

# Financial Modeling

## Using the BPM Excel Add-In



## Financial Modeling Exercise

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Document version: 7.0.0.0

## BEST PRACTICE MODELLING (BPM)

Best Practice Modelling (BPM) is a business modeling organization that specialises in the provision of best practice spreadsheet modeling resources including software, consulting and training services. BPM is the founding member of the Spreadsheet Standards Review Board (SSRB) and remains committed to overseeing the ongoing maintenance, development and adoption of the Best Practice Spreadsheet Modeling Standards. BPM can be contacted as follows:

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## IMPORTANT NOTICES

Many of the examples provided throughout this document have been created within Microsoft Excel using the BPM Excel add-in – a best practice content management and sharing tool available from Best Practice Modelling ([www.bestpracticemodelling.com](http://www.bestpracticemodelling.com)). The SSRB is of the opinion that the use of bpmModules within Microsoft Excel is the most efficient and effective means of implementing modular spreadsheet development. A free trial of bpmModules may be downloaded from the Best Practice Modelling website at [www.bestpracticemodelling.com/software/packages](http://www.bestpracticemodelling.com/software/packages).

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## Introduction

This training exercise demonstrates how the BPM Microsoft Excel add-in can be used to build a rolling historical and forecast financial model in three simple steps:

- 1. Financial Model Creation:** The creation of a new financial model based on existing historical financial statements;
- 2. Forecasts Development:** The forecasting of each of the items within the historical financial statements using forecast business planning modules; and
- 3. Periodic Rolling:** The rolling-forward of the model to include newly-available historical income statement and balance sheet assumptions.

The model will be of a hypothetical breakfast cereals company called 'Twisted Cereals', and will initially have the following characteristics:

Twisted Cereals – Financial Model Scope	
Periodicity	Annual
Time Frame(s)	Historical & Forecast
Term	8 Years
Initial Start Date	1 <sup>st</sup> July 2012
Initial Historical Years	3 (2012 – 2014)
Initial Forecast Years	5 (2015 – 2019)
Region	Australia

This exercise assumes that you have a validly-installed copy of the BPM Excel add-in and access to the following files which can be downloaded from the Best Practice Modelling website:

File	Content & Purpose
BPM-Twisted Cereals-Historical Financial Statements 2012-14.xlsb	<ul style="list-style-type: none"> <li>• Historical financial statements for the 2012 – 2014 financial years.</li> <li>• Provides initial income statement and balance sheet assumptions.</li> </ul>
BPM- Twisted Cereals -Historical Financial Statements 2015.xlsb	<ul style="list-style-type: none"> <li>• Historical financial statements for the 2015 financial year.</li> <li>• Provides rolled-forward income statement and balance sheet assumptions.</li> </ul>
BPM- Twisted Cereals Model- Annual Historical & Forecast.xlsb	<ul style="list-style-type: none"> <li>• Financial model containing historical 2012 – 2014 financial statements and forecasts for 2015 – 2019.</li> </ul>
BPM- Twisted Cereals Model- Annual Historical & Forecast-Rolled Forward.xlsb	<ul style="list-style-type: none"> <li>• Rolled forward financial model containing historical 2012 – 2015 financial statements and forecasts for 2016 – 2020.</li> </ul>

For more information regarding any of the concepts discussed in this training exercise see the resources on the BPM website ([www.bestpracticemodelling.com/resources](http://www.bestpracticemodelling.com/resources)).

## Financial Model Creation

The first step in the development of a rolling historical and forecast financial statements model is the creation of a new bpmModules project containing historical and forecast business planning modules.

### Historical Financial Statements

Before creating the new bpmModules project, open the workbook named 'BPM-Twisted Cereals-Historical Financial Statements 2012-14.xlsb'. This workbook contains two worksheets – the first containing historical income statement data and the second containing historical balance sheet data, as shown below:

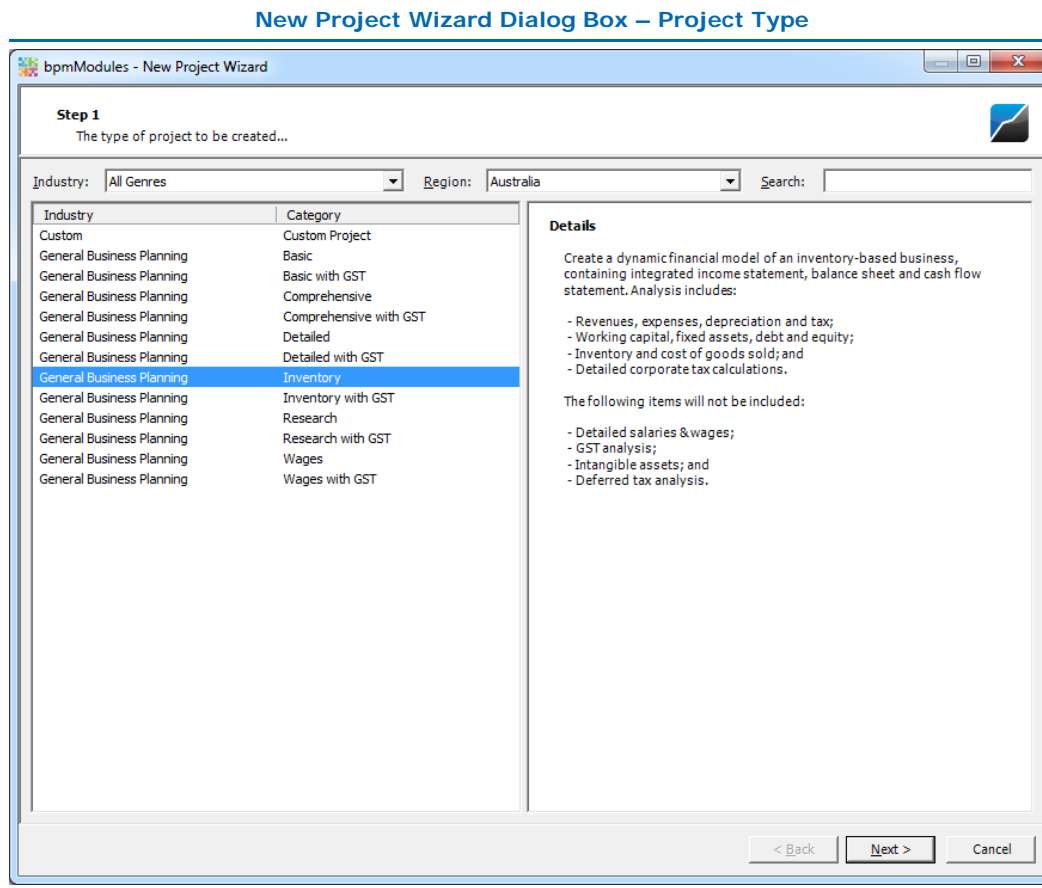
**Historical Financial Statements Data**

Year Ending	30-Jun-12	30-Jun-13	30-Jun-14
<b>Twisted Cereals Incorporated</b>			
<i>1 Sugar Lane</i>			
<i>SUGARVILLE</i>			
<i>SUGARLAND 90210</i>			
<b>Income Statement</b>			
<b>FY 2012 through FY 2014</b>			
<b>Income</b>			
Nutri Bubbles Sales	\$3,957.8	\$4,266.6	\$4,576.0
Just Wrong Sales	\$4,918.6	\$5,296.2	\$5,747.7
Coco Bix Sales	\$5,621.1	\$6,094.0	\$6,632.5
<b>Total Income</b>	<b>\$14,497.5</b>	<b>\$15,656.8</b>	<b>\$16,956.3</b>
<b>Cost of Goods Sold</b>			
Nutri Bubbles Sales	\$2,842.7	\$3,064.5	\$3,286.8
Just Wrong Sales	\$3,596.8	\$3,872.9	\$4,203.0
Coco Bix Sales	\$4,183.5	\$4,535.5	\$4,936.3
<b>Total Cost of Goods Sold</b>	<b>\$10,623.0</b>	<b>\$11,472.9</b>	<b>\$12,426.1</b>
<b>Gross Margin</b>	<b>\$3,874.5</b>	<b>\$4,183.9</b>	<b>\$4,530.1</b>
<b>Other Revenue</b>			
Other Revenue	\$45.6	\$57.2	\$17.4
<b>Total Other Revenue</b>	<b>\$45.6</b>	<b>\$57.2</b>	<b>\$17.4</b>

The data within this workbook will be imported into the new project when it is created.

