The Name of each Initiative
2	The Baseline Plan
3	The plan for Alternative A
4	The plan for Alternative B
5	The plan for Alternative C

Economic Analysis button

Use this button to open the "Alternatives: Economic Analysis" window, where you can view and calculate financial indicators for the alternatives.

Performance Comparison button

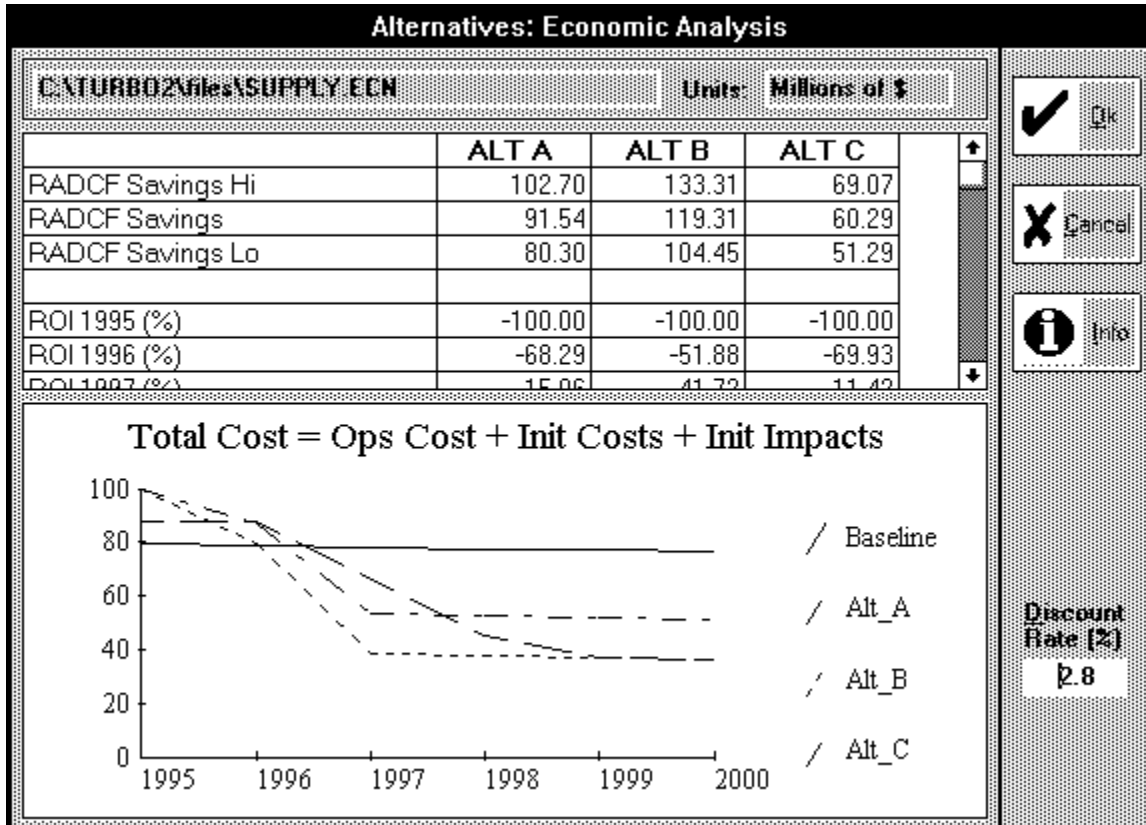
Use this button to open the "Alternatives: Performance Comparison" window, where you can analyze the performance achievement of the baseline and each alternative.

View Graph button

Use this button to open the "Alternatives: Cost and Performance Ranges" window where you can view graphs showing the cost and performance ranges for your baseline and alternatives. You can also open this window by using the View Graph tool.

Alternatives: Economic Analysis Window

Use this window to view and calculate financial indicators for the alternatives.



Economic Analysis worksheet

This worksheet reports various financial indicators for each alternative. This worksheet is for display only.

Total Cost Comparison graph

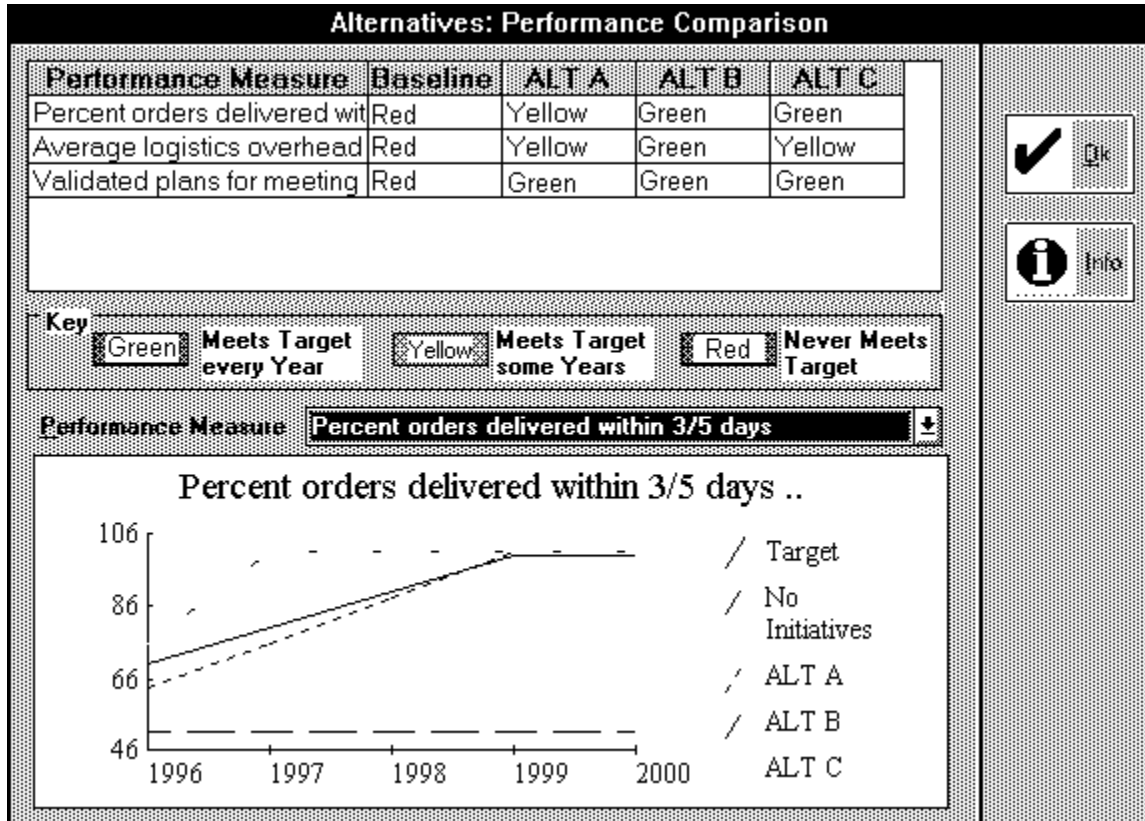
This graph depicts the total cost for the baseline and alternative plans. This is a graph of total unadjusted cost. The cost figures used to make the graph have not been discounted or adjusted for risk.

Discount Rate text box

Use this text box to enter a discount rate for the economic analysis. The default discount rate is 4.8%.

Alternatives: Performance Comparison Window

Use this window to compare the performance of the alternatives.



Performance Comparison worksheet

This worksheet depicts the accomplishment of performance targets by the baseline and alternative plans.

Column	Depicts
1	Performance Measure names.
2	Baseline accomplishment of performance targets.
3	Alternative A accomplishment of performance targets.
4	Alternative B accomplishment of performance targets.
5	Alternative C accomplishment of performance targets.

Key

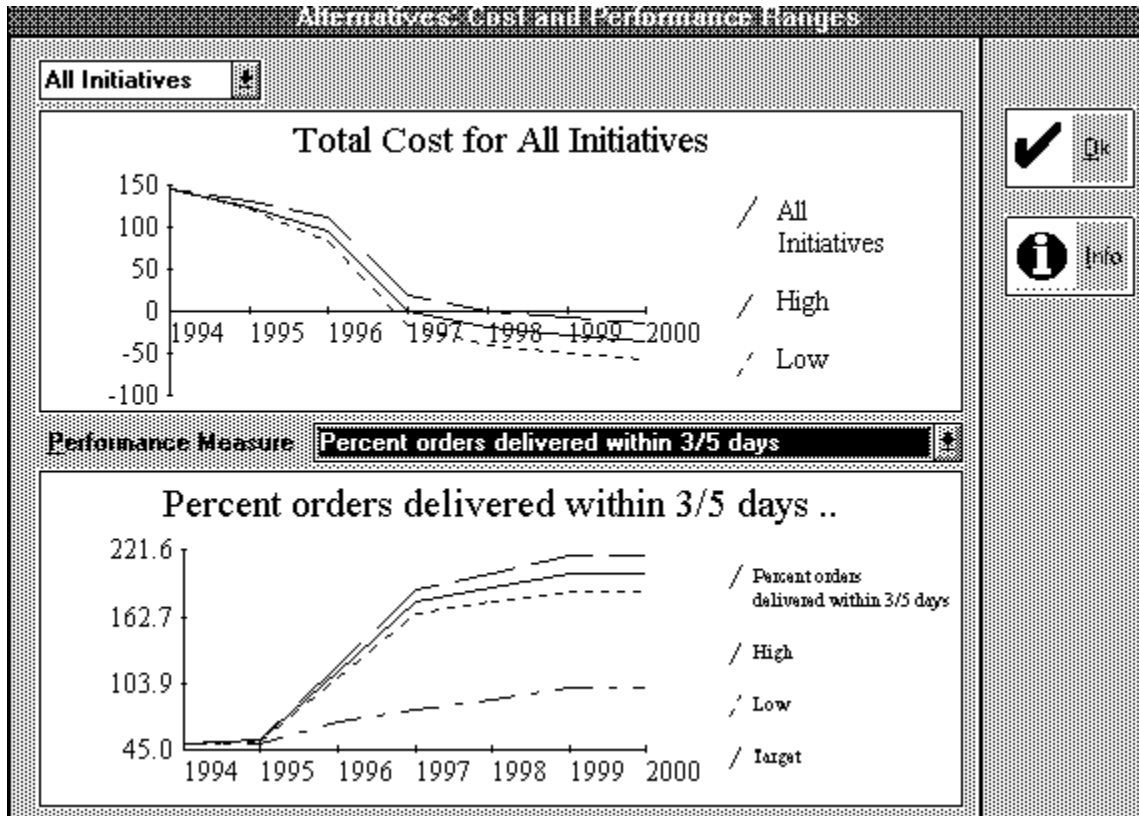
This legend explains the (color) codes in the Performance Comparison worksheet.

Performance Comparison graph

This graph depicts the annual performance level for the baseline and alternative plans.

Alternatives: Cost and Performance Ranges Window

Use this window to view graphs showing the cost and performance ranges for your baseline and alternatives.



Scenario combo box

Use this combo box to select the scenario for which you would like to view graphs.

Select

Baseline, Alternative A, B, or C

No initiatives

All Initiatives

To view graphs showing

The total cost and total performance of the plan.

The Operations Cost Forecast; No related performance measure graphs.

The total cost and performance if all initiatives were included in one plan.

Cost Range graph

This graph depicts the high, most likely, and low cost for the selected scenario.

Performance Measure combo box

Use this combo box to select a performance measure. TurboBPR lists only those performance measures that are related to the initiatives in the scenario. (To view the links between performance measures, strategies, and initiatives, select Plan (View menu) or click the View Plan tool).

This combo box is locked (i.e., you cannot type in a value).

Performance Measure Range graph

This graph depicts the high, most likely, and low performance for the selected performance measure and scenario. TurboBPR will not display performance measure graphs for a scenario without initiatives.

Entering Data for Alternatives

Packaging Alternatives

Use the Notes to document descriptions and other information for each alternative.

1. If the "Package Initiatives" window is not active, open it.
2. You can include an initiative in either the baseline or one of the three alternatives by double-clicking on the white cell that is the intersection of the baseline/alternative column and the initiative row.

The text in selected cell will change from No to Yes.

3. If you want to remove an initiative from the baseline or an alternative, double-click on the cell that is the intersection of the baseline/alternative column and the initiative row.

The text in the selected cell will change from Yes to No.

4. Repeat steps 2 and 3 as needed. When you have finished creating your baseline and alternatives, click **OK** to save your work and close the window.

Note Only include an initiative in the baseline if it has already been approved.

See Also

Baselines

Alternatives

Economic Analysis

Use the Notes to document the information gained from the economic analysis. For example, you could record alternative rankings, reasons for alternative infeasibility, and sensitivity of key assumptions.

1. If the "Package Initiatives" window is not active, open it.
2. Click on the **Economic Analysis** button.
3. Enter the discount rate that you want to use for the analysis.
4. TurboBPR will calculate the financial indicators shown in the worksheet for the baseline and each alternative. After a few moments, the results will be presented in the worksheet.
5. Repeat step 3 as desired. When you have finished, click **OK** to close the window.

About the Financial Indicators Reported

- RADCF Savings. This measure equals

risk-adjusted baseline total cost - risk-adjusted alternative cost

where total cost = AS-IS operations costs + investment costs + cost impacts

High, Most Likely, and Low risk-adjusted savings are reported.

A net cost savings will be reported as a positive number.

- ROI. This measure shows the year-by-year return on investment. For a given year, it equals:

$$= \frac{\text{sum investment costs incurred to date} + \text{sum cost impacts received to date}}{\text{sum investment costs incurred to date}}$$

If the ROI is $\geq 10,000$ or if investment cost equals zero, TurboBPR will report the ROI as $\geq 10,000$.

- RA ROI. This measure adjusts the total return on investment for risk. It equals

$$= \frac{\text{total risk-adjusted cost impacts} + \text{total risk-adjusted investment costs}}{\text{total risk-adjusted investment costs}}$$

High, Most Likely, and Low risk-adjusted return on investments are reported. If the risk-adjusted ROI is $\geq 10,000$ or if investment cost equals zero, TurboBPR will report the RA ROI as $\geq 10,000$.

- IRR (Internal Rate of Return). TurboBPR will report the IRR for an alternative as ≥ 500 if it exceeds 500%. Likewise, it will report the IRR as ≤ 0 if it falls below zero.

- Discounted Payback. If the alternative never breaks even, TurboBPR will report its discounted payback as None. If TurboBPR reports the discounted payback as <1 , then the alternative breaks even before the end of the first implementation year.

Note To view a graph depicting baseline/alternative costs (with high and low bounds), open the "Alternatives: Cost and Performance Ranges" window by doing one of the following:

- Select Graph (View menu)
- Click the View Graph tool

See Also

Alternative Analysis
Financial Indicators
Risk
Risk-Adjusted Discounted Cash Flow Calculations

Understanding the Economic Analysis Worksheet

The following table explains the error messages that may appear in the Economic Analysis worksheet.

TurboBPR Reports	Which Means
RADCF Savings >0	The alternative generates a net cost savings relative to the baseline.
RADCF Savings <0	The alternative generates a net cost increase relative to the baseline.
ROI >= 10000	ROI >= 10,000% OR the investment costs equal zero.
RA ROI >= 10000	ROI (adjusted for risk) >= 10,000% OR the investment costs equal zero.
IRR >=500	IRR >=500%.
IRR <=0	IRR <= 0%.
Discounted Payback = "None"	The alternative never breaks even.
Discounted Payback <1	The alternative breaks even before the end of the first year of the period of analysis.

See Also

Financial Indicators
Risk
Risk-Adjusted Discounted Cash Flow Calculations

Performance Comparison

Use the Notes to document the information gained from the performance comparison. For example, you could record alternative rankings, reasons for alternative infeasibility, and sensitivity of key assumptions.

1. If the "Package Initiatives" window is not active, open it.
2. Click on the **Performance Comparison** button.
3. Select the performance measure you would like to analyze.
4. Repeat step 3 as desired. When you have finished, click **OK** close the window.

Note To view a graph depicting baseline/alternative performance (with high and low bounds), open the "Alternatives: Cost and Performance Ranges" window by doing one of the following:

- Select Graph (View menu)
- Click the View Graph tool

See Also

Alternative Analysis

Risk

Actuals Module

You must complete the Strategic Planning, Operations and Initiatives modules before you use this module.

This module allows the user to track the results of the implemented improvements by entering actual cost and performance measure values as they become known, for comparison with the initial projections. Where actuals differ from projections, the user can record an explanation for why the variation occurred.

This module can be used as part of the BPR process, or for cost and performance tracking to help satisfy GPRA requirements.

Projected versus Actuals Window

Use this window to enter actual values for performance measures, initiative investment costs, and total costs.

Projected versus Actuals

Year **Alternative**

1995 Alt B

Costs: Total Cost = Ops Cost + Initiative Costs + Initiative Impacts on Ops Cost

Name	Actual	Projected	Act. - Proj.
Total Cost	101.90	95.25	6.65




Initiative Costs:

Initiative	Actual	Projected	Act. - Proj.
I2 Expedited Prime Vendor	22.00	20.00	2.00
I3 Readiness Planning BPR Pi	0.50	0.25	0.25

Performance: Performance = Current Performance + Initiative Impacts on Performance

Measure	Actual	Projected	Act. - Proj.
P1 Percent orders delivered	53.00	52.00	1.00
P2 Average logistics	10.00	10.90	(0.90)
P3 Validated plans for	0.00	2.00	(2.00)

Units for:

Year combo box

Use this combo box to select the year for which you will enter actual cost and performance. You can use any year up to the present.