*Project Type Selection*

To create the new project, activate the BPM tab (or the Modules tab if in Developer mode) and click on the New button within the Projects group to load the New Project Wizard. Then select 'Inventory' as the type of project to be created, as shown below:

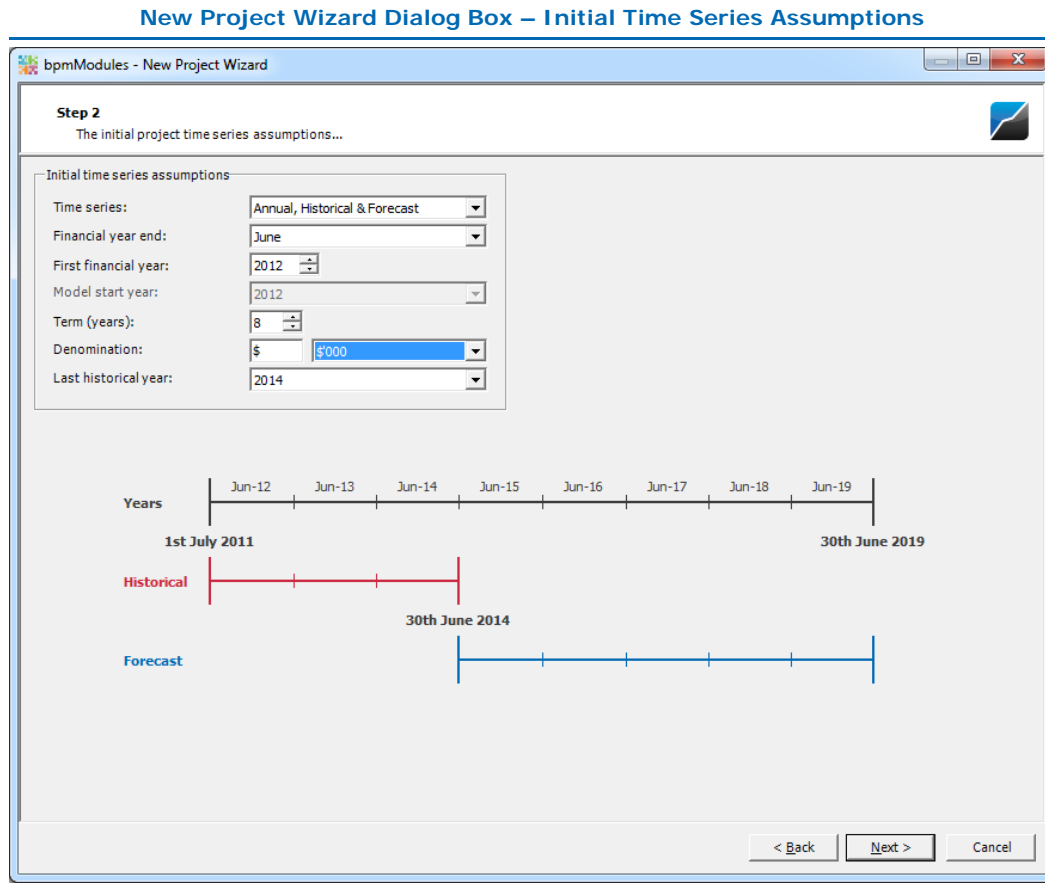


The Inventory project type is suitable for Twisted Cereals Incorporated, because it is a manufacturing business and therefore reports cost of goods sold and inventory within its financial statements.

The New Project Wizard provides a growing range of project types, differing based on business type, industry and level of complexity – e.g. the Wages project type is more suited to services businesses with detailed salaries and wages analysis.

*Initial Time Series Assumptions*

Click the Next button to activate the Initial Time Series Assumptions tab of the New Project Wizard. This data will determine the starting time series properties of the new financial model, as shown below:



Enter the following data to ensure that the new financial model contains historical financial statements for the 2012 – 2014 financial years:

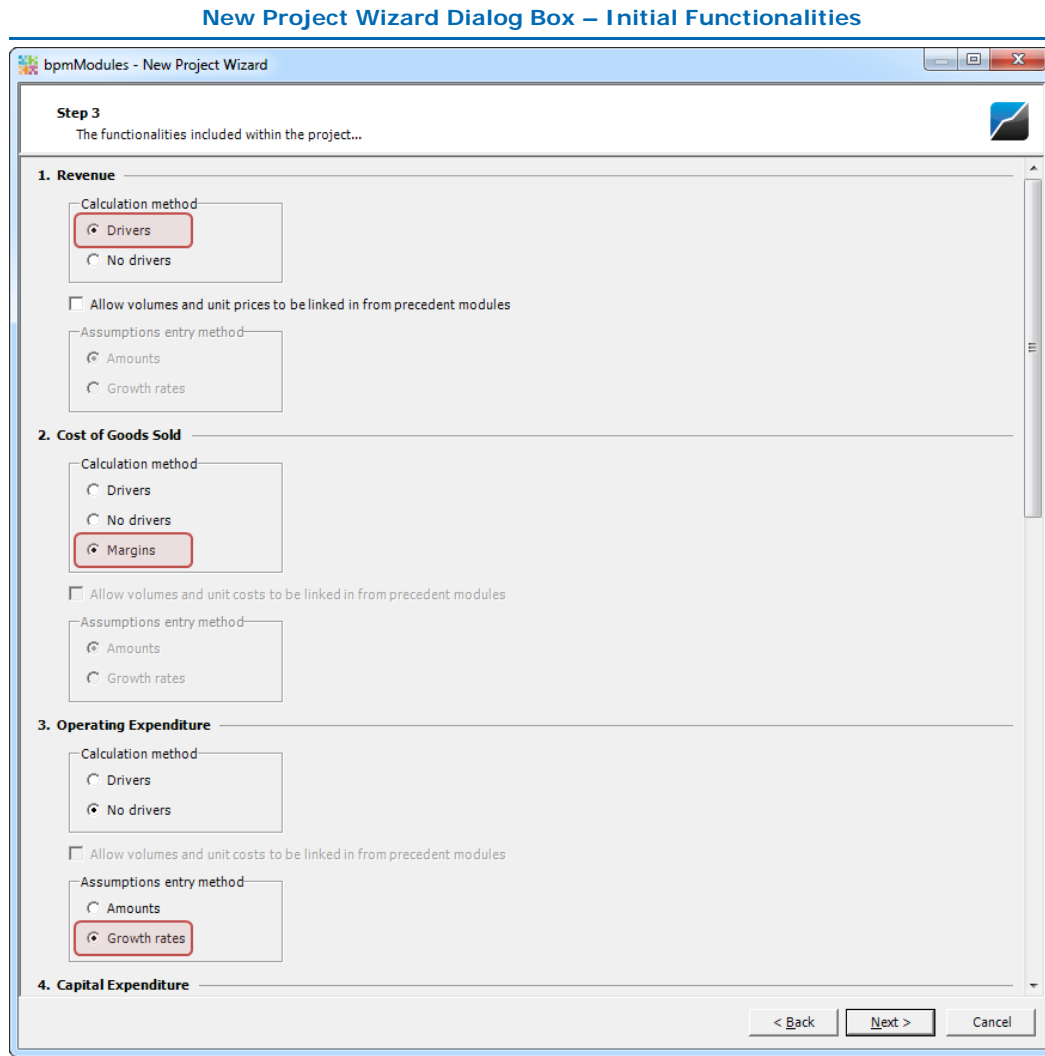
Type	Assumption
Time series	<ul style="list-style-type: none"> <li>Annual, Historical &amp; Forecast</li> </ul>
Financial year end	<ul style="list-style-type: none"> <li>June</li> </ul>
First financial year	<ul style="list-style-type: none"> <li>2012</li> </ul>
Term (years)	<ul style="list-style-type: none"> <li>8</li> </ul>
Denomination	<ul style="list-style-type: none"> <li>\$'000</li> </ul>
Last historical year	<ul style="list-style-type: none"> <li>2014</li> </ul>

These assumptions can be changed after the model is built, but getting them right during the project creation process usually saves a lot of time.



*Initial Functionalities*

Click the Next button to activate the Initial Functionalities tab of the New Project Wizard. The options selected within this tab will determine the way in which forecast assumptions are entered, and outputs calculated, within the financial model:



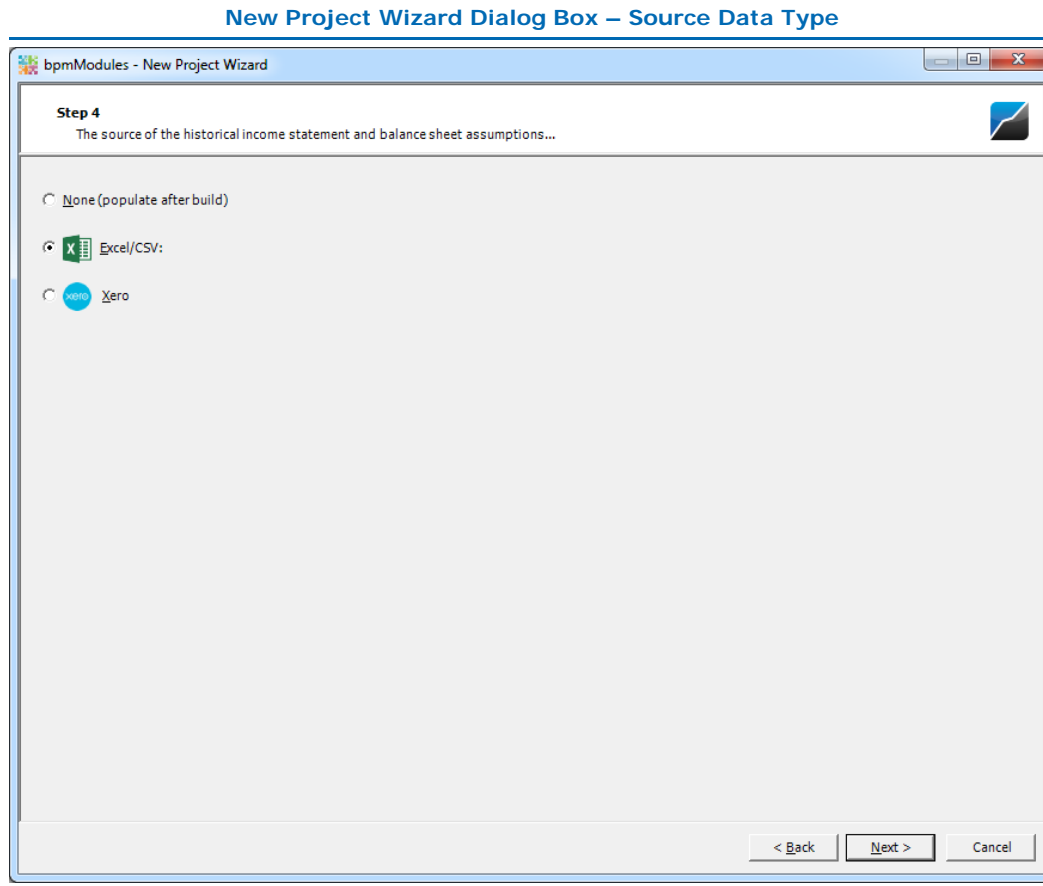
As indicated by the red shapes in the above image, change the functionalities of the Revenue, Cost of Goods Sold and Operating Expenditure modules to the following:

Module	Functionality
Revenue	<ul style="list-style-type: none"> <li>Calculation method: Drivers</li> </ul>
Cost of Goods Sold	<ul style="list-style-type: none"> <li>Calculation method: Margins</li> </ul>
Operating Expenditure	<ul style="list-style-type: none"> <li>Calculation method: No drivers</li> <li>Assumptions entry method: Growth rates</li> </ul>

Functionalities can be changed after the model is built by inserting, deleting and editing modules, but getting them right during the project creation process usually saves a lot of time.

### Source Data Type Selection

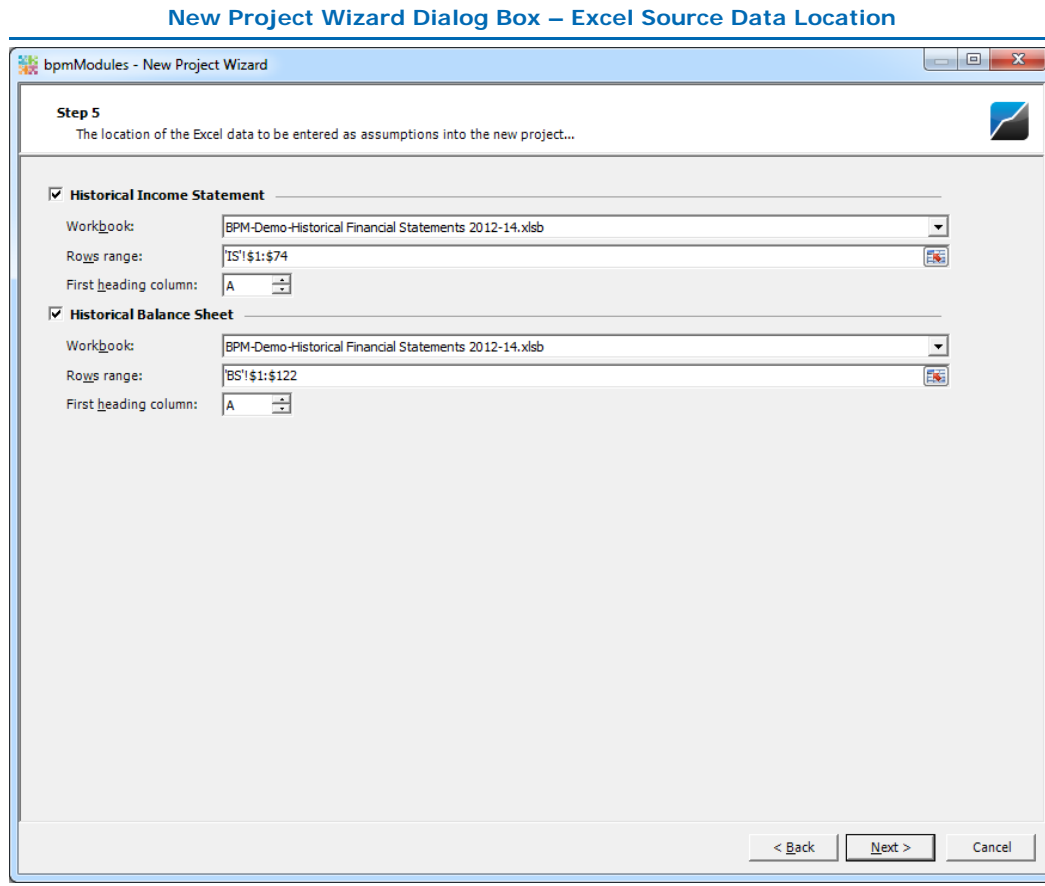
Click the Next button to activate the Source Data Type tab of the New Project Wizard and ensure that the 'Excel/CSV' option is selected, as shown below:



The source data is used to populate the historical financial statements during the project creation process, and can be imported from either an open Excel workbook or directly from Xero. Alternatively, the historical financial statement assumptions can be entered or imported after the model is built.

*Excel Source Data Location*

Click the Next button to activate the Excel Source Data Location tab of the New Project Wizard, as shown below:

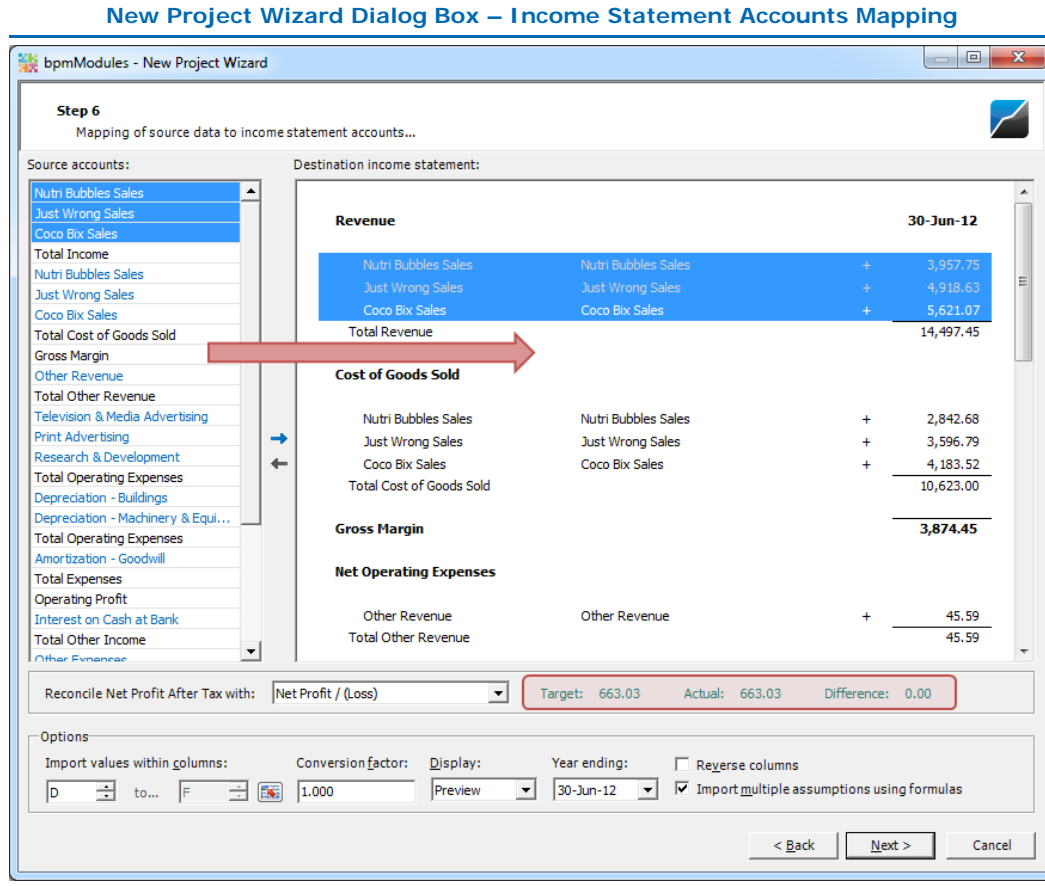


The rows within the designated ranges will be searched and the data within them made available for importation into the historical financial statements of the new financial model. Ensure that the following ranges within the workbook named 'BPM-Twisted Cereals-Historical Financial Statements 2012-14.xlsx' are specified for the historical income statement and balance sheet respectively:

Financial Statement	Excel Source Data Location
Historical Income Statement	<ul style="list-style-type: none"> <li>'IS'!\$1:\$74</li> </ul>
Historical Balance Sheet	<ul style="list-style-type: none"> <li>'BS'!\$1:\$122</li> </ul>

*Income Statement Accounts Mapping*

Click the Next button to activate the Income Statement Accounts Mapping tab of the New Project Wizard, as shown below:



Use the mouse to drag and drop source accounts from the list on the left side of the dialog to their appropriate income statement accounts until the Target and Actual Net Profit After Tax lines are identical.