Total Cost Actuals worksheet

Column

Is used for

- | | |
|---|---|
| 2 | Actual level of cost. This is the sum of operations cost + initiative costs + initiative impacts. |
| 3 | Projected level of total cost (display only). This is the sum of operations cost + initiative costs + initiative impacts. |
| 4 | Difference between actual and projected level of cost or performance (display only). |

Initiative Costs Actuals worksheet

<u>Column</u>	<u>Is used for</u>
1	Initiative name
2	Actual level of initiative cost.
3	Projected level of initiative cost (display only).
4	Difference between actual and projected initiative cost (display only).

Performance Measures Actuals worksheet

<u>Column</u>	<u>Is used for</u>
1	Performance Measure name
2	Actual level of performance.
3	Target level of performance (display only).
4	Difference between actual and target performance (display only).

Units for display boxes

These boxes display the units of measurement for the selected cost or performance measure. You **cannot** change cost or performance units using these boxes.

Alternative combo box

Use this combo box to indicate the alternative you implemented. You only enter actuals for the implemented alternative.

Entering Actuals

Use the Notes to document any differences between actual and projected values, and the implications of these differences.

1. If the "Projected versus Actuals" window is not active, open it.
2. If you haven't already done so, select the plan for which you will enter data.

You only have to do this the first time you enter actuals. If you later decide to change plans you will lose any actuals data already entered.

3. Select the year for which you will enter data.
4. Enter the actual Total Cost in the Actual column of the Total Cost Actuals worksheet.

5. Enter the actual investment cost for each initiative Actual column of the Initiative Cost Actuals worksheet.
6. Enter the actual performance level for each performance measure in the Actual column of the Performance Measures Actuals worksheet.
7. When you have finished, click **OK** to save your work and close the window.

See Also

Actuals: Cost and Performance

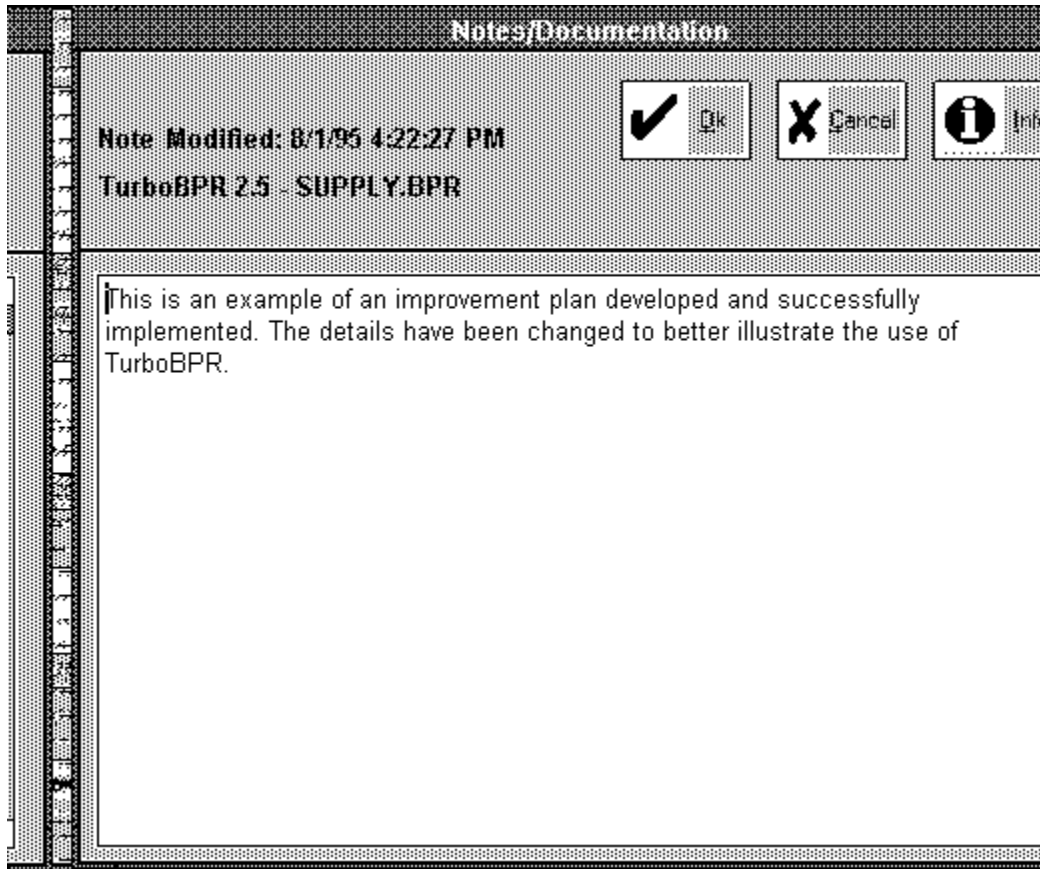
Actuals: Risk and Assumptions

Program Evaluation

Notes

Notes/Documentation Window

Use this window to record notes for your TurboBPR project. You can record a general note for the project (Project note) or a note for one of the specific module windows.



Note Modified label

This label tells you the last date and time that you changed the note. If there is no note, then the label reads **Note: New**.

Window label

This label lets you know for which window you are attaching, editing, or viewing the note. If you are creating an initiative specific note, TurboBPR will include the name of the initiative in this label. If you are creating a project note, TurboBPR will include the name of your project in this label.

Notes text box

Use this text box to enter any notes, comments, or additional information that would be relevant to the data entered in this window.

Opening a Note

1. Do one of the following:
 - If you want to open the Project note, close all open module windows.

- If you want to open a note for a specific window, open the window.
 - If you want to open an initiative specific note, first select the initiative you want then open the appropriate window.
2. From the Tools menu, choose Notes or click the Notes tool on the toolbar. The "Notes/Documentation" window appears. If a note for this window or for the project exists, TurboBPR displays it in the Notes text box. The text box will be empty if you have not created a note.

Note You can attach an initiative specific note anywhere within the **Initiatives** Module **except** when the "Initiatives" window is active.

Working with Notes

You can record notes that include any information you need for your TurboBPR project. For example, you can add a note about ABC data sources or reasons for initiative cost revisions. You can use the Notes to store any information that is important to your business case but is not requested by TurboBPR.

You can record three types of notes:

- a Project note
- a module window note (for all windows except as listed in the next bullet)
- an initiative specific note anywhere within the **Initiatives** Module **except** when the "Initiatives" window is active.

To attach, edit, or delete a note

1. Open the note.
2. Do one of the following
 - To **attach** or **edit** the note, type in, edit, or delete text in the Notes text box as necessary. Text wraps automatically, but you can press **ENTER** to start a new line.
 - To **delete** the note, select all of the text then press **DELETE** or **BACKSPACE**.
3. Click the **OK** button to save your changes and close the window.

Once you attach a note to a module window, the words "Notes Attached" appear on the module button bar each time you open the module window. Similarly, if you attach a Project note, the words "Notes Attached" appear on the module button bar when no module window is active. Likewise, TurboBPR will indicate "Notes Attached" when you attach an initiative cost or impact note for a **specific** initiative. TurboBPR places the words "Notes Attached" to the right of the Help tool.

See Also

Text Boxes

Appendix

Government Performance and Results Act

One Hundred Third Congress

of the

United States of America

Begun and held at the City of Washington on
Tuesday, the fifth day of January, one thousand nine hundred and ninety-three

An Act

To provide for the establishment of strategic planning and performance measurement
in the Federal Government, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Government Performance and Results Act of 1993".

SEC. 2. FINDINGS AND PURPOSES.

(a) Findings.-The Congress finds that-

- (1) waste and inefficiency in Federal programs undermine the confidence of the American people in the Government and reduces the Federal Government's ability to address adequately vital public needs;
- (2) Federal managers are seriously disadvantaged in their efforts to improve program efficiency and effectiveness, because of insufficient articulation of program goals and inadequate information on program performance; and
- (3) congressional policymaking, spending decisions and program oversight are seriously handicapped by insufficient attention to program performance and results.

(b) Purposes.-The purposes of this Act are to-

- (1) improve the confidence of the American people in the capability of the Federal Government, by systematically holding Federal agencies accountable for achieving program results;
- (2) initiate program performance reform with a series of pilot projects in setting program goals, measuring program performance against those goals, and reporting publicly on their progress;
- (3) improve Federal program effectiveness and public accountability by promoting a new focus on results, service quality, and customer satisfaction;
- (4) help Federal managers improve service delivery, by requiring that they plan for meeting program objectives and by providing them with information about program results and service quality;
- (5) improve congressional decisionmaking by providing more objective information on achieving statutory objectives, and on the relative effectiveness and efficiency of Federal programs and spending; and
- (6) improve internal management of the Federal Government.

SEC. 3. STRATEGIC PLANNING.

Chapter 3 of title 5, United States Code, is amended by adding after section 305 the following new section:

“Sec. 306. Strategic plans

“(a) No later than September 30, 1997, the head of each agency shall submit to the Director of the Office of Management and Budget and to the Congress a strategic plan for program activities. Such plan shall contain-

- “(1) a comprehensive mission statement covering the major functions and operations of the agency;
- “(2) general goals and objectives, including outcome- related goals and objectives, for the major functions and operations of the agency;
- “(3) a description of how the goals and objectives are to be achieved, including a description of the operational processes, skills and technology, and the human, capital, information, and other resources required to meet those goals and objectives;
- “(4) a description of how the performance goals included in the plan required by section 1115(a) of title 31 shall be related to the general goals and objectives in the strategic plan;
- “(5) an identification of those key factors external to the agency and beyond its control that could significantly affect the achievement of the general goals and objectives; and
- “(6) a description of the program evaluations used in establishing or revising general goals and objectives, with a schedule for future program evaluations.

“(b) The strategic plan shall cover a period of not less than five years forward from the fiscal year in which it is submitted, and shall be updated and revised at least every three years.

“(c) The performance plan required by section 1115 of title 31 shall be consistent with the agency's strategic plan. A performance plan may not be submitted for a fiscal year not covered by a current strategic plan under this section.

“(d) When developing a strategic plan, the agency shall consult with the Congress, and shall solicit and consider the views and suggestions of those entities potentially affected by or interested in such a plan.

“(e) The functions and activities of this section shall be considered to be inherently Governmental functions. The drafting of strategic plans under this section shall be performed only by Federal employees.

“(f) For purposes of this section the term 'agency' means an Executive agency defined under section 105, but does not include the Central Intelligence Agency, the General Accounting Office, the Panama Canal Commission, the United States Postal Service, and the Postal Rate Commission.”.

SEC. 4. ANNUAL PERFORMANCE PLANS AND REPORTS.

(a) Budget Contents and Submission to Congress.-Section 1105(a) of title 31, United States Code, is amended by adding at the end thereof the following new paragraph:

“(29) beginning with fiscal year 1999, a Federal Government performance plan for the overall budget as provided for under section 1115.”.

(b) Performance Plans and Reports.-Chapter 11 of title 31, United States Code, is amended by adding after section 1114 the following new sections:

“Sec. 1115. Performance plans

“(a) In carrying out the provisions of section 1105(a)(29), the Director of the Office of Management and Budget shall require each agency to prepare an annual performance plan covering each program activity set forth in the budget of such agency. Such plan shall-

“(1) establish performance goals to define the level of performance to be achieved by a program activity;

“(2) express such goals in an objective, quantifiable, and measurable form unless authorized to be in an alternative form under subsection (b);

“(3) briefly describe the operational processes, skills and technology, and the human, capital, information, or other resources required to meet the performance goals;

“(4) establish performance indicators to be used in measuring or assessing the relevant outputs, service levels, and outcomes of each program activity;

“(5) provide a basis for comparing actual program results with the established performance goals; and

“(6) describe the means to be used to verify and validate measured values.

“(b) If an agency, in consultation with the Director of the Office of Management and Budget, determines that it is not feasible to express the performance goals for a particular program activity in an objective, quantifiable, and measurable form, the Director of the Office of Management and Budget may authorize an alternative form. Such alternative form shall-

“(1) include separate descriptive statements of-

“(A)(i) a minimally effective program, and

“(ii) a successful program, or

“(B) such alternative as authorized by the Director of the Office of Management and Budget,

with sufficient precision and in such terms that would allow for an accurate, independent determination of whether the program activity's performance meets the criteria of the description; or

“(2) state why it is infeasible or impractical to express a performance goal in any form for the program activity.

“(c) For the purpose of complying with this section, an agency may aggregate, disaggregate, or consolidate program activities, except that any aggregation or consolidation may not omit or minimize the significance of any program activity constituting a major function or operation for the agency.

“(d) An agency may submit with its annual performance plan an appendix covering any portion of the plan that-

“(1) is specifically authorized under criteria established by an Executive order to be kept secret in the interest of national defense or foreign policy; and

“(2) is properly classified pursuant to such Executive order.

“(e) The functions and activities of this section shall be considered to be inherently Governmental functions. The drafting of performance plans under this section shall be performed only by Federal employees.

“(f) For purposes of this section and sections 1116 through 1119, and sections 9703 and 9704 the term-

“(1) 'agency' has the same meaning as such term is defined under section 306(f) of title 5;

“(2) 'outcome measure' means an assessment of the results of a program activity compared to its intended purpose;

“(3) 'output measure' means the tabulation, calculation, or recording of activity or effort and can be expressed in a quantitative or qualitative manner;

“(4) 'performance goal' means a target level of performance expressed as a tangible, measurable objective, against which actual achievement can be compared, including a goal expressed as a quantitative standard, value, or rate;

“(5) 'performance indicator' means a particular value or characteristic used to measure output or outcome;

“(6) 'program activity' means a specific activity or project as listed in the program and

financing schedules of the annual budget of the United States Government; and

“(7) 'program evaluation' means an assessment, through objective measurement and systematic analysis, of the manner and extent to which Federal programs achieve intended objectives.

“Sec. 1116. Program performance reports

“(a) No later than March 31, 2000, and no later than March 31 of each year thereafter, the head of each agency shall prepare and submit to the President and the Congress, a report on program performance for the previous fiscal year.

“(b)(1) Each program performance report shall set forth the performance indicators established in the agency performance plan under section 1115, along with the actual program performance achieved compared with the performance goals expressed in the plan for that fiscal year.

“(2) If performance goals are specified in an alternative form under section 1115(b), the results of such program shall be described in relation to such specifications, including whether the performance failed to meet the criteria of a minimally effective or successful program.

“(c) The report for fiscal year 2000 shall include actual results for the preceding fiscal year, the report for fiscal year 2001 shall include actual results for the two preceding fiscal years, and the report for fiscal year 2002 and all subsequent reports shall include actual results for the three preceding fiscal years.

“(d) Each report shall-

“(1) review the success of achieving the performance goals of the fiscal year;

“(2) evaluate the performance plan for the current fiscal year relative to the performance achieved toward the performance goals in the fiscal year covered by the report;

“(3) explain and describe, where a performance goal has not been met (including when a program activity's performance is determined not to have met the criteria of a successful program activity under section 1115(b)(1)(A)(ii) or a corresponding level of achievement if another alternative form is used)-

“(A) why the goal was not met;

“(B) those plans and schedules for achieving the established performance goal; and

“(C) if the performance goal is impractical or infeasible, why that is the case and what action is recommended;

“(4) describe the use and assess the effectiveness in achieving performance goals of any waiver under section 9703 of this title; and

“(5) include the summary findings of those program evaluations completed during the fiscal year covered by the report.

“(e) An agency head may include all program performance information required annually under this section in an annual financial statement required under section 3515 if any such statement is submitted to the Congress no later than March 31 of the applicable fiscal year.

“(f) The functions and activities of this section shall be considered to be inherently Governmental functions. The drafting of program performance reports under this section shall be performed only by Federal employees.

“Sec. 1117. Exemption

“The Director of the Office of Management and Budget may exempt from the requirements of sections 1115 and 1116 of this title and section 306 of title 5, any agency with annual outlays of \$20,000,000 or less.”

SEC. 5. MANAGERIAL ACCOUNTABILITY AND FLEXIBILITY.

(a) Managerial Accountability and Flexibility.-Chapter 97 of title 31, United States Code, is amended by adding after section 9702, the following new section:

“Sec. 9703. Managerial accountability and flexibility

“(a) Beginning with fiscal year 1999, the performance plans required under section 1115 may include proposals to waive administrative procedural requirements and controls, including specification of personnel staffing levels, limitations on compensation or remuneration, and prohibitions or restrictions on funding transfers among budget object classification 20 and subclassifications 11, 12, 31, and 32 of each annual budget submitted under section 1105, in return for specific individual or organization accountability to achieve a performance goal. In preparing and submitting the performance plan under section 1105(a)(29), the Director of the Office of Management and Budget shall review and may approve any proposed waivers. A waiver shall take effect at the beginning of the fiscal year for which the waiver is approved.

“(b) Any such proposal under subsection (a) shall describe the anticipated effects on performance resulting from greater managerial or organizational flexibility, discretion, and authority, and shall quantify the expected improvements in performance resulting from any waiver. The expected improvements shall be compared to current actual performance, and to the target level of performance that would be achieved independent of any waiver.

“(c) Any proposal waiving limitations on compensation or remuneration shall precisely express the monetary change in compensation or remuneration amounts, such as bonuses or awards, that shall result from meeting, exceeding, or failing to meet performance goals.

“(d) Any proposed waiver of procedural requirements or controls imposed by an agency (other than the proposing agency or the Office of Management and Budget) may not be included in a performance plan unless it is endorsed by the agency that established the requirement, and the endorsement included in the proposing agency's performance plan.

“(e) A waiver shall be in effect for one or two years as specified by the Director of the Office of Management and Budget in approving the waiver. A waiver may be renewed for a subsequent year. After a waiver has been in effect for three consecutive years, the performance plan prepared under section 1115 may propose that a waiver, other than a waiver of limitations on compensation or remuneration, be made permanent.

“(f) For purposes of this section, the definitions under section 1115(f) shall apply.”.

SEC. 6. PILOT PROJECTS.

(a) Performance Plans and Reports.-Chapter 11 of title 31, United States Code, is amended by inserting after section 1117 (as added by section 4 of this Act) the following new section:

“Sec. 1118. Pilot projects for performance goals

“(a) The Director of the Office of Management and Budget, after consultation with the head of each agency, shall designate not less than ten agencies as pilot projects in performance measurement for fiscal years 1994, 1995, and 1996. The selected agencies shall reflect a representative range of Government functions and capabilities in measuring and reporting program performance.

“(b) Pilot projects in the designated agencies shall undertake the preparation of performance plans under section 1115, and program performance reports under section 1116, other than section 1116(c), for one or more of the major functions and operations of the agency. A strategic plan shall be used when preparing agency performance plans during one or more years of the pilot period.

“(c) No later than May 1, 1997, the Director of the Office of Management and Budget shall submit a report to the President and to the Congress which shall-

“(1) assess the benefits, costs, and usefulness of the plans and reports prepared by the pilot agencies in meeting the purposes of the Government Performance and Results Act of 1993;

“(2) identify any significant difficulties experienced by the pilot agencies in preparing plans and reports; and

“(3) set forth and recommend changes in the requirements of the provisions of Government Performance and Results Act of 1993, section 306 of title 5, sections 1105, 1115, 1116, 1117, 1119 and 9703 of this title, and this section.”.

(b) Managerial Accountability and Flexibility.-Chapter 97 of title 31, United States Code, is amended by inserting after section 9703 (as added by section 5 of this Act) the following new section:

“Sec. 9704. Pilot projects for managerial accountability and flexibility

“(a) The Director of the Office of Management and Budget shall designate not less than five agencies as pilot projects in managerial accountability and flexibility for fiscal years 1995 and 1996. Such agencies shall be selected from those designated as pilot projects under section 1118 and shall reflect a representative range of Government functions and capabilities in measuring and reporting program performance.

“(b) Pilot projects in the designated agencies shall include proposed waivers in accordance with section 9703 for one or more of the major functions and operations of the agency.

“(c) The Director of the Office of Management and Budget shall include in the report to the President and to the Congress required under section 1118(c)-

“(1) an assessment of the benefits, costs, and usefulness of increasing managerial and organizational flexibility, discretion, and authority in exchange for improved performance through a waiver; and

“(2) an identification of any significant difficulties experienced by the pilot agencies in preparing proposed waivers.

“(d) For purposes of this section the definitions under section 1115(f) shall apply.”.

(c) Performance Budgeting.-Chapter 11 of title 31, United States Code, is amended by inserting after section 1118 (as

added by section 6 of this Act) the following new section:

``Sec. 1119. Pilot projects for performance budgeting

``(a) The Director of the Office of Management and Budget, after consultation with the head of each agency shall designate not less than five agencies as pilot projects in performance budgeting for fiscal years 1998 and 1999. At least three of the agencies shall be selected from those designated as pilot projects under section 1118, and shall also reflect a representative range of Government functions and capabilities in measuring and reporting program performance.

``(b) Pilot projects in the designated agencies shall cover the preparation of performance budgets. Such budgets shall present, for one or more of the major functions and operations of the agency, the varying levels of performance, including outcome- related performance, that would result from different budgeted amounts.

``(c) The Director of the Office of Management and Budget shall include, as an alternative budget presentation in the budget submitted under section 1105 for fiscal year 1999, the performance budgets of the designated agencies for this fiscal year.

``(d) No later than March 31, 2001, the Director of the Office of Management and Budget shall transmit a report to the President and to the Congress on the performance budgeting pilot projects which shall-

``(1) assess the feasibility and advisability of including a performance budget as part of the annual budget submitted under section 1105;

``(2) describe any difficulties encountered by the pilot agencies in preparing a performance budget;

``(3) recommend whether legislation requiring performance budgets should be proposed and the general provisions of any legislation; and

``(4) set forth any recommended changes in the other requirements of the Government Performance and Results Act of 1993, section 306 of title 5, sections 1105, 1115, 1116, 1117, and 9703 of this title, and this section.

``(e) After receipt of the report required under subsection (d), the Congress may specify that a performance budget be submitted as part of the annual budget submitted under section 1105."

SEC. 7. UNITED STATES POSTAL SERVICE.

Part III of title 39, United States Code, is amended by adding at the end thereof the following new chapter:

``CHAPTER 28-STRATEGIC PLANNING AND PERFORMANCE MANAGEMENT

``Sec.

``2801. Definitions.

``2802. Strategic plans.

2803. Performance plans.

2804. Program performance reports.

2805. Inherently Governmental functions.

Sec. 2801. Definitions

For purposes of this chapter the term-

(1) 'outcome measure' refers to an assessment of the results of a program activity compared to its intended purpose;

(2) 'output measure' refers to the tabulation, calculation, or recording of activity or effort and can be expressed in a quantitative or qualitative manner;

(3) 'performance goal' means a target level of performance expressed as a tangible, measurable objective, against which actual achievement shall be compared, including a goal expressed as a quantitative standard, value, or rate;

(4) 'performance indicator' refers to a particular value or characteristic used to measure output or outcome;

(5) 'program activity' means a specific activity related to the mission of the Postal Service; and

(6) 'program evaluation' means an assessment, through objective measurement and systematic analysis, of the manner and extent to which Postal Service programs achieve intended objectives.

Sec. 2802. Strategic plans

(a) No later than September 30, 1997, the Postal Service shall submit to the President and the Congress a strategic plan for its program activities. Such plan shall contain-

(1) a comprehensive mission statement covering the major functions and operations of the Postal Service;

(2) general goals and objectives, including outcome-related goals and objectives, for the major functions and operations of the Postal Service;

(3) a description of how the goals and objectives are to be achieved, including a description of the operational processes, skills and technology, and the human, capital, information, and other resources required to meet those goals and objectives;

(4) a description of how the performance goals included in the plan required under section 2803 shall be related to the general goals and objectives in the strategic plan;

(5) an identification of those key factors external to the Postal Service and beyond its control that could significantly affect the achievement of the general goals and objectives; and

(6) a description of the program evaluations used in establishing or revising general goals and objectives, with a schedule for future program evaluations.

“(b) The strategic plan shall cover a period of not less than five years forward from the fiscal year in which it is submitted, and shall be updated and revised at least every three years.

“(c) The performance plan required under section 2803 shall be consistent with the Postal Service's strategic plan. A performance plan may not be submitted for a fiscal year not covered by a current strategic plan under this section.

“(d) When developing a strategic plan, the Postal Service shall solicit and consider the views and suggestions of those entities potentially affected by or interested in such a plan, and shall advise the Congress of the contents of the plan.

“Sec. 2803. Performance plans

“(a) The Postal Service shall prepare an annual performance plan covering each program activity set forth in the Postal Service budget, which shall be included in the comprehensive statement presented under section 2401(g) of this title. Such plan shall-

“(1) establish performance goals to define the level of performance to be achieved by a program activity;

“(2) express such goals in an objective, quantifiable, and measurable form unless an alternative form is used under subsection (b);

“(3) briefly describe the operational processes, skills and technology, and the human, capital, information, or other resources required to meet the performance goals;

“(4) establish performance indicators to be used in measuring or assessing the relevant outputs, service levels, and outcomes of each program activity;

“(5) provide a basis for comparing actual program results with the established performance goals; and

“(6) describe the means to be used to verify and validate measured values.

“(b) If the Postal Service determines that it is not feasible to express the performance goals for a particular program activity in an objective, quantifiable, and measurable form, the Postal Service may use an alternative form. Such alternative form shall-

“(1) include separate descriptive statements of-

“(A) a minimally effective program, and

“(B) a successful program,

with sufficient precision and in such terms that would allow for an accurate, independent determination of whether the program activity's performance meets the criteria of either description; or

“(2) state why it is infeasible or impractical to express a performance goal in any form for the program activity.

“(c) In preparing a comprehensive and informative plan under this section, the Postal Service may aggregate, disaggregate, or consolidate program activities, except that any aggregation or consolidation may not omit or minimize the significance of any program activity constituting a major function or operation.

“(d) The Postal Service may prepare a non-public annex to its plan covering program activities or parts of program activities relating to-

“(1) the avoidance of interference with criminal prosecution; or

“(2) matters otherwise exempt from public disclosure under section 410(c) of this title.

“Sec. 2804. Program performance reports

“(a) The Postal Service shall prepare a report on program performance for each fiscal year, which shall be included in the annual comprehensive statement presented under section 2401(g) of this title.

“(b)(1) The program performance report shall set forth the performance indicators established in the Postal Service performance plan, along with the actual program performance achieved compared with the performance goals expressed in the plan for that fiscal year.

“(2) If performance goals are specified by descriptive statements of a minimally effective program activity and a successful program activity, the results of such program shall be described in relationship to those categories, including whether the performance failed to meet the criteria of either category.

“(c) The report for fiscal year 2000 shall include actual results for the preceding fiscal year, the report for fiscal year 2001 shall include actual results for the two preceding fiscal years, and the report for fiscal year 2002 and all subsequent reports shall include actual results for the three preceding fiscal years.

“(d) Each report shall-

“(1) review the success of achieving the performance goals of the fiscal year;

“(2) evaluate the performance plan for the current fiscal year relative to the performance achieved towards the performance goals in the fiscal year covered by the report;

“(3) explain and describe, where a performance goal has not been met (including when a program activity's performance is determined not to have met the criteria of a successful program activity under section 2803(b)(2))-

“(A) why the goal was not met;

“(B) those plans and schedules for achieving the established performance goal; and

“(C) if the performance goal is impractical or infeasible, why that is the case and what action is recommended; and

“(4) include the summary findings of those program evaluations completed during the fiscal year covered by the report.

“Sec. 2805. Inherently Governmental functions

"The functions and activities of this chapter shall be considered to be inherently Governmental functions. The drafting of strategic plans, performance plans, and program performance reports under this section shall be performed only by employees of the Postal Service."

SEC. 8. CONGRESSIONAL OVERSIGHT AND LEGISLATION.

(a) In General.-Nothing in this Act shall be construed as limiting the ability of Congress to establish, amend, suspend, or annul a performance goal. Any such action shall have the effect of superseding that goal in the plan submitted under section 1105(a)(29) of title 31, United States Code.

(b) GAO Report.-No later than June 1, 1997, the Comptroller General of the United States shall report to Congress on the implementation of this Act, including the prospects for compliance by Federal agencies beyond those participating as pilot projects under sections 1118 and 9704 of title 31, United States Code.

SEC. 9. TRAINING.

The Office of Personnel Management shall, in consultation with the Director of the Office of Management and Budget and the Comptroller General of the United States, develop a strategic planning and performance measurement training component for its management training program and otherwise provide managers with an orientation on the development and use of strategic planning and program performance measurement.

SEC. 10. APPLICATION OF ACT.

No provision or amendment made by this Act may be construed as-

(1) creating any right, privilege, benefit, or entitlement for any person who is not an officer or employee of the United States acting in such capacity, and no person who is not an officer or employee of the United States acting in such capacity shall have standing to file any civil action in a court of the United States to enforce any provision or amendment made by this Act; or

(2) superseding any statutory requirement, including any requirement under section 553 of title 5, United States Code.

SEC. 11. TECHNICAL AND CONFORMING AMENDMENTS.

(a) Amendment to Title 5, United States Code.-The table of sections for chapter 3 of title 5, United States Code, is amended by adding after the item relating to section 305 the following:

``306. Strategic plans.".

(b) Amendments to Title 31, United States Code.-

(1) Amendment to chapter 11.-The table of sections for chapter 11 of title 31, United States Code, is amended by adding after the item relating to section 1114 the following:

``1115. Performance plans.

``1116. Program performance reports.

``1117. Exemptions.

``1118. Pilot projects for performance goals.

``1119. Pilot projects for performance budgeting.".

(2) Amendment to chapter 97.-The table of sections for chapter 97 of title 31, United States Code, is amended by adding after the item relating to section 9702 the following:

``9703. Managerial accountability and flexibility.

``9704. Pilot projects for managerial accountability and flexibility.".

(c) Amendment to Title 39, United States Code.-The table of chapters for part III of title 39, United States Code, is amended by adding at the end thereof the following new item:

``28. Strategic planning and performance management 2801".

Speaker of the House of Representatives.

Vice President of the United States and
President of the Senate.

Draft DoD Strategic Plan

Introduction

The Government Performance and Results Act (GPRA) of 1993 requires the

Department to develop and submit a DoD-wide strategic plan to the Office of Management and Budget (OMB) by September 30, 1997, and to prepare an annual performance plan in support of the FY 1999 DoD budget, and annually thereafter. To facilitate the process of complying with the requirements of GPRA, this office organized a DoD/JCS GPRA Working Group that developed a draft DoD mission and vision statement, seven corporate level goals, and a strawman set of DoD-wide performance measures.

In April, 1995, the original working group was expanded to include the Military Departments. The objective of the expanded working group was to gain consensus on a set of performance measures that will be used to evaluate each corporate goal and to assist the Military Departments in the formulation of a performance measure report that would satisfy the GPRA requirements contained in the POM Preparation Instructions regarding a performance measure report.

This report is the product of the expanded working group and represents an excellent framework for the Military Departments to formulate a coordinated performance measure report that will indicate progress towards meeting the corporate level goals. The response to this report, to include performance measurement definitions, will fulfill the PPI GPRA requirement.

The Defense Planning Guidance directs the USD(C) to submit a GPRA related report to the Secretary of Defense by October 1, 1995. The OUSD(C) will use the input from the Military Departments on this report as the basis for the plan due to the Secretary. We will coordinate this plan with the Military Departments, JCS and OSD in Mid-September.

DoD Mission Statement

The mission of the Department of Defense is to support and defend the Constitution of the United States, to provide for the common defense of the United States, its citizens and its allies, and to protect and advance U.S. interests around the world.

DoD Vision Statement

The Department of Defense:

Successfully defends the United States, its citizens, interests and allies.

Fields the best trained, best equipped, best prepared joint fighting force in the world.

Supports alliances/security relationships that protect/advance U.S. security interests.

Advances national priorities in concert with Congress, other agencies and the private sector.

Serves as a model of effective, efficient and innovative management and leadership.

Corporate Goal Number 1

Original Corporate Goal

Ensure the readiness, training, equipment and sustainability of U.S. Armed Forces are sufficient to successfully conduct all assigned missions with minimum loss of life.

Working Group Recommendation

Ensure that U.S. Armed Forces maintain sufficient levels of readiness to carry out the National Military Strategy.

Performance Measures for Goal #1

In addition to quantifiable readiness performance measures, the working group recommended that each Service provide a narrative description of its process of evaluating readiness levels. Section 1115 of PL 103-62 (GPRA) states that narrative justifications are acceptable in certain cases, i.e., if it is not feasible to express performance goals for a particular program activity in an objective, quantifiable, and measurable manner. In addition, each Service will provide the performance measures that it considers most important to the readiness of its forces given the unique missions and capabilities that are inherent in each of their missions. The performance measures recommended are shown below. Not all measures may be applicable to each Service.

1. OPTEMPO - Percent of OPTEMPO objectives achieved (deployed/non-deployed).
2. Status of Resources and Training System (SORTS) -Percent and number of forces that are at their specified C level versus the number of forces that should be at that C level. Percent of time ships, submarines, and aircraft wings/squadrons attain a specified C level.
3. Mission Capable Rates - Percent of time weapon systems are mission capable. Navy Ship Battle Forces - percent time free of C3/C4 casualty reports (POTF).
4. Operational Readiness Inspections (ORI) - number of units rated satisfactory or better versus the number of units rated.
5. Personnel Readiness Indicators - The percentage of available strength versus required strength by MOS qualified and senior grades level grades.
6. Equipment Readiness Indicators - The percentage of equipment on hand versus the amount required.
7. Equipment Serviceability Indicators - The percentage of time equipment was available versus projected availability.
8. Training Readiness Indicators - Commanders' assessment of a unit's ability to perform its mission essential task; number of additional training days needed for

a unit to achieve full proficiency in those tasks.