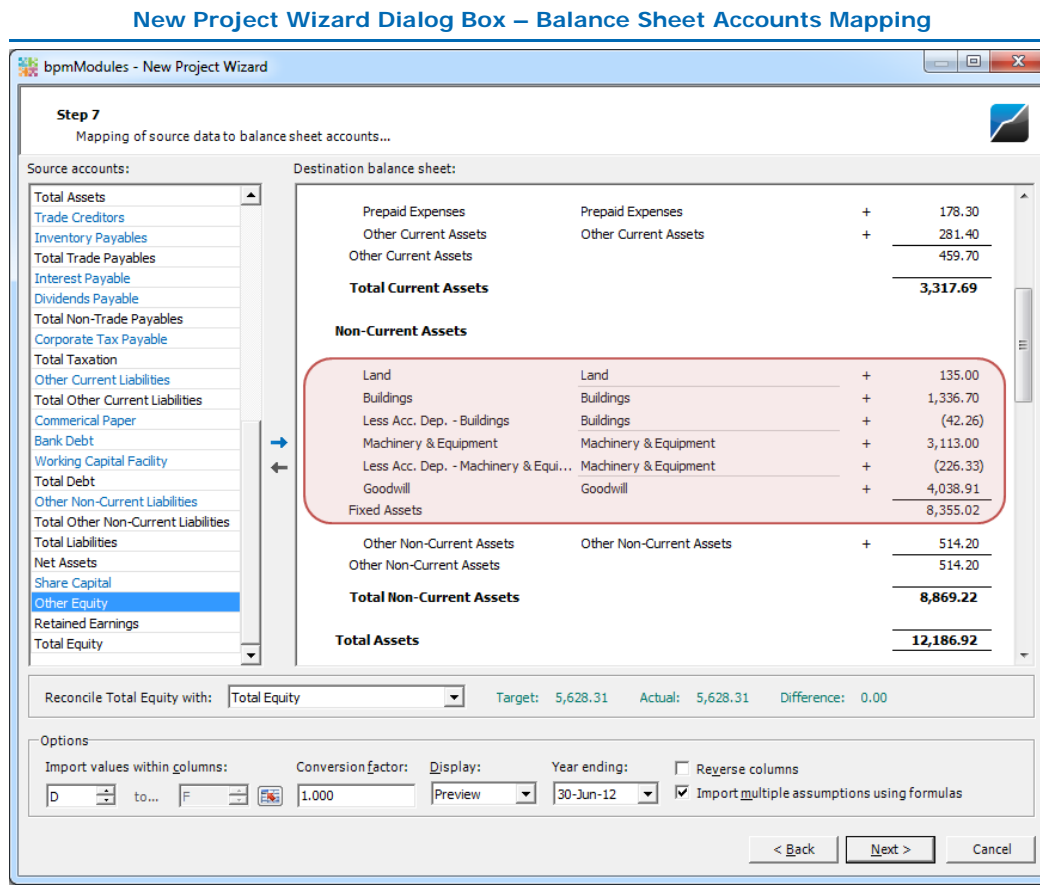
Each source account should be mapped based on its most suitable income statement account – e.g. Tax Expense should not be mapped to Operating Expenditure if the income statement contains a Tax Expense account. Source account totals should also be ignored to prevent double-counting.

A full list of the income statement accounts mapping is provided in the appendices to this document.

### Balance Sheet Accounts Mapping

Click the Next button to activate the Balance Sheet Accounts Mapping tab of the New Project Wizard, as shown below:

**New Project Wizard Dialog Box – Balance Sheet Accounts Mapping**



**Step 7**  
Mapping of source data to balance sheet accounts...

**Source accounts:**

- Total Assets
- Trade Creditors
- Inventory Payables
- Total Trade Payables
- Interest Payable
- Dividends Payable
- Total Non-Trade Payables
- Corporate Tax Payable
- Total Taxation
- Other Current Liabilities
- Total Other Current Liabilities
- Commercial Paper
- Bank Debt
- Working Capital Facility
- Total Debt
- Other Non-Current Liabilities
- Total Other Non-Current Liabilities
- Total Liabilities
- Net Assets
- Share Capital
- Other Equity
- Retained Earnings
- Total Equity

**Destination balance sheet:**

Prepaid Expenses	Prepaid Expenses	+	178.30
Other Current Assets	Other Current Assets	+	281.40
Other Current Assets			459.70
<b>Total Current Assets</b>			<b>3,317.69</b>
<b>Non-Current Assets</b>			
Land	Land	+	135.00
Buildings	Buildings	+	1,336.70
Less Acc. Dep. - Buildings	Buildings	+	(42.26)
Machinery & Equipment	Machinery & Equipment	+	3,113.00
Less Acc. Dep. - Machinery & Equipment	Machinery & Equipment	+	(226.33)
Goodwill	Goodwill	+	4,038.91
Fixed Assets			8,355.02
Other Non-Current Assets	Other Non-Current Assets	+	514.20
Other Non-Current Assets			514.20
<b>Total Non-Current Assets</b>			<b>8,869.22</b>
<b>Total Assets</b>			<b>12,186.92</b>

Reconcile Total Equity with: Total Equity    Target: 5,628.31    Actual: 5,628.31    Difference: 0.00

Options

Import values within columns: D to... F    Conversion factor: 1.000    Display: Preview    Year ending: 30-Jun-12     Reverse columns     Import multiple assumptions using formulas

< Back    Next >    Cancel

Drag and drop accounts from the list on the left side of the dialog to their appropriate balance sheet accounts until the Target and Actual Total Equity lines are identical.

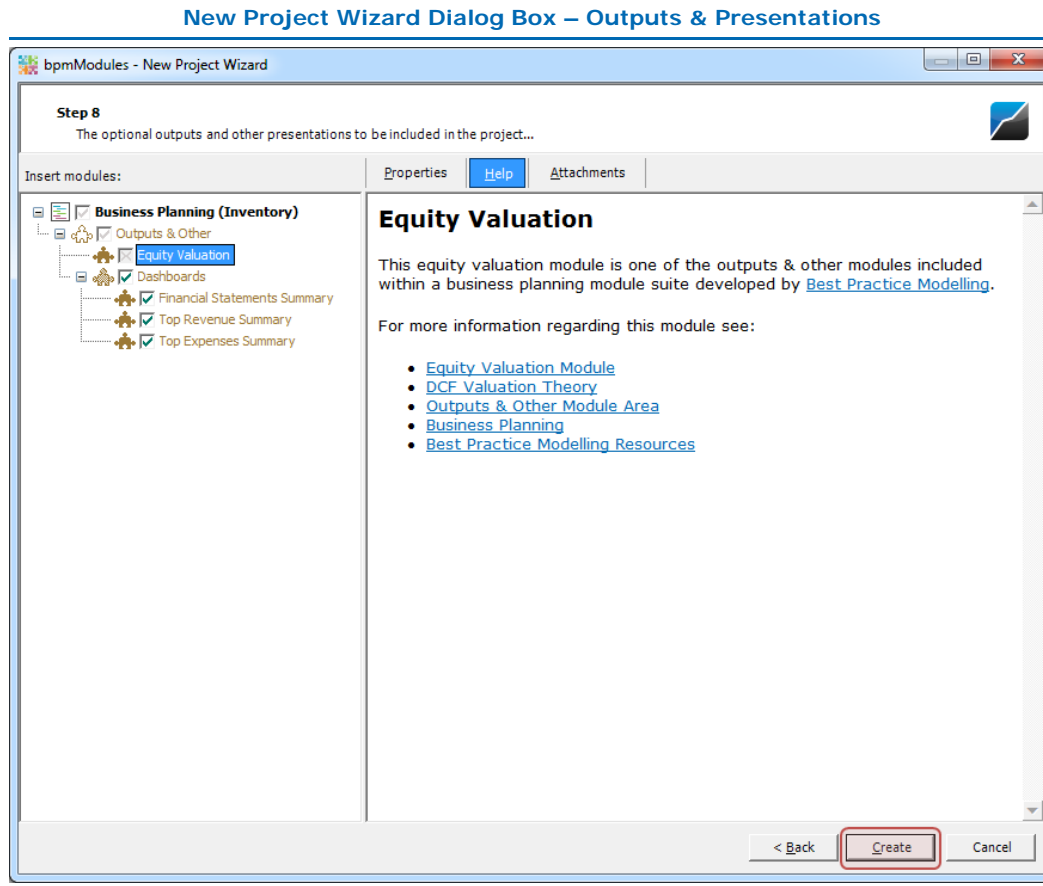
Fixed assets are generally reported at their net book value, so accumulated depreciation accounts have been mapped to the same categories as their associated fixed asset accounts – e.g. 'Less Acc. Dep. – Buildings' has been mapped to 'Buildings' so that only 'Buildings' appears within the historical balance sheet as its net book value. This has been done by using the mouse to drag and drop each contra account (e.g. 'Less Acc. Dep. – Buildings') onto its corresponding account (e.g. 'Buildings'), thereby creating many-to-one mapping of source accounts to destination accounts.