9. Modernization Readiness Indicators - Average weapon systems/equipment age and average maintenance/repair costs.
10. Sustainability Measures Amount of war reserves on hand versus plan.
11. Joint Headquarters Capability Assessment - The number of joint training and joint exercises planned versus the number conducted; and the evaluation ratings of JTF operations and exercises once conducted.

Corporate Goal Number 2

Original Corporate Goal

Provide flexible, ready military forces and capabilities for:

Rapidly projecting power to deter and, if necessary, fight and win two nearly simultaneous Major Regional Contingencies (MRCs) in concert with regional allies.

Supporting friends and allies, underwriting regional stability, providing initial crisis response and shaping the international environment in ways favorable to U.S. interests through peacetime overseas presence.

Conducting operations other than war.

Deterring, preventing and defending against the effective use of weapons of mass destruction (WMD) and preventing the acquisition of WMD and their means of delivery.

Working Group Recommendation

This Working Group made no changes to this corporate goal.

Performance Measures for Goal #2

The performance measures recommended are shown below. Not all measures may be applicable to each Service.

1. Size of force (BUR - Force Structure)Percent of force structure achieved by Military Service as follows:

Army:

Number of:

Active and Reserve Divisions

Active and Reserve Military Personnel

Navy:

Number of:

Carriers	Active and Reserve/Training Aircraft
	Airwings
	Attack Submarines
	Ships
	Active and Reserve Military Personnel
Air Force:	Number of:
	Active and Reserve Fighter Wings
	Active and Reserve Military Personnel
Marine Corps:	Number of:
	Marine Expeditionary Forces
	Active and Reserve Military Personnel
Strategic Nuclear:	Number of:
	Ballistic Missile Submarines
	B-52H Bombers
	B-2 Bombers
	Minuteman III ICBMs (single warhead)

2. Percent of million ton-miles per day strategic airlift capability achieved.
3. Percent of required strategic sealift capability achieved.
4. Percent of required spacelift capability achieved.
5. Percent of required prepositioned afloat achieved.

Corporate Goal Number 3

Original Corporate Goal

Recruit and retain talented, highly motivated military and civilian personnel and provide them with a high quality of life.

Working Group Recommendation

Recruit and retain well qualified military and civilian personnel and provide them with a high quality of life.

Performance Measures for Goal #3

The performance measures recommended are shown below. Not all measures may be applicable to each Service.

1. Percentage of nonprior service recruits drawn from the top half aptitude segment of American youth (measured by the Armed Forces Qualification Test)

Categories I-III A) and that are high school diploma graduates.

2. Percent of accessions versus target.
3. Percent enlisted first term retentions versus target.
4. Percent civilian workforce versus target.
5. Percent of personnel who are displaced due to downsizing, closure, and realignment to whom transition assistance was made available.
6. Military pay comparability - Military pay raises versus private sector based on the Employment Cost Index.
7. Percent of "out of pocket" housing costs absorbed by military members versus target.
8. Percentage of DoD child care available versus requirement.
9. DoD schools (Overseas and Domestic) standardized test scores versus national norms.
10. Percentage of military personnel surveyed that rate DoD quality of life programs favorably.

Corporate Goal Number 4

Original Corporate Goal

Sustain and adapt existing alliances and security relationships and forge new security relationships that protect and advance U.S. interests.

Working Group Recommendation

Sustain and adapt military alliances, enhance coalition warfighting, and forge military relationships that protect and advance U.S. security interests.

Performance Measures for Goal #4

The performance measures recommended are shown below. Not all measures may be applicable to each Service.

1. Overseas Presence - Number of troops stationed or operationally deployed:
in Europe
outside CONUS other than Europe
as forward deployed Naval Forces
2. Basing Rights/Host Nation Support Agreements - Number of countries with which we maintain Basing Rights/Host Nation Support Agreements.
3. Attaché/Security Assistance Office (SAO) - Number of countries where there are accredited attaches; and number of countries where there are SAO activities
4. Combined Exercises - Number of combined (including bilateral) exercises DoD has engaged in with foreign countries - actual versus target.
5. Military to Military Contacts

Number of Military to Military Contacts between senior level U.S. military personnel and their foreign counterparts, i.e., staff talks.

Number of times senior DoD counterpart visits are made.

Number of port visits.

Number of international soldiers educated or trained by the U.S. military.
6. Personnel Exchange Programs - Number of DoD personnel who participate in job exchange programs with foreign counterparts.
7. Number of Data Exchange Agreements that DoD has with other countries.

8. International Cooperative Programs:

Number of times that DoD has the opportunity to participate in:

Foreign Comparative Testing.

R&D Programs (including Nunn Programs)

9. Security Assistance - Number of countries that have major U.S. weapons systems or signed Letters of Acceptance for a major U.S. weapon system.

10. In addition to the performance measures listed above, the Military Departments may choose a method of evaluating this corporate goal using a weighted average approach.

Corporate Goal Number 5

Original Corporate Goal

Maintain U.S. technological superiority in areas critical to success in defense missions.

Working Group Recommendation

Maintain U.S. technological superiority in support of national defense.

Performance Measures for Goal #5

The performance measures recommended are shown below. Not all measures may be applicable to each Service.

1. Achieve a specified percent of the number of year 2000 goals in the current Defense Technology Plan.
2. Percent of DoD acquisition programs on cost and schedule using the latest Selected Acquisition Report (SAR), submitted to Congress, as the baseline.

Corporate Goal Number 6

Original Corporate Goal

Support U.S. national security priorities by working closely and effectively with other government agencies, Congress and the private sector.

Working Group Recommendation

This working group made no changes to this corporate goal.

Performance Measures for Goal #6

The performance measures recommended are shown below. Not all measures may be applicable to each Service.

1. Number of DoD personnel assigned to or supporting other government agencies (permanent/temporary).
2. DoD funds allocated to other government agencies in support of DoD mission; other government agency funds allocated to DoD.
3. DoD equipment supporting other federal agencies.
4. Class seats made available in DoD schools to other government agencies, and number of DoD participants in other government agency sponsored education and training programs.
5. Percent of congressionally requested reports submitted on-time (See USD(C) memo dated Dec 15, 1994, "Assignment of Responsibility for Reports Required by Congress").
6. Percent of congressional data requests submitted on-time.
7. Percent of DoD's participation in independent research and development programs (IR&D) -using FY 1994 as the baseline.
8. DoD participation in dual use technology programs using FY 1994 as the baseline.
9. Percent of DoD's enhanced mobility through participation in Civil Reserve Aircraft Force (CRAF) achieved - planned versus actual.
10. Successful participation in the Small Business Innovation Research Program (SBIR) as measured by the dollar amount of SBIR Phase III programs versus the amount of Phase I and II programs.

Corporate Goal Number 7

Original Corporate Goal

Ensure exemplary management performance across all DoD mission areas while reducing costs and eliminating unnecessary expenditures.

Working Group Recommendation

Reduce costs and eliminate unnecessary expenditures across all DoD mission areas by employing modern management tools, total quality principles, and best business practices.

Performance Measures for Goal #7

The performance measures recommended are shown below. Not all measures may be applicable to each Service.

1. DoD Acquisition Reform - Percent of metric targets achieved as identified by the Acquisition Reform Benchmarking Initiative Group (ARBIG).
2. BRAC actions - Number of bases closed/realigned - planned versus actual.
3. Percentage reduction in infrastructure costs using FY 1994 as the base.
4. Training - Number of personnel trained in modern management tools, total quality principles, and best business practices.
5. DBOF - Capital Budget expenditures -- planned versus actual.

More on Performance Measures

Quantity

Quantity measures the number of outputs produced with a given level of or access to services.

Sometimes, effectiveness measures associated with quantity are expressed as the ratio of actual versus planned workload.

Examples

inventory fill rate

number of engines repaired

Timeliness

Timeliness measures the number of outputs that meet scheduled completion dates or the number of products or services that are provided within objective time standards.

Examples

rate of on time receipt of requisitioned items

customer wait time

Quality

Quality measures the conformance of outputs to objective use requirements.

Examples

number of defects

number of complaints received

cost of rework

number of customer requirements met

Customer Satisfaction

Customer satisfaction measures conformance to customer expectations.

Examples

customer satisfaction ratings (direct measure)

complaint rates (direct measure)

error rates (indirect measure)

return rates (indirect measure)

Cycle Time

Cycle time is the amount of time elapsed between the initiation of the demand for a product or service and the actual receipt by the user of the output. It includes the actual work process time and the wait time between actual work.

Cycle time is emerging as an important efficiency measure because it captures the time interval that resources are committed to producing a final good or service.

The longer the cycle time, the more resources will be tied up in inventory, and in "insurance" items because the production process will not be able to respond quickly to changes in output requirements.

Work Measurement

Work measurement ratios relate a predetermination standard labor time for a given task ("should take time") to the labor hours actually consumed.

Labor Productivity

Labor productivity is the ratio of final outputs produced to the labor input consumed. Labor inputs are can be measured in terms of hours or full time equivalents.

Labor productivity is usually measured relative to a base period.

Input Measures

These measures are not suitable for the GPRA.

Input is a factor of production performance measure. Input measures describe the resources, time, and staff utilized for a organization.

Input measures are not described in terms of ratios. They are often used as one element of efficiency and effectiveness measures.

Examples

total funding

end strength

floor space

Work Process Measures

These measures are not suitable for the GPRA.

Work process measures are indicators of the way work gets done to produce the output at a given level of resources, efficiency, and effectiveness.

Work process measures typically refer to internal factors of production including labor, capital, work flow, technology, training, etc. These measures can capture external and internal supplier relationships in the work process and the customer-supplier relationship with those who use the product.

These measures are a direct by-product of the process, but do not measure the attributes of the final product per se. However, work process measures typically correlate with the characteristics of output.

For example, improved process control results in improved product quality.

There are many other work process measures and improvement tools in addition to these specifically cited below.

1. Status of Conditions Indicators

Status of Conditions Indicators are indirect measures of quality of work life that impact on efficiency and effectiveness.

Examples: *accident rates, absenteeism, turnover rates*

2. Innovation

Innovation performance measures are typically qualitative indicators of the rate of introduction of managerial or technological innovations into the work process. Innovation is used in some public and private organization as a barometer of organizational health and openness to new methods and processes.

3. Work Process Quality

Quality indicators for work processes are various methods of identifying costs of waste due to work processes or methods that produce less than standard output.

Example *"cost of quality" such as the total resources of time, personnel, and materials engaged in inspection, rework, scrap, etc.*

Senate Committee Report: Verification and Validation

In verifying and validating the measured values, an agency may use an audit or any other procedure that would support the general accuracy and reliability of information contained in the annual performance report.

To the extent that the annual performance report contains audited performance information that is also included in the annual financial statements required by the CFOs Act, no further validation of such information is required.

Agencies should note that the use of audits is not required for performance data contained in reports under the Government Performance and Results Act. But again, the Committee emphasizes that as the success of the Act depends to a large degree on the reliability and utility of the information presented, special attention will be needed to ensure credibility. This will require efforts by all parties at all stages - agency data collection, OMB guidance and supervision, and Congressional and GAO oversight.

Financial Indicators

Discounting

A dollar today is worth more than a dollar tomorrow.

When evaluating the cost of an alternative relative to the baseline plan, the analyst is comparing two streams of costs that unfold over time. Choosing the alternative that simply produces more dollar savings ignores the time value of money.

For example, a \$20 bill is worth more if received today, rather than a year from now, because there is the opportunity to invest the money today and receive more than \$20 in a year.

To take into account the time value of money, future dollars must be converted into their equivalent present value. This is called discounting. The rate at which the conversion is calculated is called the discount rate.

Accounting for the time value of money is crucial to conducting an economic analysis. If a financial indicator does not recognize the time value of money, it is not useful for decision making. Four financial indicators that do take the time value of money into account are:

- Net Present Value
- Discounted Payback
- Internal Rate of Return
- Return on Investment

Example: Discounting Costs

Suppose that Alternative A generates savings this year of \$100 while Alternative B produces more savings, \$105; but these savings are not received until next year.

To figure out which alternative is the better choice, we need calculate the present value of the savings for Alternative B. To do that we need a discount rate.

Let's suppose that the discount rate is 10% (0.1). The present value of the savings from Alternative B equals:

$$PV = \$105 \times \frac{1}{(1 + 0.1)} = \$95$$

The savings from Alternative B are equivalent to receiving \$95 in savings this year, less than the \$100 generated by Alternative A.

	Present Value	Future Value
Alternative A	\$100	\$110
Alternative B	\$95	\$105

Callouts:
Top: $110 = 100 (1.10)$
Bottom: $95 = 105 / 1.10$

In fact, the \$100 in savings from Alternative A is worth more than the \$105 savings received next year as long as the discount rate is greater than 5%.

Net Present Value

Discounting is the method you use to calculate the present value of a future payment. The present value (PV) of a future payment equals the discount factor for year t multiplied by the cash received in year t , that is:

$$PV = F_t \times C_t$$

If all cash flows are assumed to occur at the end-of-year, the discount factor in year t equals:

$$F_t = \frac{1}{(1+r)^t}$$

where r is the discount rate.

The net present value (NPV) of an alternative is:

$$\sum_{t=1}^n \frac{\text{investment}(t) + \text{impacts}(t)}{(1+r)^t}$$

where n is the number of years in the investment life cycle

r is the discount rate

$\text{impacts}(t)$ = the alternative cost impact in year t

$\text{investment}(t)$ = the alternative investment cost in year t .

If you use NPV as the basis for your decisionmaking, you can accept any alternative if its NPV is higher than that of the baseline. According to the net present value rule, the best alternative is the one with the highest NPV.

Advantage of Net Present Value Rule

If you have two projects, A and B, the net present value of the combined investment is

$$NPV(A+B) = NPV(A) + NPV(B)$$

Suppose Project B has a negative NPV. If you tack it onto Project A, the joint project will have a lower NPV than A on its own. Therefore, when you use net present value to make an investment decision, you are unlikely to be misled into accepting a poor project just because it's packaged with a good one.

Many of the other financial indicators do not have this property.

Discounted Payback

The discounted payback of an alternative is found by counting the number of years it takes before the total discounted cost impacts equal the total discounted investment. That is, find m such that:

$$\sum_{t=1}^m \frac{\text{impacts}(t)}{(1+r)^t} = \sum_{t=1}^m \frac{\text{investment}(t)}{(1+r)^t} \quad 1 \leq m \leq n$$

where n is the number of years in the investment life cycle

r is the discount rate

$impacts(t)$ = the alternative cost impact in year t

$investment(t)$ = the alternative investment cost in year t .

If you use discounted payback as the basis for your decisionmaking, you can accept any alternative if its payback date occurs before a specified cutoff date. Thus, in order to use the payback rule, the financial manager has to decide on the appropriate cutoff date.

According to the payback rule, the best alternative is the one with the earliest payback.

Problems with Discounted Payback

The best choice for a cutoff would be the discounted payback date of the baseline.

One problem with using the discounted payback as a decision making tool is that there are no good general rules for determining a project's cutoff date.

If you use the same cutoff date regardless of the life of a project life, you will tend to accept too many short-term projects and too few long-term ones.

If, on average the cutoff periods are too *long*, you will accept some projects that *increase* costs.

If, on average the cutoff periods are too *short*, you will reject some projects that *decrease* costs.

Another problem with discounted payback is that it gives no weight to cash flows occurring after the payback date.

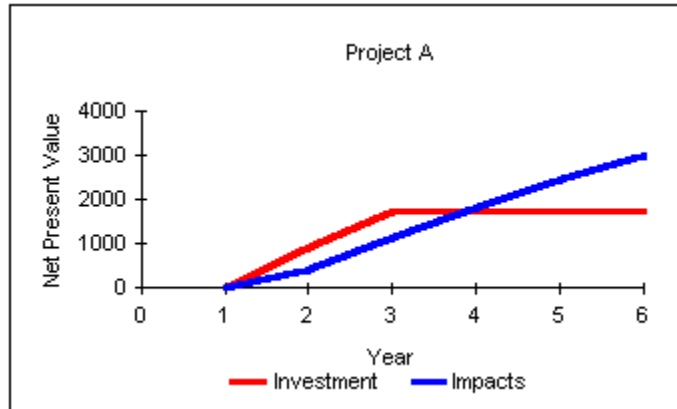
Example: Computing the Discounted Payback

Consider Projects A and B:

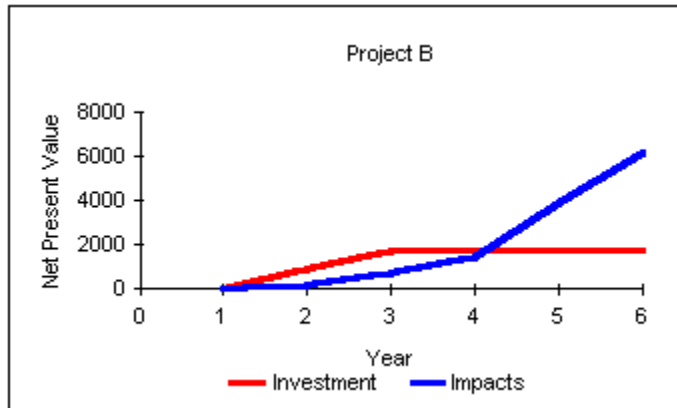
Year:	1	2	3	4	5	6
Project A Investment	1,000	1,000	0	0	0	0
Project A Impact	0	-500	-1,000	-1,000	-1,000	-1,000
Project B Investment	1,000	1,000	0	0	0	0
Project B Impact	0	-250	-750	-1,000	-4,000	-4,000

The negative signs in front of the impacts indicate that they *decrease* costs.