Many-to-one mapping of accounts is also commonly used to group related accounts into a single account to reduce the number of categories in the financial statements – e.g. grouping all services-based operating expenses into a single operating expenditure category called 'Services'.

A full list of the balance sheet accounts mapping is provided in the appendices to this document.

### Outputs & Presentations

Click the Next button to activate the Outputs & Presentations tab of the New Project Wizard, as shown below:



The module suites available from the BPM website contain an ever-increasing number of outputs and presentation modules, such as discounted cash flow (DCF) modules and dashboard modules that providing a tabulated and graphical summary of financial statements or revenue or expenses data.

Outputs and presentation modules can be included during the new project creation process or added later by inserting modules.

**Click the Create button to build the financial model.**

## Forecasts Development

Having created the financial model including historical income statement and balance sheet data, it is time to review, and if necessary customize, the model forecasts.

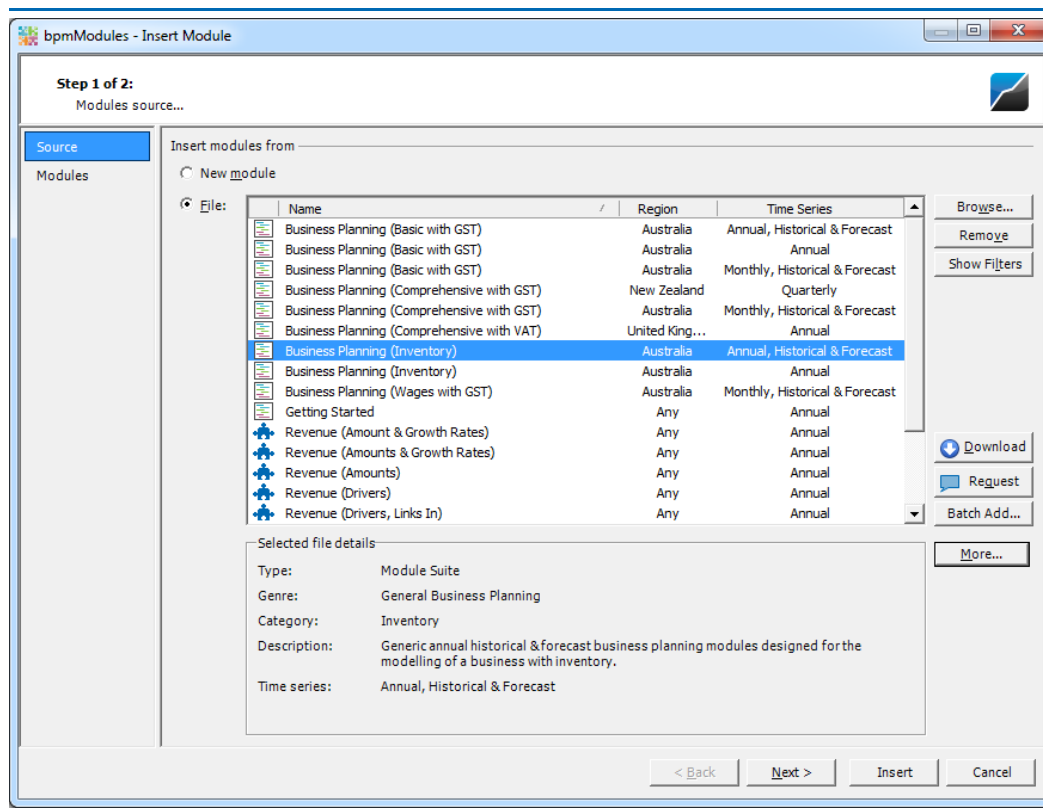
The forecast modules initially included within a financial model will be based on the initial functionalities specified in the New Project Wizard.

There are two ways forecast modules can be customized to meet specific requirements:

1. Modules can be deleted and replaced with different modules; or
2. Modules can be edited or created from scratch using Microsoft Excel.

For example, to change the way revenue is forecast from driver-based assumptions to growth rates-based assumptions, the existing revenue module would first be deleted (in User mode via the BPM tab, Modules group, Delete button or, in Developer mode, via the Modules tab, Modules group, Delete button). Then a new revenue module would be inserted (in User mode via the BPM tab, Modules group, Insert button or, in Developer mode, via the Modules tab, Modules group, Insert button), as shown below:

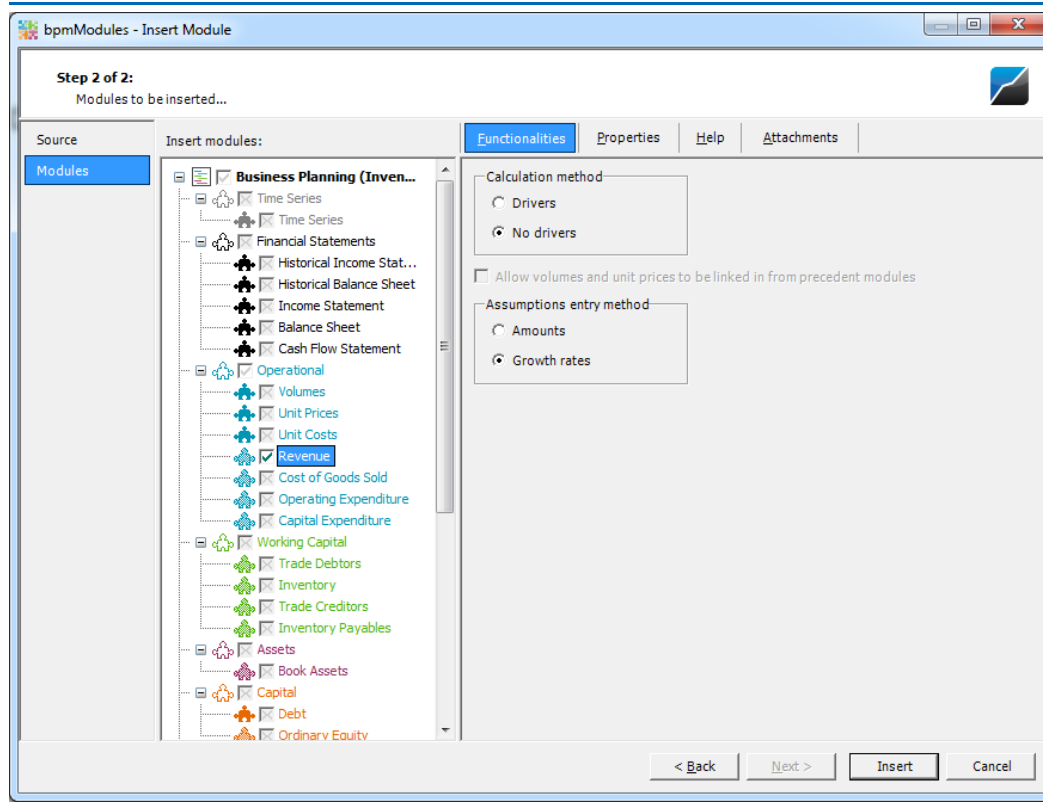
**Insert Module Dialog Box – Module Source**



The Twisted Cereals financial model was built from modules contained within the annual, historical and forecast Business Planning (Inventory) module suite, so this suite must be selected when inserting modules to ensure compatibility.

Then, the growth rates-based revenue module is selected by including revenue and selecting 'Drivers' as the 'Calculation method' and 'Growth rates' as the 'Assumptions entry method', as shown below:

**Insert Module Dialog Box – Revenue Module Insertion**



In this way, forecast modules can quickly and easily be replaced within the business planning module based on the desired functionalities for each module. And if the module suite does not contain a module with the desired functionalities, a module with the most similar functionalities can be inserted and customized using Microsoft Excel.

For more information regarding the development and customization of modules see [www.bestpracticemodelling.com/resources/bpmmodules/developing\\_modules](http://www.bestpracticemodelling.com/resources/bpmmodules/developing_modules).