Assume the discount rate is 10%. The net present value for the investment costs and impacts are shown in the graphs below:



The payback is the date when the investment curve and the impacts curve cross. For Project A, the payback is slightly less than 4 years.



The payback for Project B is slightly more than 4 years.

Based on payback date alone, Project A would be the better investment. Note however that over the life of the projects, Project B has the greater impact.

Internal Rate of Return

The internal rate of return (IRR) is a profitability measure which depends solely upon the amount and timing of the cash flows. The internal rate of return for an alternative is the rate that makes the net present value equal zero. That is, find *IRR* such that:

$$\sum_{t=1}^n \frac{\text{investment}(t) + \text{impacts}(t)}{(1 + \text{IRR})^t} = 0$$

where *n* is the number of years in the investment life cycle

impacts(t) = the cost impact in year *t*

investment(t) = the investment cost in year *t*.

If net present value *decreases* as the discount rate *increases* then it is very easy to use IRR for your decisionmaking. This is because:

1. when the discount rate *r* is less than the *IRR*, the project has a *positive* net present value (decreases costs) when discounted at *r*; and
2. when the discount rate *r* is greater than the *IRR*, the project has a *negative* net present value (increases costs) when discounted at *r*.

If this is the case, you can accept any alternative if its internal rate of return is *greater* than the discount rate. Furthermore, the "best" alternative is the one with the highest IRR.

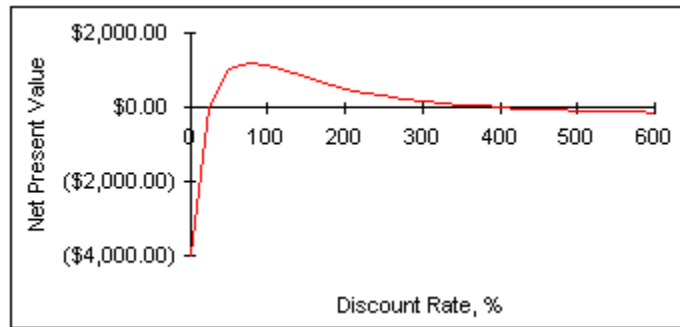
Problems with Internal Rate of Return

There are occasions when it is inappropriate to use the IRR rule as stated above to evaluate an alternative.

For example, some alternatives have no internal rate of return. For any discount rate, the NPV is always positive (profit) or negative (loss).

In some rare instances, the NPV of an alternative may be an *increasing* function of the discount rate. If NPV *increases* as the discount rate increases, you should accept the alternative only if its internal rate of return is *less* than the discount rate.

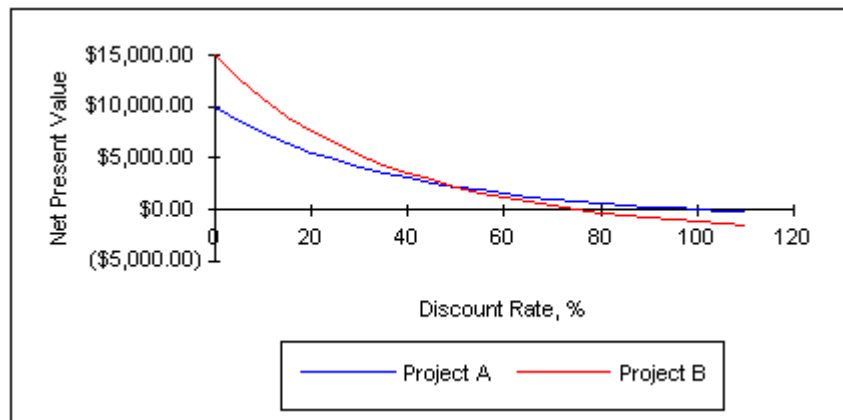
Some alternatives can have more than one internal rate of return. For instance, in the graph below, the NPV equals zero when the discount rate is 25% and 400%.



Internal Rate of Return versus Net Present Value

The best solution based on IRR is not always the best solution based on NPV.

Consider Projects A and B:



Project A has an IRR of 100%. Project B has an IRR of 75%.

Assume the discount rate is 10%. Since the IRR is greater than the discount rate, both projects are acceptable. If you had to choose between the two projects using IRR, Project A would be the winner. However, the graph indicates that as long as the discount rate is greater than 50%, Project B will have a greater net present value than Project A.

Note The IRR is not the discount rate. The *discount rate* is a standard of profitability that is used to calculate how much a project is worth. The *discount rate* is established in capital markets.

Return on Investment

The return on investment for an alternative is:

$$\frac{\text{NPV}(\text{investment}) + \text{NPV}(\text{impacts})}{\text{NPV}(\text{investment})}$$

where $\text{NPV}(\text{investment})$ = the net present value of the investment

$\text{NPV}(\text{impacts})$ = the net present value of the impacts

The ROI threshold accepts any alternative if its return on investment is greater than 0. When the ROI is greater than 0, the alternative has a positive NPV.

According to the ROI rule, the best alternative is the one with the highest ROI.

Return on Investment versus Net Present Value

Like the IRR, the best solution based on ROI can be different from the best solution based on NPV. Consider Projects A and B:

(The discount rate is 10%. Negative signs indicate a *cost decrease*.)

Project	FY1	FY2	NPV	ROI
A	100	-200	-74	82%
B	10,000	-15,000	-3306	36%

Based upon ROI, both are good projects (ROIs > 0). However, Project A has an ROI of 82%, while Project B has an ROI of only 36%. If you had to choose between the two projects using ROI, Project A would be the winner. If you based your decision on NPV, Project B would be the winner.

Risk-Adjusted Discounted Cash Flows

Background

The risk-adjusted discounted cash flow (RADCF) is a total cost measure. It is created by first discounting future cash flows to account for the time value of money, and then adjusting those discounted cash flows to reflect potential risk (possible deviations from expected costs or cost impacts).

There are two general quantitative methods that can be used to assess risk. One method is simulation, which was used in earlier versions of the Functional Economic Analysis Model (FEAM). However, simulation is not well suited to do sensitivity analysis, which some users wanted to perform.

The other option is analytical methods. Analytical methods, while often computationally complex, have the advantage of making sensitivity analysis very easy.

TurboBPR Version 2.0 makes use of analytical methods to carry out the risk calculations. The calculations are the same as those used by the FEAM Version 3.0VB.

The basic steps are as follows:

1. Calculating Alternative Investment Costs and Impacts
2. Estimating with the Triangular Distribution
3. Discounting Alternative Costs
4. Adjusting for Risk

Calculations

Calculating Alternative Investment Costs and Impacts

TurboBPR computes alternative costs and impacts from the initiative costs and impacts that the user enters.

1. High, Low, and Expected Investment Costs. The expected investment cost of an alternative is the sum of the investment costs of all initiatives included in the alternative. For a given alternative, the expected investment cost in year t is:

$$EC(t) = \sum_{k \in A} C(t,k)$$

where $C(t,k)$ is the expected investment cost for initiative k in year t . The term $k \in A$ means include only the initiatives that are in the given alternative.

The user also inputs high and low percentages for each initiative. The user should choose the low percentage to reflect the value beyond which costs could not realistically fall. Similarly, the high percentage reflects the value above which costs could not realistically rise.

TurboBPR uses the high and low percentages to bound the total investment cost for each alternative. The high investment cost for a given alternative in year t is:

$$HC(t) = \sum_{k \in A} (1 + \eta_k) \times C(t, k)$$

where η_k is the high cost percentage for initiative k . The total low investment cost is:

$$LC(t) = \sum_{k \in A} (1 + \lambda_k) \times C(t, k)$$

where λ_k is the low cost percentage for initiative k .

2. High, Low, and Expected Cost Impacts. TurboBPR computes the cost impacts for each alternative in a similar manner. For a given alternative, the total expected cost impact in year t is:

$$EB(t) = \sum_{k \in A} B(t, k)$$

where $B(t,k)$ is the impact of initiative k in year t . The high impact in year t is:

$$HB(t) = \sum_{k \in A} (1 + \delta_k) \times B(t, k)$$

where δ_k is the high impact percentage for initiative k . The low impact in year t is:

$$LB(t) = \sum_{k \in A} (1 + \varepsilon_k) \times B(t, k)$$

where ε_k is the low impact percentage for initiative k .

3. High, Low, and Expected Total Cost. The total cost of an alternative is the sum of its investment costs and its impacts. Therefore, the expected cost for an alternative is:

$$E_{TC}(t) = EC(t) + EB(t)$$

To compute total high cost, first consider the cost impacts. Since negative impacts represent cost savings, the more negative the impact, the lower total operations costs will be. Conversely, the more positive the impact, the higher total operations costs will be.

Total cost will be at its highest when the investment cost is at its highest *and* the cost impact is at its lowest. The total estimated high cost in year t for a given alternative is :

$$H_{TC}(t) = HC(t) + LB(t)$$

which is the sum of its *high* investment cost and its *low* cost impact. Similarly, the total estimated low cost in year t for a given alternative is:

$$L_{TC}(t) = LC(t) + HB(t)$$

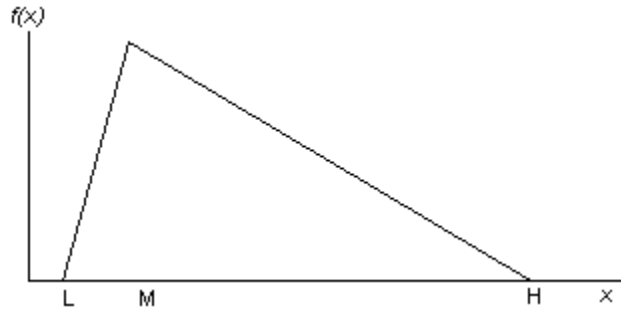
which is the sum of its *low* investment cost and its *high* cost impact.

The Triangular Distribution

Since cost is really a continuous variable, its representation by only the high, expected, and low outcomes is an approximation. However, we can use these specific outcomes to estimate a continuous cost distribution.

TurboBPR uses a Triangular distribution to estimate the mean and the variance of the alternative costs. The Triangular distribution was used for two reasons. First, the only required parameters are the mode and the endpoints (high and low values). Once these three parameters are specified, the mean and variance are predetermined.

Second, users can express most likely (i.e., mode) and endpoint estimates more easily the mean, variance, and bounds required by more complicated distributions.



Given the mode, high, and low values, the mean of the triangular distribution is:

$$\mu = \frac{\text{Low} + \text{Mode} + \text{High}}{3}$$

The variance of the Triangular distribution is:

$$\sigma^2 = \frac{(\text{High} - \text{Low})^2 + (\text{Mode} - \text{High})(\text{Mode} - \text{Low})}{18}$$

TurboBPR estimates the mean and variance of the cost for a given alternative in year t as:

$$\mu_{TC}(t) = \frac{L_{TC}(t, A) + E_{TC}(t, A) + H_{TC}(t, A)}{3}$$

and

$$\sigma_{TC}^2(t, A) = \frac{(H_{TC}(t) - L_{TC}(t))^2 + (E_{TC}(t) - H_{TC}(t)) \times (E_{TC}(t) - L_{TC}(t))}{18}$$

where Mode = $E_{TC}(t)$, Low = $L_{TC}(t)$, and High = $H_{TC}(t)$.

Discounting Alternative Costs

TurboBPR employs the "end-of-year" discounting convention to discount all costs to their present values. This means that even costs in the first year of analysis will be discounted.

The net discounted expected cost for a given alternative over the period of analysis is

$$E = \sum_{t=1}^n \frac{E_{TC}(t)}{(1+r)^t}$$

where n is the number of years in the analysis and r is the discount rate. The net discounted high and low costs for an alternative are likewise computed as:

$$H = \sum_{t=1}^n \frac{H_{TC}(t)}{(1+r)^t}$$

and

$$L = \sum_{t=1}^n \frac{L_{TC}(t)}{(1+r)^t}$$

respectively.

The mean cash flow is:

$$\mu = \sum_{t=1}^n \frac{\mu_{TC}(t)}{(1+r)^t}$$

and the variance is:

$$\sigma^2 = \sum_{t=1}^n \frac{\sigma_{TC}^2(t)}{(1+r)^{2t}}$$

Adjusting for Risk

TurboBPR assumes that the risk-adjusted discounted costs have a Beta distribution. The Beta distribution was chosen for its flexibility, not because of any a priori knowledge that it is the actual cost distribution. TurboBPR estimates the mean and variance of the Beta distribution using the previously calculated mean and variance discounted cash flow values.

The Beta distribution has two shape parameters, α and β . Using the mean, Variance, High, and Low discounted values, TurboBPR computes α and β as follows:

$$\alpha = \frac{(\mu - L)^2 \times (H - \mu)}{\sigma^2 \times (H - L)} - \frac{\mu - L}{H - L}$$

and

$$\beta = \frac{\alpha \times (H - \mu)}{\mu - L}$$

TurboBPR reports most likely risk adjusted cost as:

$$M_R = L + (H - L) \times \frac{1 - \alpha}{2 - \alpha - \beta}$$

which is the mode of the Beta distribution.

TurboBPR uses the 2.5 and 97.5 percentiles from the RADCF distribution to estimate the low and high costs respectively. The 97.5 percentile is the value π_H that lies above 97.5% of the costs predicted by the risk-adjusted cost distribution. The high risk-adjusted discounted cost estimate is:

$$H_R = L + (H - L) \times \pi_H$$

where

$$\frac{\Gamma(\alpha + \beta)}{\Gamma(\alpha)\Gamma(\beta)} \int_0^{\pi_H} x^{\alpha-1} (1-x)^{\beta-1} = 0.975$$

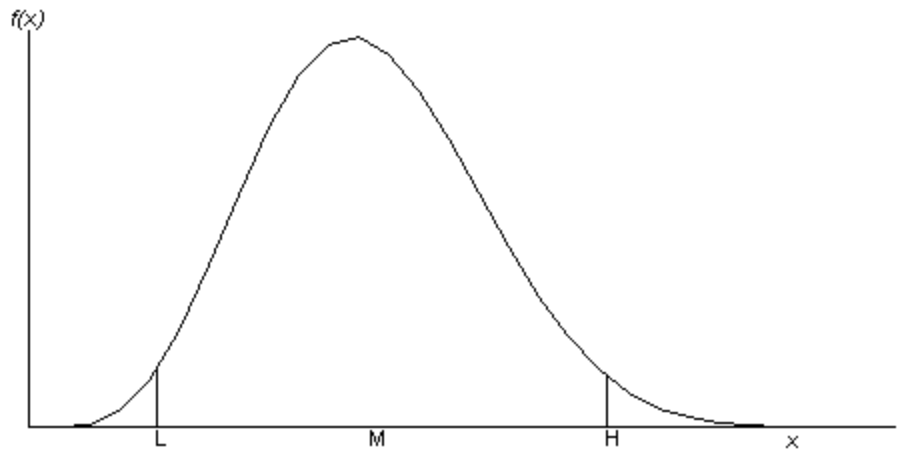
The 2.5 percentile is the value π_L that is greater than only 2.5%, or lower than 97.5%, of the costs predicted by the risk-adjusted cost distribution. The low risk-adjusted discounted cost estimate is:

$$L_R = L + (H - L) \times \pi_L$$

where

$$\frac{\Gamma(\alpha + \beta)}{\Gamma(\alpha)\Gamma(\beta)} \int_0^{\pi_L} x^{\alpha-1} (1-x)^{\beta-1} = 0.025$$

The high, expected and low risk-adjusted discounted cost values are depicted in the graph below.



Using Risk-Adjusted Discounted Cash Flows

The RADCFs are used in the analysis of alternatives to help answer the following questions:

What are the savings in function costs?

Use the expected RADCFs to rank the alternatives by their potential savings. This is the best overall measure of savings because it is the most likely value within the distribution of possible savings results generated by the risk analysis.

What is the risk associated with the savings estimates?

This is shown by the high and low RADCF values. Alternative A is clearly superior to Alternative B in producing savings if A's low RADCF savings are greater than B's high estimate.

Of course, clear rankings like this will not always result, but the range of RADCF values by alternative can still be used to evaluate the relative risk of the alternatives being considered.

Is an alternative affordable?

Comparing the total costs for an alternative with the costs in the current FYDP can determine whether the alternative will fit within current funding constraints. If an otherwise good alternative departs from the budget targets, the action plan can be restructured to affect the timing of investment costs and cost savings.

See Also

Discounting

Risk

Risk-Adjusted Discounted Cash Flow Calculations

Depreciation

Depreciation refers to the allocation of the cost of a capital asset over the expected life of the asset. In order to depreciate you will need to estimate the asset's salvage value and useful service life, and the depreciation method that you will use.