## Periodic Rolling

At the end of the 2015 financial year, the Twisted Cereals financial analysts want to update the financial model to include the actual income statement and balance sheet data for this year – i.e. they want to *roll forward* the model to include the actual 2015 data.

The BPM Excel add-in simplifies the rolling forward of historical and forecast business planning models to three steps:

1. Update the time series assumptions to reflect the roll forward;
2. Import the newly-available historical income statement and balance sheet data; and
3. Enter new forecast assumptions for newly-created forecast periods.

Each of these steps will be discussed in turn.

### Time Series Updating

One of the most powerful features of the BPM Excel add-in is that the time series sheets throughout a project can be linked to the project time series assumptions such that changes to time series assumptions are automatically reflected in time series sheets – i.e. time series sheets automatically *shorten* and *extend* in response to time series assumptions changes.

When the Twisted Cereals financial model was first created it had a term of 8 years, of which the first 3 years were assumed to be *historical* years (2012 – 2014) and the last 5 years were assumed to be *forecast* years (2015 – 2019). Verify this by activating the workbook table of contents and clicking on the 'Time Series – Assumptions' hyperlink in position 2.a. to activate the time series assumptions, as shown below:

**Time Series Assumptions – Before Roll Forward**

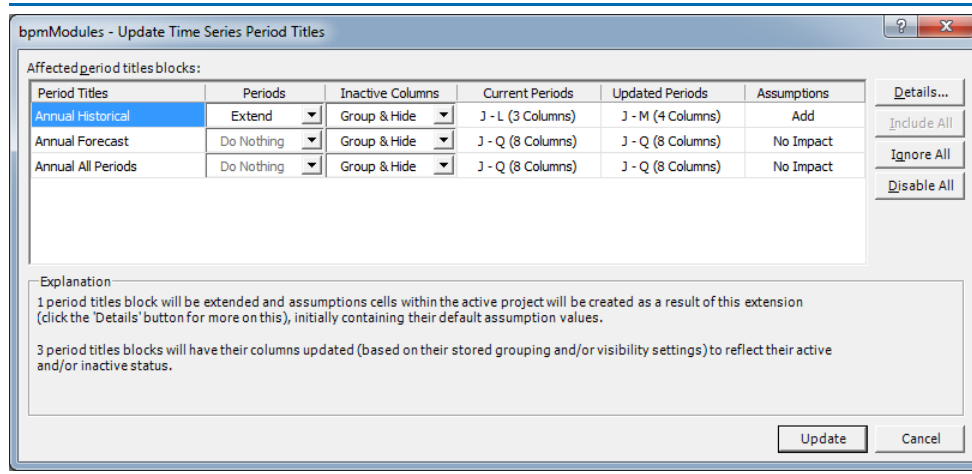
	A	B	C	D	E	F	G	H	I	J	
1	<b>Time Series</b>										
2	<b>Twisted Cereals</b>										
3	<a href="#">Go to Table of Contents</a>										
4	← → ☒ ☒ ☒										
5											
6											
7	<b>Time Series - Assumptions</b>										
8											
9	<b>Core Time Series Assumptions</b>										
10											
11	Primary Periodicity      Annual										
12	Financial Year End      June <input type="text" value="June"/>										
13	First Financial Year      2012 <input type="text" value="2012"/>										
14	Term (Years)      8 <input type="text" value="8"/>										
17	Denomination      \$      \$'000 <input type="text" value="\$"/>										
19											
20	<b>Historical &amp; Forecast Time Frames</b>										
21											
22	Last Historical Year      2014 <input type="text" value="2014"/>										
23	Auto-Hide Inactive Columns <input checked="" type="checkbox"/>										
27											

Two assumptions changes are required to *roll-forward* the Twisted Cereals financial model:

1. Change the Last Historical Year from 2014 to 2015, thereby creating an additional historical year; and
2. Increase the Term (Years) of the model from 8 years to 9 years, thereby ensuring that the model still contains 5 forecast years.

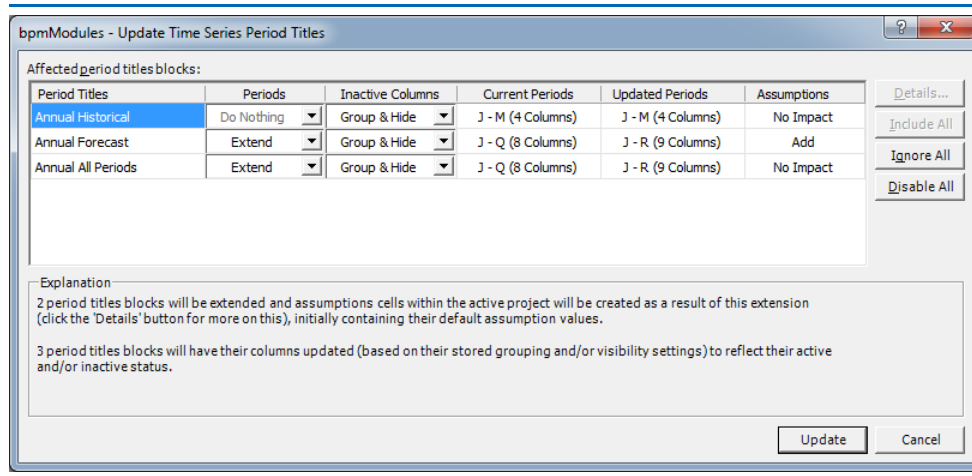
Change the Last Historical Year drop down box (in the range H22:I22) from 2014 to 2015. This will load the Update Time Series Period Titles dialog box, as shown below:

**Update Time Series Period Titles Dialog Box – Updating Historical Years**



Now change the Term (Years) assumption (in the range H14:I14) from 8 years to 9 years. This will again load the Update Time Series Period Titles dialog box, as shown below:

**Update Time Series Period Titles Dialog Box – Updating Forecast Years**



After updating these two assumptions, the financial model will now have a term of 9 years, of which the first 4 years are *historical* years (2012 – 2014) and the last 5 years are *forecast* years (2016 – 2020), as shown below:

**Time Series Assumptions – After Roll Forward**

**Time Series Assumptions**

**Core Time Series Assumptions**

- Primary Periodicity: Annual
- Financial Year End: June
- First Financial Year: 2012
- Term (Years): 9
- Denomination: \$, \$'000

**Historical & Forecast Time Frames**

- Last Historical Year: 2015
- Auto-Hide Inactive Columns:

Three alerts have been temporarily triggered because new assumptions cells have been created in the underlying model but no assumptions have been entered into these cells yet.

The additional historical year can be verified by activating the historical income statement assumptions (within sheet 2.b. of the table of contents) and confirming the extension of the time series sheet to include the year 2015 in column M, as shown below:

**Historical Income Statement Assumptions – After Roll Forward**

Year Ending June	2012 (H)	2013 (H)	2014 (H)	2015 (H)
<b>Historical Income Statement</b>				
<b>Revenue</b>				
Nutri Bubbles Sales	3,957.8	4,266.6	4,576.0	-
Just Wrong Sales	4,918.6	5,296.2	5,747.7	-
Coco Bix Sales	5,621.1	6,094.0	6,632.5	-
<b>Total Revenue</b>	<b>14,497.5</b>	<b>15,656.8</b>	<b>16,956.3</b>	<b>-</b>
<b>Cost of Goods Sold</b>				
Nutri Bubbles Sales	2,842.7	3,064.5	3,286.8	-
Just Wrong Sales	3,596.8	3,872.9	4,203.0	-
Coco Bix Sales	4,183.5	4,535.5	4,936.3	-
<b>Total Cost of Goods Sold</b>	<b>10,623.0</b>	<b>11,472.9</b>	<b>12,426.1</b>	<b>-</b>
<b>Gross Margin</b>	<b>3,874.5</b>	<b>4,183.9</b>	<b>4,530.1</b>	<b>-</b>

Note that the BPM Excel add-in automatically extends all historical time series sheets in the workbook to include an additional historical year in response to the change of assumptions. In this way, BPM automates the rolling-forward of historical and forecast financial models.