When choosing a depreciation method, you should use the one that best describes the expiration of the asset and provides a reasonable pattern of cost allocation. The most commonly used depreciation method is Straight-Line (Time) depreciation. Other methods are:

- Straight-Line (Use)
- Sum-of-the-Years' Digits
- Declining Balance

Salvage Value

Depreciation charges are based on the difference between an asset's acquisition price and salvage value. Estimating salvage value is usually a subjective process. Your function may have specific guidelines for estimating the amount of money that it will receive when it retires an asset from service. If it does not, then it will be more conservative to use a zero salvage value for all depreciable assets.

See Also

Depreciation

Service Life

Estimating the service life of a capital asset is often the most difficult task in the entire depreciation calculation. You must consider both the physical and functional causes of depreciation. Again, your function may have specific guidelines for estimating the service life of an asset. If not, experience with similar assets, corrected for differences in planned use and maintenance usually provides an excellent guide.

If you have no basis for estimating the service life of an asset, it may be helpful to consider the mission life, physical life, and technological life of the asset if known. These are sometimes easier to estimate. For example, suppose an asset has a mission life of 10 years, a physical life of 4 years, and a technological life of 2 years. You could use the minimum value (two years) as an estimate of the service life. Or you could use the average (5.3 years) of the three values.

See Also

Depreciation

Straight-Line (Time) Depreciation

The straight-line (time) depreciation method divides the cost of the asset, less any estimated salvage value by the number of years of its expected service life to arrive at the annual depreciation. You should use this method of depreciation if you expect to use an asset uniformly over time, or if you just want a rough estimate of the depreciation cost.

Example

A machine costs \$6,000 and has an estimated salvage value of \$0, and an expected service life of 5 years. The annual depreciation is \$1,200 [= (\$6,000 - \$0) / 5].

See Also

Straight-Line (Use)

Sum-of-the-Years' Digits

Declining Balance

Straight-Line (Use) Depreciation

Most organizations do not use all assets uniformly over time. Seasonal variations can cause a business to use an asset 8 hours a day from March to September and only 4 hours a day from October to February. When asset usage rates vary and you can estimate the total usage of the asset for its service life, you can use the straight-line (use) depreciation method.

$$\text{Depreciation Cost per Unit} = \frac{\text{Cost less Estimated Salvage Value}}{\text{Estimated Number of Units}}$$

The depreciation charge for any period of time is the depreciation cost per unit times the number of units used during the time period.

Example

A truck costs \$80,000 and has an estimated salvage value of \$4,000, and will provide 200,000 miles of use before its retirement. The depreciation per mile is \$0.38 [= (\$80,000 - \$4,000) / 200,000]. If the truck operates 24,000 miles in a given year, the depreciation charge for the year is \$9,120.

See Also

Straight-Line (Time)

Sum-of-the-Years' Digits

Declining Balance

Accelerated Depreciation

Sometimes the benefit that an asset generates declines as the asset ages. For example, a cutting tool loses its precision as it ages. Automobiles and airplanes require more maintenance as they age. These cases justify the use of accelerated depreciation methods that recognize larger depreciation charges in the early years of an asset's life and smaller depreciation charges as the asset ages.

The Sum-of-the-Years' Digits and the Declining Balance methods are accelerated depreciation methods.

Sum-of-the-Years' Digits Depreciation

The Sum-of-the-Years' Digits is an accelerated depreciation method. The depreciation charge results from applying a fraction to the cost less estimated salvage value of the asset. The numerator of the fraction is the remaining life of the asset at the **beginning** of the year of the depreciation calculation. The denominator is the sum of the years, i.e., $1 + 2 + 3 + \dots + n$ where n is the number of years in the asset's service life.

$$\text{Cost less Salvage Value} \times \frac{\text{Remaining Life}}{\text{Sum of the Years}}$$

Since the numerator decreases while the denominator and cost less salvage value remains constant, the annual depreciation charge decreases over the life of the asset.

Example

A machine costs \$6,000 and has an estimated salvage value of \$0, and an expected service life of 5 years. The annual depreciation using straight line time depreciation is \$1,200. The sum of the years is 15 [$= 1 + 2 + 3 + 4 + 5$]. The annual depreciation charge using the sum-of-the-years' digits method is shown in the table below.

Year	Remaining Life (Years)	Fraction	Depreciation Charge
1	5	5/15	\$2,000
2	4	4/15	\$1,600
3	3	3/15	\$1,200
4	2	2/15	\$800
5	1	1/15	\$400

See Also

Straight-Line (Time)

Straight-Line (Use)

Declining Balance

Declining Balance Depreciation

The Declining Balance method is an accelerated depreciation method. The depreciation charge results from multiplying the cost less accumulated depreciation of the asset by a fixed rate. The depreciation stops when the cost less accumulated depreciation "equals" the salvage value.

$$\text{Depreciation Rate} = 1 - \left(\frac{\text{Salvage Value}}{\text{Cost}} \right)^{\frac{1}{\text{Years of Life}}}$$

This method has some drawbacks. First, the arithmetic of the declining balance method never fully depreciates an asset's cost. Second, small changes in the estimated salvage value have profound effects upon the depreciation rate. Third, the formula is more mathematically complex than those used in the other depreciation methods.

Organizations sometimes use the 200% or double declining balance method. Under this method

$$\text{Depreciation Rate} = 2 \times \frac{1}{\text{Years of Life}} \times 100\%$$

The organization usually switches to straight-line (time) depreciation when it provides a higher charge than the declining balance calculation. In this case, note that the straight line depreciation charge equals the **cost less accumulated depreciation** divided by the **remaining life**.

Example

A machine costs \$6,000 and has an estimated salvage value of \$0, and an expected service life of 5 years. The double declining balance depreciation rate is 40% [= 2 x 1/5 x 100%]. The table below shows the calculations for the double declining balance method. In year 4 we switch to straight-line depreciation because it generates the higher depreciation charge.

Year	Accumulated Depreciation	Cost less Accumulated Depreciation	Double Declining Depreciation Charge	Straight-Line Depreciation Charge	Actual Depreciation Charge
1	\$0	\$6,000	\$2,400	\$1,200	\$2,400
2	\$2,400	\$3,600	\$1,440	\$900	\$1,440
3	\$3,840	\$2,160	\$864	\$720	\$864
4	\$4,704	\$1,296	\$518.40	\$648	\$648
5	\$5,352	\$648	—	\$648	\$648

See Also

- Straight-Line (Time)
- Straight-Line (Use)
- Sum-of-the-Years' Digits

Examples: Converting Related TurboBPR 1.0 Files

The Turbo Converter will not automatically combine your Version 1.0 baseline and related alternative projects into a single Version 2.5 file. In order to put all of your Version 1.0 baseline and related alternatives information into a single Version 2.5 project, you will have to reenter some data.

The following examples illustrate how you can combine related TurboBPR 1.0 files into a single TurboBPR 2.5 project.

1. Choosing TurboBPR 1.0 Files to Convert
2. Consolidating Alternatives into One Project
3. Entering Initiative Investment Cost Data
4. Entering Initiative Cost Impact Data

See Also

Converting TurboBPR 1.0 Projects

Data Conversion

Converting Related TurboBPR 1.0 Files

Example: Choosing TurboBPR 1.0 Files to Convert

You have a baseline file, BASELINE.FEA and two related alternative files ALTA.FEA and ALTB.FEA. Each alternative file has the same goals, performance measures, improvements, activity tree, ABC, and ABC Forecast as the baseline. The baseline does not contain any initiatives. Neither alternative file contains all initiatives.

Alternative	Initiative	Improvement
Alt A	Upgrade and Link Existing Systems	Automate Processes
	Standardization of Procedures	Integrate Function
	Buy COTS	Automate Processes

Alt B	Build New Information System	Automate Processes
	Standardization of Procedures	Integrate Function

Since all the information contained in BASELINE.FEA is also in each alternative file, you do not have to convert BASELINE.FEA. However, you do have to convert all of the alternative files since no alternative contains all initiatives.

You convert the alternative files, using the default names created by Turbo Converter. You end up with a TurboBPR 2.5 project file for each alternative, and some worksheets containing initiative investment costs and cost impacts:

Alternative File	Initiatives Included	Investment Cost File	Cost Impacts File
ALTA.BPR	Upgrade and Link Existing Systems	ALTA.I1	ALTA.M1
	Standardization of Procedures	ALTA.I2	ALTA.M2
	Buy COTS	ALTA.I3	ALTA.M3
ALTB.BPR	Build New Information System	ALTB.I1	ALTB.M1
	Standardization of Procedures	ALTB.I2	ALTB.M2

Example: Consolidating Alternatives into One Project

ALTA.FEA contains the most initiatives. It will be the basis for the consolidated TurboBPR 2.5 project file.

1. Open ALTA.BPR in TurboBPR Version 2.5
2. Use Save As (File menu) to save the file with the name MYFILE.BPR. MYFILE.BPR is now the active project.
3. Click the **Initiatives** module button. The "Initiatives" window opens and the screen should look like this:



4. Select 'Automate Processes'. Click the **Add Initiative** button once. A new initiative appears.
5. Double-click the new initiative. The "Initiative Costs" window opens.
6. Enter 'Build New Information System' as the name of the initiative.
7. Click **OK**. The "Initiative Costs" window closes and the "Initiatives" window reappears. The screen now looks like this:



8. Click the **Alternatives** module button. The "Initiatives" window closes and the "Package Initiatives" window opens. The screen should look like this:

Initiative Name	Baseline	Alt A	Alt B	Alt C
I1 Upgrade Existing Hardware	No	Yes	No	No
I2 Standardization of	No	Yes	No	No
I3 Buy COTS	No	Yes	No	No
I4 Build New Information	No	No	No	No

9. Two initiatives are in Alternative B: Build New Information System and Standardization of Processes. Double-click in the cells where these initiatives and Alternative B intersect. The screen should now look like this:

Initiative Name	Baseline	Alt A	Alt B	Alt C
I1 Upgrade Existing Hardware	No	Yes	No	No
I2 Standardization of	No	Yes	No	No
I3 Buy COTS	No	Yes	Yes	No
I4 Build New Information	No	No	Yes	No

10. Click **OK** to save your work and close the window.

Example: Entering Initiative Investment Cost Data

Because you had to add the Build New Information System initiative to the project file, you will have to enter data for it as well. However, TurboBPR created a worksheet containing the initiative's investment cost data when you converted ALTB. The investment cost file is ALTB.I1. It is stored wherever you stored ALTB.BPR. You can import this worksheet into MYFILE.BPR.

1. Click the **Initiatives** module button. The "Initiatives" window opens.
2. Double-click 'Build New Information System'. The "Initiative Costs" window opens.
3. Click the **Detail** button. The "Initiative Items" window opens.
4. Click the **Import** button. If necessary, change the drive and directory to the one in which ALTB.BPR is stored. Enter ALTB.I1 as the name of the file to import, and click **OK**.
5. Once TurboBPR imports the data, select a cell in the total cost row of the detailed worksheet. Click the **Transfer** button. TurboBPR copies the total cost in the ALTB.I1 worksheet to the Total worksheet at the top of the screen.
6. Click **OK**. The "Initiative Items" window closes and the "Initiative Costs" window reappears.
7. Click **OK**. The "Initiative Costs" window closes and the "Initiatives" window reappears.

Example: Entering Initiative Cost Impact Data

TurboBPR also created a worksheet containing the Build New Information System initiative's cost impact data when you converted ALTB. The cost impact file is ALTB.M1. It is stored wherever you stored ALTB.BPR. You can import this worksheet into MYFILE.BPR.

1. In the "Initiatives" window, select 'Build New Information System'. Click the **Ops Cost Impact** button. The "Operations Cost Impact" window opens.
2. Click the **Detail** button. The "Operations Cost Impact Detail" window opens.
3. Click the **Import** button. If necessary, change the drive and directory to the one in which ALTB.BPR is stored. Enter ALTB.M1 as the name of the file to import, and click **OK**.
4. Once TurboBPR imports the data, select a cell in the total cost row of the detailed worksheet. Click the **Transfer** button. TurboBPR copies the total cost in the ALTB.M1 worksheet to the Total worksheet at the top of the screen.

5. Click **OK**. The "Operations Cost Impact Detail" window closes and the "Operations Cost Impacts" window reappears.
6. Click **OK**. The "Operations Cost Impacts" window closes and the "Initiatives" window reappears.

Notes

- TurboBPR renames the investment cost details and cost impact details worksheets for the initiatives to match that of the project name. For example, ALTB.I1 (the investment cost file for Build New Information System) would be renamed PROJECT.I4. Similarly, ALTB.M1 would be renamed PROJECT.M4.
- Although the examples above only required the addition of one initiative, the steps can be generalized when you have to add multiple initiatives.
- You will have to re-enter initiative performance impacts for any added initiatives.

Worksheet Function Reference

The following is a list of frequently used worksheet functions.

ABS()

Description: Returns the absolute value of a number. An absolute value does not display a positive or negative sign.

Syntax: ABS(number), number is any number.

Example

=ABS(-1) returns 1

=ABS(1) returns 1

AVERAGE()

Description: Returns the average of the supplied numbers. The result is also known as the arithmetic mean.

Syntax: AVERAGE(number_list), number_list is a list of numbers separated by commas.

Example

=AVERAGE(5, 6, 8, 14) returns 8.25

=AVERAGE(C15:C17) returns 134; C15:C17 contains 24,144, and 234

Notes

- As many as 30 numbers can be included in the list, and the list can contain numbers or a reference to a range that contains numbers.
- Text, logical expressions, or empty cells in a referenced range are ignored. All numeric values (including 0) are used.

See Also

MAX()

MIN()

CEILING()

Description: Rounds a number up to the nearest multiple of a specified significance. For example, if you want to avoid using pennies in your prices and your product is priced at \$4.42, use the formula =CEILING(4.42,0.05) to round prices up to the nearest nickel.

Syntax: CEILING(number, significance)

- number is the value to round.
- significance is the multiple to which to round.

Example

=CEILING(1.23459, .05) returns 1.25

=CEILING(-148.24, -2) returns -150

Notes

- Regardless of the sign of the number, the value is rounded up, away from zero. If number is an exact multiple of significance, no rounding occurs.
- If number or significance is non-numeric, #VALUE! is returned. When the arguments have opposite signs, #NUM! is returned.

See Also

FLOOR()

INT()

ROUND()

TRUNC()

DB()

Description: Returns the real depreciation of an asset for a specific period of time using the fixed-declining balance method.

Syntax: DB(cost, salvage, life, period [, months])

- cost is the initial cost of the asset.
- salvage is the salvage value of the asset.
- life is the number of periods in the useful life of the asset.

- period is the period for which to calculate the depreciation. The time units used to determine period and life must match.
- months is the number of months in the first year of the item's life. Omitting this argument assumes there are 12 months in the first year.

Example

A piece of equipment costs \$10,000 and has a estimated useful life of 7 years. The salvage value of the equipment at the end of its life span will be \$1,000. To calculate the fixed-declining balance depreciation for the third year, use the formula below.

=DB(10000, 1000, 7, 3) which returns 1451.52

See Also

DDB()

SLN()

SYD()

VDB()

DDB()

Description: Returns the depreciation of an asset for a specific period of time using the double-declining balance method or a declining balance factor you supply.

Syntax: DDB(cost, salvage, life, period [, factor])

- cost is the initial cost of the asset.
- salvage is the salvage value of the asset.
- life is the number of periods in the useful life of the asset.
- period is the period for which to calculate the depreciation. The time units used to determine period and life must match.
- factor is the rate at which the balance declines. Omitting this argument assumes a default factor of 2, the double-declining balance factor.

Example

A piece of equipment costs \$10,000 and has a estimated useful life of 7 years. The salvage value of the equipment at the end of its life span will be \$1,000. To calculate the double-declining balance depreciation for the third year, use the formula below.

=DDB(10000, 1000, 7, 3) which returns 1457.73

Notes

- The double-declining balance method uses an accelerated rate where the highest depreciation occurs in the first period, decreasing in successive periods.
- All arguments for this function must be positive numbers.

See Also

DB()

SLN()

SYD()

VDB()

FLOOR()

Description: Rounds a number down to the nearest multiple of a specified significance.

Syntax: FLOOR(number, significance)

- number is the value to round.
- significance is the multiple to which to round.

Example

=FLOOR(1.23459, .05) returns 1.2

=FLOOR(-148.24, -2) returns -148

Notes

- Regardless of the sign of the number, the value is rounded down, toward zero. If number is an exact multiple of significance, no rounding occurs.
- If number or significance is non-numeric, #NAME? is returned. When the arguments have opposite signs, #NUM! is returned.

See Also

CEILING()

INT()

ROUND()

TRUNC()

FV()

Description: Returns the future value of an annuity based on regular payments and a fixed interest rate.

Syntax: FV(interest, nper, payment [, pv] [, type])

- interest is the fixed interest rate.
- nper is the number of payments in an annuity.
- payment is the fixed payment made each period.
- pv is the present value, or the lump sum amount, the annuity is currently worth. When you omit this argument, a present value of 0 is assumed.
- type indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.