Activate the forecast revenue assumptions by activating the table of contents and clicking on the 'Operational' hyperlink in position 2.d. Verify the addition of a forecast year by confirming the time series sheet to include the year 2020 in column R, as shown below

**Forecast Revenue Assumptions – After Roll Forward**

	A	B	C	D	E	F	G	H	I	N	O	P	Q	R	S
1	<b>Operational</b>														
2	<b>Twisted Cereals (3 Alerts Detected)</b>														
3	<a href="#">Go to Table of Contents</a>														
4	← → ☒ ☚ ☛														
5															
6															
7	<b>Year Ending June</b>														
						<b>2016 (F)</b>	<b>2017 (F)</b>	<b>2018 (F)</b>	<b>2019 (F)</b>	<b>2020 (F)</b>					
13	<b>Revenue - Assumptions</b>														
14	<b>Categories</b>														
15	<b>Categories</b>														
16															
17	<b>Conversion</b>														
18															
19															
20	Nutri Bubbles Sales 1,000														
21	Just Wrong Sales 1,000														
22	Coco Bix Sales 1,000														
23															
24	<b>Unit Prices</b>														
25															
26	<b>Categories</b>														
27															
28	Nutri Bubbles Sales \$2.48 \$2.55 \$2.61 \$2.67 -														
29	Just Wrong Sales \$2.62 \$2.70 \$2.78 \$2.86 -														
30	Coco Bix Sales \$2.43 \$2.50 \$2.58 \$2.65 -														
31															
32	<b>Volumes</b>														
33															
34	<b>Categories</b>														
35															
36	Nutri Bubbles Sales 2,138.0 2,245.0 2,357.0 2,475.0 -														
37	Just Wrong Sales 2,566.0 2,694.0 2,829.0 2,970.0 -														
38	Coco Bix Sales 3,207.0 3,367.0 3,536.0 3,713.0 -														
	<b>Total Volumes</b>														
	<b>7,911.0 8,306.0 8,722.0 9,158.0 -</b>														

Note also that the year 2015 column, which was a forecast period prior to rolling forward the model, is now *inactive* and has therefore been automatically grouped and hidden by the BPM Excel add-in.

This automated hiding of inactive forecast columns means that existing forecast assumptions remain valid – e.g. the existing revenue prices and volumes assumptions for the years 2016 – 2019 do not need to be copied and pasted across one column because they stay in the same column after the model is rolled forward.

*Importing Updated Financial Statements*

After rolling forward the model to provide for historical 2015 assumptions, the 2015 historical income statement and balance sheet data needs to be imported into the historical financial statements.

Open the workbook named 'BPM-Twisted Cereals-Historical Financial Statements 2015.xlsx'. This workbook contains two worksheets – the first containing historical income statement data and the second containing historical balance sheet data, as shown below:

**Historical Financial Statements Data**

	A	B	C	D	E	F
1						
2						
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4						
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25						

**Twisted Cereals Incorporated**  
*1 Sugar Lane*  
**SUGARVILLE**  
*SUGARLAND 90210*

**Income Statement**  
**FY 2015**

**Year Ending** **30-Jun-15**

Income	
Nutri Bubbles Sales	\$4,927.1
Just Wrong Sales	\$6,207.8
Coco Bix Sales	\$7,176.9
<b>Total Income</b>	<b>\$18,311.8</b>
Cost of Goods Sold	
Nutri Bubbles Sales	\$3,538.9
Just Wrong Sales	\$4,539.5
Coco Bix Sales	\$5,341.5
<b>Total Cost of Goods Sold</b>	<b>\$13,419.9</b>
<b>Gross Margin</b>	<b>\$4,891.9</b>

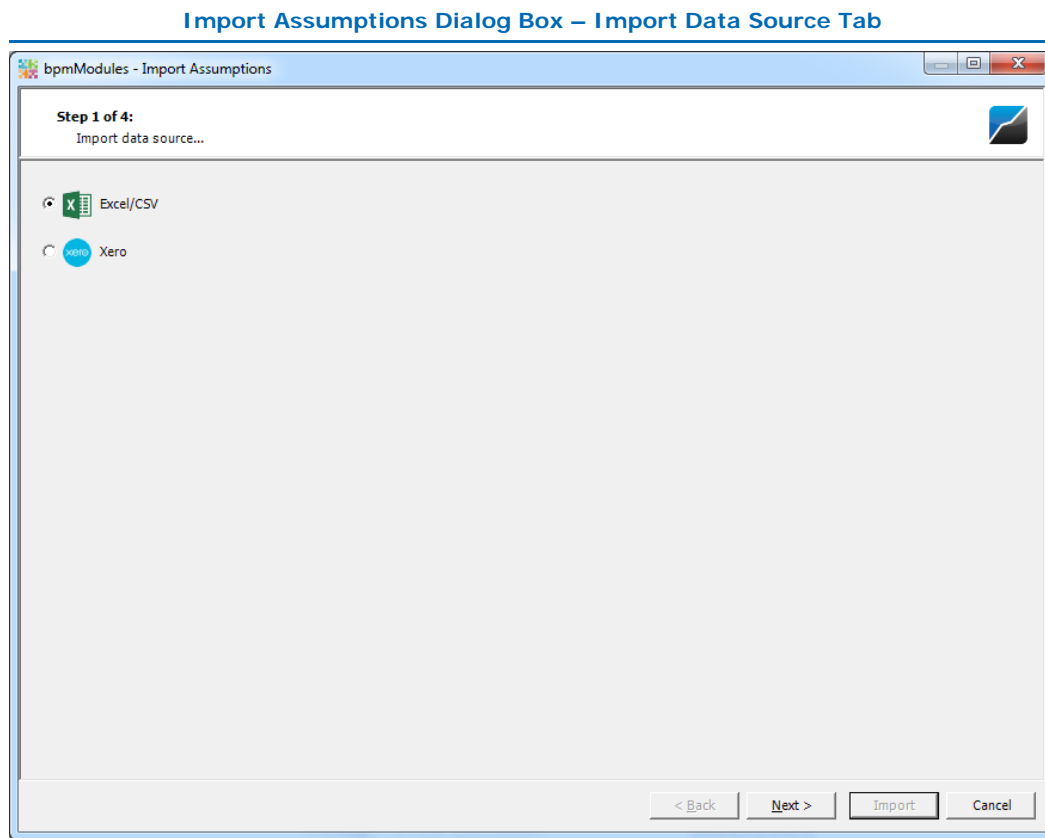
The process used to import this data is very similar to that which was used to import the historical income statement and balance sheet data when building the financial model using the New Project Wizard.

To import this data, first **ensure that the historical income statement assumptions are activated** (by clicking the hyperlink in position 2.b. of the table of contents), as shown below:

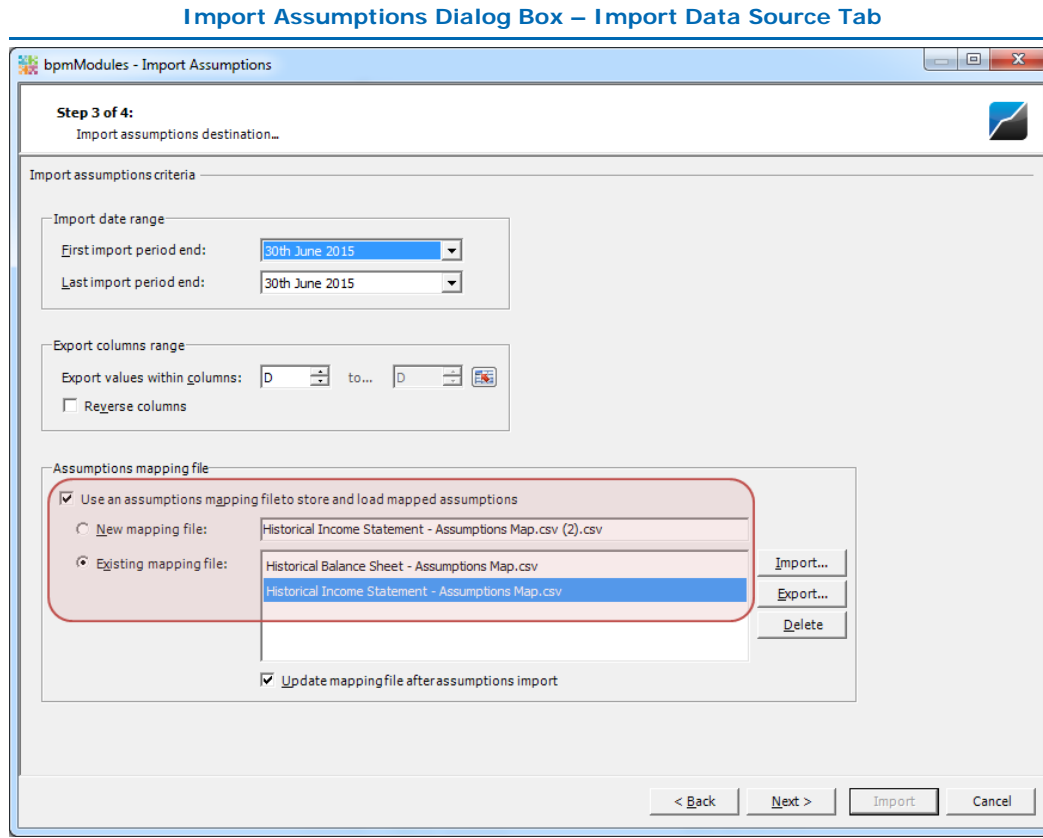
**Historical Income Statement Assumptions – After Roll Forward**