Example

=FV(5%, 8, -500) returns 4,774.55

=FV(10%/12, 240, -700, 1) returns 531,550.86

Notes

- Make sure you are consistent about the units. For example, if an annuity is paid *monthly*, and has an 8% annual interest rate over a period of 5 years, specify 8%/12 for the *monthly* interest rate and 5*12 for the number of periods in months.
- Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

See Also

IMPT()

NPER()

NPV()

PMT()

PPMT()

PV()

RATE()

HLOOKUP()

Description: Searches the top row of a table for a value and returns the contents of a cell in that table that corresponds to the location of the search value.

Syntax: HLOOKUP(search_item, search_range, row_index)

- search_item is a value, text string, or reference to a cell containing a value that is matched against data in the top row of search_range.
- search_range is a reference to the range (table) to be searched.
- row_index is the row in search_range from which the matching value is returned.

Example

	A	B	C	D	E
1		Midwest	Northeast	Pacific	South
2	Q1	48.23	278.21	61.97	164.80
3	Q2	163.83	22.63	161.73	183.96
4	Q3	43.96	233.56	278.16	171.98
5	Q4	245.69	167.09	245.23	163.00

In the preceding worksheet:

=HLOOKUP("Northeast", B1:E5, 3) returns 22.63

=HLOOKUP("Pacific", B1:E5, 7) returns #REF!

Notes

- HLOOKUP compares the information in the top row of search_range to the supplied search_item. When a match is found, information located in the same column and supplied row (row_index) is returned.
- If search_item cannot be found in the top row of search_range, the largest value that is less than search_item is used. When search_item is less than the smallest value in the first row of the search_range, #REF! is returned.
- The cells in the first row of search_range can contain numbers, text, or logical values. The contents of the first row must be in ascending order (e.g., -2, -1, 0, 2...A through Z, False, True). Text searches are not case-sensitive.
- row_index can be a number from 1 to the number of rows in search_range. If row_index is less than 1, #VALUE! is returned. When row_index is greater than the number of rows in the table, #REF! is returned.

See Also

LOOKUP()

VLOOKUP()

INT()

Description: Rounds the supplied number down to the nearest integer.

Syntax: INT(number), number is any real number.

Example

=INT(10.99) returns 10

=INT(-10.99) returns -11

See Also

CEILING()

FLOOR()

ROUND()

TRUNC()

IPMT()

Description: Returns the interest payment of an annuity for a given period, based on regular payments and a fixed periodic interest rate.

Syntax: IPMT(interest, per, nper, pv, [fv,] [type])

- interest is the fixed periodic interest rate.
- per is the period for which to return the interest payment. This number must be between 1 and nper.
- nper is the number of payments.
- pv is the present value, or the lump sum amount the annuity is currently worth.
- fv is the future value, or the value after all payments are made. If this argument is omitted, the future value is assumed to be 0.
- type indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.

Example

The following formula calculates the interest due in the third *year* of a 3 year \$8000 loan at 10% annual interest.

=IPMT(10%, 3, 3, 8000) returns -292.45

The following formula calculates the interest due in the second *month* of a 4 year \$18000 loan at 8% annual interest.

=IPMT(8%/12, 2, 4*12, 18000) returns -117.87

Notes

- Make sure you are consistent about the units. For example, if an annuity is paid *monthly*, and has an 8% annual interest rate over a period of 5 years, specify 8%/12 for the *monthly* interest rate and 5*12 for the number of periods in months.
- Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

See Also

FV()

NPER()

NPV()

PMT()

PPMT()

PV()

RATE()

IRR()

Description: Returns internal rate of return for a series of periodic cash flows.

Syntax: IRR(cash_flow [, guess])

- cash_flow is a reference to a range that contains values for which to calculate the internal rate of return. The values must contain at least one positive and one negative value.
- guess is the estimate of the internal rate of return. If no argument is supplied, a rate of return of 10 percent is assumed.

Example

	A	B
1	Investment	(\$60,000.00)
2	1994 Income	\$9,590.00
3	1995 Income	\$10,580.00
4	1996 Income	\$12,790.00
5	1997 Income	\$15,830.00
6	1998 Income	\$18,930.00

In the worksheet above,

=IRR(B1:B6) returns 3.72%

=IRR(B1:B3, -20%) returns -49.26%

Notes

- During calculation, IRR uses the order in which the values appear to determine the order of the cash flow. Text, logical values, and empty cells in the range are ignored.
- The internal rate of return is the interest rate received for an investment consisting of payments (specified by negative numbers) and investments (specified by positive numbers).
- IRR is calculated iteratively, cycling through the calculation until the result is accurate to .00001 percent. If the result cannot be found after 20 iterations, #NUM! is returned. When this occurs, supply a different value for guess.

See Also

NPV()

RATE()

LOOKUP()

Description: Searches for a value in one range and returns the contents of the corresponding position in a second range.

Syntax: LOOKUP(lookup_value, lookup_range, result_range)

- lookup_value is the value for which to search in the first range.
- lookup_range is the first range to search and contains only one row or one column.

- result_range is a range of one row or one column that is the same size as lookup_range.

Example

	A	B
1	Region	Headquarters
2	Midwest	Kansas City
3	North	Detroit
4	Northeast	Philadelphia
5	Pacific	Portland
6	South	Atlanta
7	Southwest	Phoenix

In the preceding worksheet:

=LOOKUP("North", A2:A7, B2:B7) returns Detroit

=LOOKUP("Alabama", A2:A7, B2:B7) returns #N/A

Notes

- The range can contain numbers, text, or logical values.
- To search lookup_range correctly, the expressions in the range must be placed in ascending order (e.g., -2, -1, 0, 1, 2...A through Z, False, True). The search is not case-sensitive.
- If lookup_value does not have an exact match in lookup_range, the largest value that is less than or equal to lookup_value is found and the corresponding position in result_range is returned. When lookup_value is smaller than the data in lookup_range, #N/A is returned.

See Also

HLOOKUP()

VLOOKUP()

MAX()

Description: Returns the largest value in the specified list of numbers.

Syntax: MAX(number_list), number_list is a list of as many as 30 numbers, separated by commas.

Example

=MAX(50, 100, 150, 500, 200) returns 500

=MAX(A1:F12) returns the largest value in the range

Notes

- The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values.
- Error values or text that cannot be translated into numbers return errors.
- If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored.
- If there are no numbers in the list, 0 is returned.

See Also

AVERAGE()

MIN()

MIN()

Description: Returns the smallest value in the specified list of numbers.

Syntax: MIN(number_list), number_list is a list of as many as 30 numbers, separated by commas.

Example

=MIN(50, 100, 150, 500, 200) returns 50

=MIN(A1:F12) returns the smallest value in the range

Notes

- The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values.
- Error values or text that cannot be translated into numbers return errors.
- If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored.
- If there are no numbers in the list, 0 is returned.

See Also

AVERAGE()

MAX()

NPER()

Description: Returns the number of periods of an investment based on regular periodic payments and a fixed interest rate.

Syntax: NPER(interest, pmt, pf [, fv] [, type])

- interest is the fixed interest rate.
- pmt is the fixed payment made each period. Generally, pmt includes the principle and interest, not taxes or other fees.
- pf is the present value, the lump-sum amount that a series of future payments is currently worth.
- fv is the future value, the balance to attain after the final payment. Omitting this argument assumes a future balance of 0.
- type indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.

Example

=NPER(1%, -350, -300, 16000) returns 36.98

=NPER(12%/12, -350, -300, 16000, 1) returns 36.67

Note Make sure you are consistent about the units. For example, if an payments are made *monthly*, there is an 8% annual interest rate over a period of 5 years, specify 8%/12 for the *monthly* interest rate. NPER will return the number of periods in months.

See Also

FV()

IMPT()

NPV()

PMT()

PPMT()

PV()

RATE()

NPV()

Description: Returns the net present value of an investment based on a series of periodic payments and a discount rate.

Syntax: NPV(discount_rate, value_list)

- discount_rate is the rate of discount for one period.
- value_list is a list of as many as 29 arguments or a reference to a range that contains values that represent payments and income.

Example

=NPV(8%, -12000, 3000, 3000, 3000, 7000) returns 811.57

Notes

- During calculation, NPV uses the order in which the values appear to determine the order of cash flow.
- Numbers, empty cells, and text representations of numbers are included in the calculation. Errors and text that cannot be translated into numbers are ignored.
- If value_list is a range reference, only numeric data in the range is included in the calculation. Other types of data in the range (e.g., empty cells, logical values, text, and error values) are ignored.
- NPV uses the end-of-year discounting technique.

See Also

FV()

IRR()

PV()

PMT()

Description: Returns the periodic payment of an annuity, based on regular payments and a fixed periodic interest rate.

Syntax: PMT(interest, nper, pv [, fv] [, type])

- interest is the fixed periodic interest rate.
- nper is the number of periods in the annuity.
- pv is the present value, or the amount the annuity is currently worth.

- *fv* is the future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
- *type* indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.

Example

The following formula returns the *annual* payment on an \$18,000 loan at 8% annual interest that you must pay of in 4 years.

=PMT(8%, 4, 18000) returns -5434.57

The following formula returns the *monthly* payment on an \$18,000 loan at 8% annual interest that you must pay of in 4 years.

=PMT(8%/12, 4 *12, 18000) returns -439.43

Notes

- PMT returns only the principal and interest payment, it does not include taxes or other fees.
- Make sure you are consistent about the units. For example, if an annuity is paid *monthly*, and has an 8% annual interest rate over a period of 5 years, specify 8%/12 for the *monthly* interest rate and 5*12 for the number of periods in months.
- Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

See Also

FV()

IMPT()

NPER()

NPV()

PPMT()

PV()

RATE()

PPMT()

Description: Returns the principle paid on an annuity for a given period.

Syntax: PPMT(interest, per, nper, pv, [fv,] [type])

- interest is the fixed periodic interest rate.
- per is the period for which to return the principle.
- nper is the number of periods in the annuity.
- pv is the present value, or the amount the annuity is currently worth.
- fv is the future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
- type indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.

Example

The following formula returns the principle for the tenth *year* of a 10-year \$200,000 loan at 8%.

=PPMT(8%, 10, 10, 200000) returns -27598.05

The following formula returns the principle for the second *month* of a four-year \$18,000 loan at 8%.

=PPMT(8%/12, 2, 4*12, 18000) returns -321.56

Note Make sure you are consistent about the units. For example, if an annuity is paid *monthly*, and has an 8% annual interest rate over a period of 5 years, specify 8%/12 for the *monthly* interest rate and 5*12 for the number of periods in months.

See Also

FV()

IMPT()

NPER()

NPV()

PMT()

PV()

RATE()

PRODUCT()

Description: Multiplies a list of numbers and returns the result.

Syntax: PRODUCT(number_list), number_list is a list of as many as 30 numbers, separated by commas.

Example

=PRODUCT(1, 2, 3, 4) returns 24

Notes

- The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values.
- Error values or text that cannot be translated into numbers return errors.
- If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored.
- All numeric values, including 0, are used in the calculation.

PV()

Description: Returns the present value of an annuity, considering a series of constant payments made over a regular payment period.

Syntax: PV(interest, nper, pmt [, fv] [, type])

- interest is the fixed periodic interest rate.
- nper is the number of periods in the annuity.
- pmt is the fixed payment made each period.
- fv is the future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
- type indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.

Example

The following formula returns the present value of an insurance annuity that pays \$10,000 at the end of each *year* for the next 5 years. The annual interest rate is 8%.

=PV(8%, 5, 10000) returns -39927.10

The following formula returns the present value of an insurance annuity that pays \$500 at the end of each *month* for the next 20 years. The annual interest rate is 8%.

=PV(8%/12, 20*12, 500) returns -59777.15

Notes

- Make sure you are consistent about the units. For example, if an annuity is paid *monthly*, and has an 8% annual interest rate over a period of 5 years, specify 8%/12 for the *monthly* interest rate and 5*12 for the number of periods in months.
- Cash paid out, such as a payment, is shown as a negative number. Cash received, such as a dividend check, is shown as a positive number.

See Also

FV()

IMPT()

NPER()

NPV()

PMT()

PPMT()

RATE()

RATE()

Description: Returns the interest rate per period of an annuity, given a series of constant cash payments made over a regular payment period.

Syntax: RATE(nper, pmt, pv [, fv] [, type] [, guess])

- nper is the number of periods in the annuity.
- pmt is the fixed payment made each period. Generally, pmt includes only principle and interest, not taxes or other fees.
- pv is the present value of the annuity.
- fv is the future value, or the amount the annuity will be worth. When you omit this argument, a future value of 0 is assumed.
- type indicates when payments are due. Use 0 if payments are due at the end of the period or 1 if payments are due at the beginning of the period. When you omit this argument, 0 is assumed.
- guess is your estimate of the interest rate. If no argument is supplied, a value of

.1 (10%) is assumed.

Example

=RATE(48, -439.43, 18000) returns .0067 (rounded to 4 decimals), which is the monthly interest rate. The annual interest rate (.0067 multiplied by 12) is 8%.

Notes

RATE is calculated iteratively, cycling through the calculation until the result is accurate to .00001 percent. If the result cannot be found after 20 iterations, #NUM! is returned. When this occurs, supply a different value for guess.

Make sure you are consistent about the units. For example, if an annuity is paid *monthly*, and has an 8% annual interest rate over a period of 5 years, specify 8%/12 for the *monthly* interest rate and 5*12 for the number of periods in months.

See Also

FV()

IMPT()

NPER()

NPV()

PMT()

PPMT()

PV()

ROUND()

Description: Rounds the given number to the supplied number of decimal places.

Syntax: ROUND(number, precision)

- number is any value.
- precision is the number of decimal places to which number is rounded.

Example

=ROUND(123.456, 2) returns 123.46

=ROUND(9899.435, -2) returns 9900

Notes

- When a negative precision is used, the digits to the right of the decimal point are dropped and the absolute number of significant digits specified by precision are replaced with zeros.

- If precision is 0, number is rounded to the nearest integer.

See Also

CEILING()

FLOOR()

INT()

TRUNC()

SLN()

Description: Returns the depreciation of an asset for a specific period of time using the straight-line balance method.

Syntax: SLN(cost, salvage, life)

- cost is the initial cost of the asset.
- salvage is the salvage value of the asset.
- life is the number of periods of the useful life of the asset.

Example

A piece of equipment costs \$10,000 and has a estimated useful life of 7 years. The salvage value of the equipment at the end of its life span will be \$1,000. To calculate the straight-line balance depreciation for the third year, use the formula below.

=SLN(10000, 1000, 7, 3) which returns 1285.71

See Also

DB()

DDB()

SYD()

VDB()

SQRT()

Description: Returns the square root of the specified number.

Syntax: SQRT(number) number is any positive number.

Example

=SQRT(121) returns 11

Note If you specify a negative number, #NUM! is returned.

STDEV()

Description: Returns the standard deviation of a population based on a **sample** of supplied values. The standard deviation of a population represents an average of deviations from the population mean within a list of values.

Syntax: STDEV(number_list), number_list is a list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.

Example

=STDEV(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5) returns .56

See Also

STDEVP()

VAR()

VARP()

STDEVP()

Description: Returns the standard deviation of a population based on an **entire** population of values. The standard deviation of a population represents an average of deviations from the population mean within a list of values.

Syntax: STDEVP(number_list), number_list is a list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.

Example

=STDEVP(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5) returns .52

See Also

STDEV()

VAR()

VARP()

SUM()

Description: Returns the sum of the supplied numbers.

Syntax: SUM(number_list), number_list is a list of as many as 30 numbers, separated by commas.

Example

=SUM(1, 2, 3, 4) returns 10

Notes

- The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values.
- Error values or text that cannot be translated into numbers return errors.
- If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored.
- If there are no numbers in the list, 0 is returned.

SUMSQ()

Description: Squares each of the supplied numbers and returns the sum of the squares.

Syntax: SUMSQ(number_list), number_list is a list of as many as 30 numbers, separated by commas.

Example

=SUMSQ(9, 10, 11) returns 302

Notes

- The list can contain numbers, logical values, text representations of numbers, or a reference to a range containing those values.
- Error values or text that cannot be translated into numbers return errors.
- If a range reference is included in the list, text, logical expressions, and empty cells in the range are ignored.

SYD()

Description: Returns the depreciation of an asset for a specified period using the sum-of-years method. This depreciation method uses an accelerated rate, where the greatest depreciation occurs early in the useful life of the asset.

Syntax: SYD(cost, salvage, life, per)

- cost is the initial cost of the asset.
- salvage is the salvage value of the asset.
- life is the number of periods in the useful life of the asset.
- period is the period for which to calculate the depreciation. The time units used to determine period and life must match.

Example

A piece of equipment costs \$10,000 and has a estimated useful life of 7 years. The salvage value of the equipment at the end of its life span will be \$1,000. To calculate the sum-of-years depreciation at the beginning of the third year (when the asset has 5 years of life left), use the formula below.

=SYD(10000, 1000, 7, 3) which returns 1607.14

See Also

DB()

DDB()

SLN()

VDB()

TRUNC()

Description: Truncates the given number to an integer.

Syntax: TRUNC(number [, precision])

- number is any value.
- precision is the number of decimal places allowed in the truncated number. Omitting this argument assumes a precision of 0.

Example

=TRUNC(123.456, 2) returns 123.45

=TRUNC(9899.435, -2) returns 9800

Note TRUNC removes the fractional part of a number to the specified precision without rounding the number.

See Also

CEILING()

FLOOR()

INT()

ROUND()

VAR()

Description: Returns the variance of a population based on a **sample** of values.

Syntax: VAR(number_list), number_list is a list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.

Example

=VAR(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5) returns .31

See Also

STDEV()

STDEV.P()

VAR.P()

VAR.P()

Description: Returns the variance of a population based on an **entire** population of values.

Syntax: VAR.P(number_list), number_list is a list of as many as 30 numbers, separated by commas. The list can contain numbers or a reference to a range that contains numbers.

Example

=VAR(4.0, 3.0, 3.0, 3.5, 2.5, 4.0, 3.5) returns .27

See Also

STDEV()

STDEV.P()

VAR()

VDB()

Description: Returns the depreciation of an asset for a specified period using a variable method of depreciation.

Syntax: VDB(cost, salvage, life, start, end [, factor] [, method])

- cost is the initial cost of the asset.
- salvage is the salvage value of the asset.
- life is the number of periods in the useful life of the asset.

- start is the beginning period for which to calculate the depreciation. The time units used to determine start and life must match.
- end is the ending period for which to calculate the depreciation. The time units used to determine end and life must match.
- factor is the rate at which the balance declines. Omitting this argument assumes a default of 2, which is the double-declining balance factor.
- method is a logical value that determines if you want to switch to straight-line depreciation when depreciation is greater than the declining balance calculation. Use True to maintain declining balance calculation; use False or omit the argument to switch to straight-line depreciation calculation.

Example

A piece of equipment costs \$10,000 and has an estimated useful life of 7 years. The salvage value of the equipment at the end of its life span will be \$1,000. To calculate the cumulative depreciation starting in the third and ending in the fourth year, use the formula below.

=VDB(10000, 1000, 7, 3, 4) which returns 1041.23

See Also

DB()

DDB()

SLN()

SYD()

VLOOKUP()

Description: Searches the first column of a table for a value and returns the contents of a cell in that table that corresponds to the location of the search value.

Syntax: VLOOKUP(search_item, search_range, column_index)

- search_item is a value, text string, or reference to a cell containing a value that is matched against data in the top row of search_range.
- search_range is the reference of the range (table) to be searched.
- column_index is the column in the search range from which the matching value is returned.

Example

	A	B	C	D	E
1	Employee	Start Date	Emp. No.	Salary	Exempt
2	Anderson	10/15/84	2348	\$37,800	Y
3	Clark	2/6/90	4891	\$28,700	N
4	Davis	6/21/80	2480	\$46,950	Y
5	Franklin	4/20/88	3793	\$30,275	Y
6	Lee	8/30/89	3961	\$25,000	N
7	Olson	11/1/81	2578	\$45,780	Y
8	Turner	2/15/93	5129	\$26,100	N
9	Wilson	9/1/89	3965	\$31,650	Y

In the preceding worksheet:

=VLOOKUP("Clark", A2:E9, 4) returns \$28,700

=VLOOKUP("Lee", A2:E9, 3) returns 3961

Notes

- VLOOKUP compares the information in the first column of search_range to the supplied search_item. When a match is found, information located in the same row and supplied column (column_index) is returned.
- If search_item cannot be found in the first column of search_range, the largest value that is less than search_item is used. When search_item is less than the smallest value in the first column of the search_range, #REF! is returned.
- The cells in the first column of search_range can contain numbers, text, or logical values. The contents of the first column must be in ascending order (e.g., -2, -1, 0, 2...A through Z, False, True). Text searches are not case-sensitive.
- column_index can be a number from 1 to the number of rows in the search range. If column_index is less than 1, #VALUE! is returned. When column_index is greater than the number of rows in the table, #REF! is returned.

See Also

HLOOKUP()

LOOKUP()

Help for Lotus Users

The following tables list various worksheet functions used by Lotus 1-2-3. The

functions have been divided into four categories: financial, mathematical, lookup, and statistical. Each function is followed by the function you should use in TurboBPR.

Remember, in TurboBPR, you don't use the @ sign. You must always start your formulas with an equal sign!

Financial Functions

<u>Lotus Function</u>	<u>General Description</u>	<u>In TurboBPR Use</u>
@DB	Calculates the fixed-declining balance depreciation allowance of an asset.	DB()
@DDB	Calculates the double-declining balance depreciation allowance of an asset.	DDB()
@FV, @FVAL	Calculates the future values of a series of equal payments.	FV()
@IPAYMT	Calculates the cumulative interest portion of the periodic payment for an investment.	IMPT()
@IRR	Calculates the internal rate of return for a series of cash flows.	IRR()
@NPER	Calculates the number of compounding interest payment periods of an investment.	NPER()
@NPV	Calculates the net present value of a series of cash flows.	NPV()
@PAYMT, @PMT, @PMTc	Calculates the period payment amount needed to pay off a loan.	PMT()
@PPAYMT	Calculates the cumulative principle portion of the periodic payment for an investment.	PPMT()
@PV, @PVAL	Calculates the present value of a series of equal payments	PV()
@RATE, @IRATE	Calculates the periodic interest rate necessary for an annuity to grow to a future value.	RATE()
@SLN	Calculates the straight-line depreciation allowance of an asset.	SLN()
@SYD	Calculates the sum-of-the-years'-digits depreciation allowance of an asset.	SYD()
@TERM	Calculates the number of payment periods for an investment.	NPER()
@VDB	Calculates depreciation using the double-declining balance method and lets the percentage of straight-line depreciation be values other than 200%.	VDB()

Mathematical Functions

Lotus Function

@ABS
@INT
@ROUND

@SQRT

@TRUNC

General Description

Calculates the absolute value of a number.
Returns the integer portion of a number.
Rounds a value to a specified number of decimal places.
Calculates the positive square root of a number.
Truncates a value to a specified number of decimal places.

In TurboBPR Use

ABS()
INT()
ROUND()

SQRT()

TRUNC()

Lookup Functions

Lotus Function

@HLOOKUP

@VLOOKUP

General Description

Finds the contents of a cell in a specified row in a horizontal lookup table.
Finds the contents of a cell in a specified row in a vertical lookup table.

In TurboBPR Use

HLOOKUP()

VLOOKUP()

Statistical Functions

Lotus Function

@AVG, @PUREAVG
@MAX, @PUREMAX
@MIN, @PUREMIN
@PRODUCT
@STD, @PURESTD

@STDS, @PURESTDS

@SUM

@SUMSQ

@VAR, @PUREVAR

@VARS, @PUREVARS

General Description

Averages a list of values.
Finds the maximum value in a list of values.
Finds the minimum value in a list of values.
Calculates the product of a list of values.
Calculates the population standard deviation of a list of values.
Calculates the sample standard deviation of a list of values.
Sums a list of values
Sums the squares of a list of values
Calculates the population variance of a list of values.
Calculates the sample variance of a list of values.

In TurboBPR Use

AVERAGE()

MAX()

MIN()

PRODUCT()

STDEVP()

STDEV()

SUM()

SUMSQ()

VARP()

VAR()

Glossary of Terms

action plan

The schedule for integrating and implementing a project.

active

The object that you are currently using.

activity

A named process, function, or task that occurs over time and has recognizable results. An activity transforms a set of inputs into outputs. An activity is enabled by mechanisms and constrained by controls.

actuals

The true value of a cost or performance measurement realized during program implementation.

alternative

A set of related initiatives that improve performance and/or reduce costs.

base year

The year to which all costs and benefits are discounted.

benefit

The output or effectiveness expected to be realized as a result of implementing an alternative. Monetary benefits are usually called costs savings. Benefits can be tangible (e.g. dollar value, productivity) or intangible (e.g. morale, quality of life).

capital asset

Any asset of a permanent character having continuing value. Examples are: facilities, buildings, land, and equipment.

cell

The basic unit of a worksheet. It is the intersection of a row and a column.

check box

When you click the box, an **X** appears in its center to indicate that the item has been selected.



clipboard

A temporary storage area for text or graphics that you are copying or moving from one location to another.

combo box

This window element is similar to the list box and text box combined. It allows you to either type in your own value or select an item.



constant dollars

Constant dollar estimates represent the cost of the resources required to meet each year's workload using resource prices from one reference or base year. Constant dollars measure costs and benefits in terms of stable purchasing power.

controls

Those policies, directives, procedures, requirements, product standards, budgets, and other constraints on process performance.

cost driver

The factor that causes a cost to be incurred.

culture

The pattern of norms, values, beliefs, and attitudes that influence individual and group behavior within an organization.

current dollars

Current (or then-year) dollars reflect the amount of funding required to pay costs at the time they are incurred. Current dollars measure costs and benefits in terms of future purchasing power.

dialog box

A window in which you select options before TurboBPR carries out a command.

double-click

To rapidly press and release a mouse button twice without moving the mouse. Double-clicking carries out an action. For example, double-clicking the TurboBPR icon starts the application.

drag

Left click and hold down the mouse button on the object or selection, then move the mouse.

economic life

The period of time over which the benefits from an alternative are expected to accrue.

effectiveness

The measure of output conformance to specified characteristics.

efficiency


The measure of the relationship of outputs to inputs usually expressed as a ratio.

FEA

Functional Economic Analysis. An analysis of functional process needs or problems, proposed solutions, assumptions and constraints, alternatives, life-cycle costs and benefits, and investment risk analysis.

filename box

Displays the name of the open project. It is positioned to the right of the Help tool.

A screenshot of a filename box, which is a small rectangular window with a grey border. Inside the box, the text "DEM01.FEA" is displayed in a bold, black, sans-serif font.

FYDP

Future Years Defense Program. The official database of the DoD Planning, Programming, and Budgeting System. This database captures the Department's resource history and projections.

goal

An outcome that an organization seeks to attain. Goals are selected to realign a function with its vision.

icon

The graphical representation of a minimized application in Microsoft Windows.

identifier

A letter followed by one or more numeral indicating the position of an element in the plan. The letter indicates whether the element is a goal, performance measure, strategy, or initiative. The numeral indicates the order in which you entered the data.

For goals, the letter is "G". For performance measures, the letter is "P". For strategies, the letter is "S". For initiatives, the letter is "I".

You should not use identifiers when you enter data. This will cause problems since TurboBPR uses identifiers as search criteria when formatting the Word reports.

impact

The expenses for personnel, materiel consumed, operating overhead, support

services, maintenance, and other items that are charged annually or repetitively in the execution of a given project or program.

Import button



initiatives

Initiatives describe how improvement strategies can be accomplished.

insertion point

The place where text will be entered when you type. The insertion point usually appears as a flashing vertical bar.

investment

The one time costs related to the purchase of capital assets or other items that are charged on a non-annual, non-repetitive basis.

IRR

Internal rate of return. If the discount rate equaled the IRR then the net present value of the plan would equal zero (financial indicator).

lead time

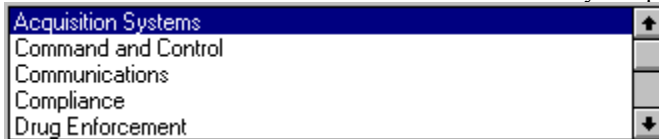
The period from the start year to the time that an alternative begins to produce benefits.

life cycle costs

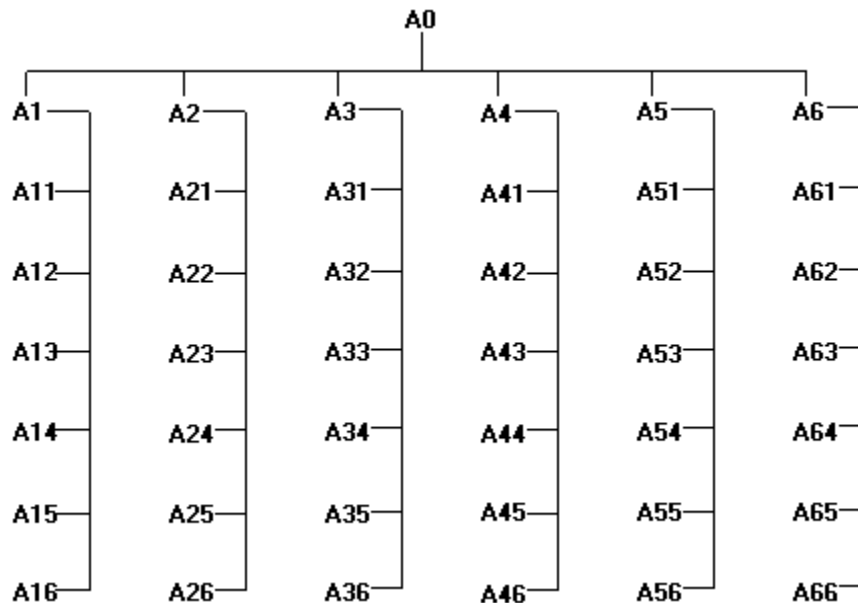
The total cost of an item or system over its full life. It includes the cost of development, production, ownership (operation, maintenance, support, etc.) and where applicable, disposal.

list box

A window element that displays a pre-defined array of choices from which you can make a selection. The values in a list box list are always displayed.



maximum activity tree



menu bar

The horizontal bar beneath the Application title bar that displays the name of TurboBPR menus. The menu bar gives you access to many TurboBPR commands.

message boxes

Message boxes display information in a small window. These messages are sent to you from TurboBPR or Microsoft Windows. A message may suggest an action to take, indicate a condition, or inform the you that an event has occurred.

mission

The specific task with which a function is charged.

mission life

The estimated number of years over which the need for the asset is anticipated.

nominal discount rate

A discount rate that implicitly includes inflation.

non-recurring costs

Non-recurring costs are often one time investment costs or costs that occur on an infrequent and intermittent basis.

opportunities

Favorable situations in the organization's environment for improvement.

option button

When you click the button, a black dot appears in its center to indicate that the item has been selected. In TurboBPR, option buttons are used when you can choose only one of the available selections.



Payback

This is the number of years until the baseline or alternative breaks even (financial indicator).

performance goal

The target level of performance expressed as a tangible, measurable objective, against which actual achievement will be compared.

performance indicator

Also called performance measure. A specific value or characteristic that will be measured.

performance measure

A gauge that measures the accomplishment of goals.

period of analysis

The mission life of the program or project plus the lead time.

physical life

The estimated number of years that an asset can physically be used in accomplishing the function for which it was intended.

real discount rate

A discount rate adjusted to exclude expected inflation.

recurring costs

Those costs incurred on a continuing annual basis to support the alternative. These can often be grouped into such categories as personnel, utilities, maintenance, overhead, etc. Also called operations costs.

ROI

Return on Investment (financial indicator).

salvage value

The value of an asset at the end of its useful life.

scroll bar

Use to view additional columns or rows in a text box, worksheet, or list.



stakeholder

Any person whose actions affect the function or anyone who is affected by the function's actions. Principal stakeholders include customers, suppliers, regulators, and resource providers.

start year

The first year in the period of analysis.

strategy

An action or approach that can be taken in order to achieve the prescribed performance measures and improve operations.

strengths

Resources or capacities the organization can use effectively to achieve its goals and performance measures.

sunk costs

The total of all past expenditures or irrevocably committed funds related to a program or project.

Sunk costs are generally not relevant to decision making as they reflect previous choices rather than current choices. They are sometimes referred to as prior year costs. Sunk costs should be eliminated from the analysis in order to show the true future or incremental cost of each alternative.

target

The desired future value of a performance measure, or some other metric.

technological life

The estimated number of years a facility or piece of equipment will be used before it becomes obsolete due to changes in technology.

threats

Unfavorable situations in the organization's environment that are potentially damaging to its strategy.

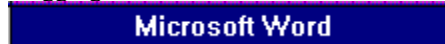
threshold

The minimum acceptable performance or the maximum acceptable cost.

title bar

A horizontal bar located along the top of a window that displays the window's name.

Note You can move a window or dialog box that has not been maximized by dragging its title bar.



toolbar

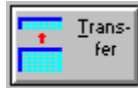
A bar with tool buttons that perform some of the most common tasks in TurboBPR such as opening and printing files.

ToolTips

Display the function of each toolbar button. The figure below, displays the ToolTip for the Report tool. When you point to a tool with the mouse, the tool name appears in a box. You can turn ToolTips on and off in the View menu.



Transfer Row to Total button



TurboBPR control menu

The menu in the upper-left corner of the TurboBPR window. The control menu is located to the left of the title bar. It is designated by a short horizontal line rather than by a menu name.



unallocated costs

Those costs that do not directly tie to a product or service.

variance

The difference between the estimated and actual value of a cost or performance measurement.

vision

The "superordinate goal" that describes the future state or outcome that will exist when the strategic plan is fully implemented.

weaknesses

Limitations, faults, or defects in the organization that will keep it from achieving its goals and performance measures.

workload

The annual projected or actual output. For example: 4,000 patients treated, 16,000 tons of waste removed, or 1,367 soldiers trained.