Year Ending June	2012 (H)	2013 (H)	2014 (H)	2015 (H)
<b>Historical Income Statement</b>				
<b>Revenue</b>				
Nutri Bubbles Sales	3,957.8	4,266.6	4,576.0	-
Just Wrong Sales	4,918.6	5,296.2	5,747.7	-
Coco Bix Sales	5,621.1	6,094.0	6,632.5	-
<b>Total Revenue</b>	<b>14,497.5</b>	<b>15,656.8</b>	<b>16,956.3</b>	<b>-</b>
<b>Cost of Goods Sold</b>				
Nutri Bubbles Sales	2,842.7	3,064.5	3,286.8	-
Just Wrong Sales	3,596.8	3,872.9	4,203.0	-
Coco Bix Sales	4,183.5	4,535.5	4,936.3	-
<b>Total Cost of Goods Sold</b>	<b>10,623.0</b>	<b>11,472.9</b>	<b>12,426.1</b>	<b>-</b>
<b>Gross Margin</b>	<b>3,874.5</b>	<b>4,183.9</b>	<b>4,530.1</b>	<b>-</b>

Now, with the historical income statement assumptions visible, load the Import Assumptions tool via the Data tab, Get External Data group, Import Assumptions button. The Import Assumptions dialog box will be displayed, as shown below:



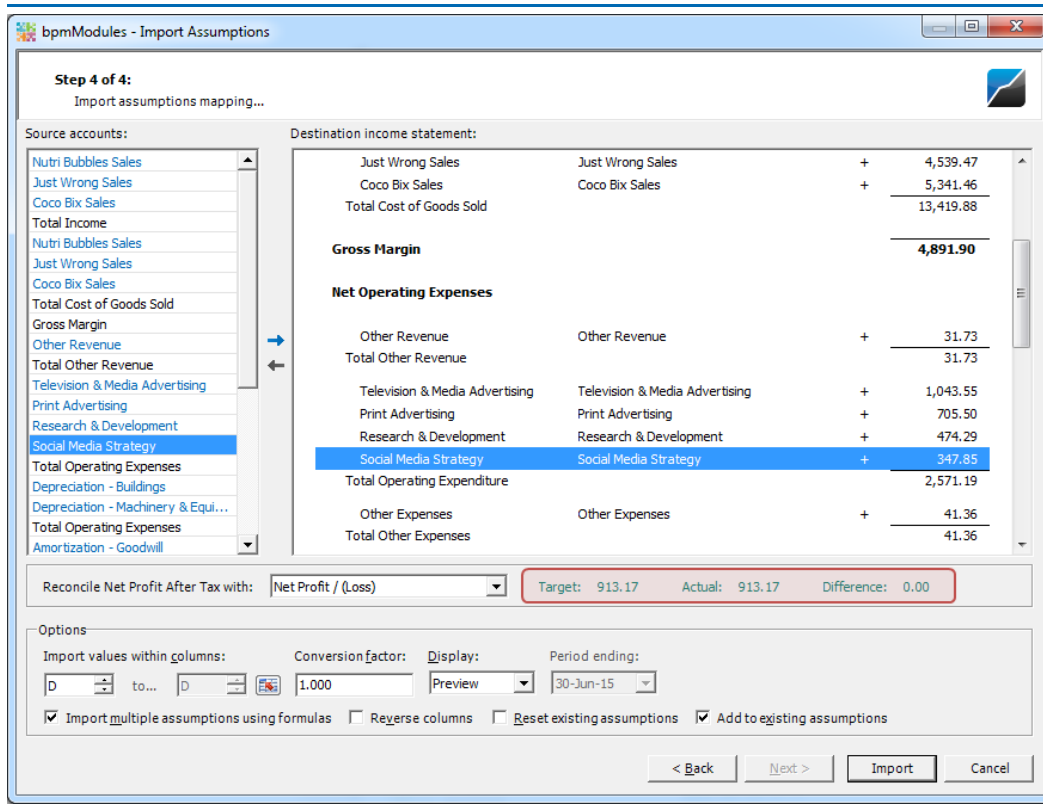
Follow the steps within the Import Assumptions dialog. Note that a mapping file was automatically created when the model was first created which recorded the initial allocation of source data accounts to income statement accounts. This mapping file is called 'Historical Income Statement – Assumptions.csv', and should be selected as the 'Existing mapping file' in the third step of the Import Assumptions dialog, as shown below:



Selecting this existing mapping file will prevent the need to re-map source accounts which were mapped when the financial model was first created using the New Project Wizard.

In this instance, only one new source account has been added to the source data for the 2015 financial year; the operating expense account named 'Social Media Strategy'. Map this account to Operating Expenditure by dragging it from the source accounts panel and dropping it after the existing 'Research & Development' account, as shown below:

Import Assumptions Dialog Box – Import Assumptions Mapping



Ensure that the Target and Actual Net Profit After Tax amounts are equal, then click the Import button to import the 2015 income statement data into the historical income statement module.

Having completed the importation of historical income statement assumptions, **activate the historical balance sheet assumptions** and repeat this process to import the 2015 balance sheet data.

*Forecast Assumptions Updating*

If the forecast assumptions are now updated to reflect the inclusion of the 2020 forecast year, the model roll-forward is complete.

This roll-forward procedure is undertaken whenever new historical data becomes available – e.g. commonly monthly for rolling monthly business planning processes.



## Appendices

### *Income Statement Mapping Summary*

The following table provides a summary of the historical income statement mapping used for Twisted Cereals as stored in the assumptions mapping file named 'Income Statement - Historical - Assumptions Map.csv':

Heading	Action	Row or Category Block	Category
Nutri Bubbles Sales	Add	Revenue	Nutri Bubbles Sales
Just Wrong Sales	Add	Revenue	Just Wrong Sales
Coco Bix Sales	Add	Revenue	Coco Bix Sales
Total Income	Ignore	None	None
Nutri Bubbles Sales&	Add	Cost of Goods Sold	Nutri Bubbles Sales
Just Wrong Sales&	Add	Cost of Goods Sold	Just Wrong Sales
Coco Bix Sales&	Add	Cost of Goods Sold	Coco Bix Sales
Total Cost of Goods Sold	Ignore	None	None
Gross Margin	Ignore	None	None
Other Revenue	Add	Other Revenue	Other Revenue
Total Other Revenue	Ignore	None	None
Television & Media Advertising	Add	Operating Expenditure	Television & Media Advertising
Print Advertising	Add	Operating Expenditure	Print Advertising
Research & Development	Add	Operating Expenditure	Research & Development
Total Operating Expenses	Ignore	None	None
Depreciation - Buildings	Add	Depreciation	Depreciation - Buildings
Depreciation - Machinery & Equipment	Add	Depreciation	Depreciation - Machinery & Equipment
Total Operating Expenses&	Ignore	None	None
Amortization - Goodwill	Add	Depreciation	Amortization - Goodwill
Total Expenses	Ignore	None	None
Operating Profit	Ignore	None	None
Interest on Cash at Bank	Add	Interest on Cash	Interest on Cash
Total Other Income	Ignore	None	None
Other Expenses	Add	Other Operating Expenditure	Other Expenses
Total Other Expenses	Ignore	None	None
Interest - Commercial Paper	Add	Interest Expense	Interest - Commercial Paper
Interest - Bank Debt	Add	Interest Expense	Interest - Bank Debt
Interest - Working Capital Facility	Add	Interest Expense	Interest - Working Capital Facility
Total Interest Expense	Ignore	None	None
Income Tax Expense	Add	Tax Expense	Tax Expense
Total Income Tax Expense	Ignore	None	None
Net Profit / (Loss)	Ignore	None	None

*Balance Sheet Mapping Summary*

The following table provides a summary of the historical balance statement mapping used for Pear Inc. as stored in the assumptions mapping file named 'Balance Sheet - Historical - Assumptions Map.csv':

Heading	Action	Row or Category Block	Category
Cash	Add	Cash	Cash
Total Cash	Ignore	None	None
Trade Debtors - Nutri Bubbles	Add	Trade Debtors	Trade Debtors - Nutri Bubbles
Trade Debtors - Just Wrong	Add	Trade Debtors	Trade Debtors - Just Wrong
Trade Debtors - Coco Bix	Add	Trade Debtors	Trade Debtors - Coco Bix
Trade Debtors - Other	Add	Trade Debtors	Trade Debtors - Other
Total Receivables	Ignore	None	None
Inventory - Nutri Bubbles	Add	Inventory	Inventory - Nutri Bubbles
Inventory - Just Wrong	Add	Inventory	Inventory - Just Wrong
Inventory - Coco Bix	Add	Inventory	Inventory - Coco Bix
Total Inventory	Ignore	None	None
Prepaid Expenses	Add	Other Current Assets	Prepaid Expenses
Other Current Assets	Add	Other Current Assets	Other Current Assets
Total Other Current Assets	Ignore	None	None
Land	Add	Fixed Assets	Land
Buildings	Add	Fixed Assets	Buildings
Less Acc. Dep. - Buildings	Add	Fixed Assets	Buildings
Machinery & Equipment	Add	Fixed Assets	Machinery & Equipment
Less Acc. Dep. - Machinery & Equipment	Add	Fixed Assets	Machinery & Equipment
Goodwill	Add	Fixed Assets	Goodwill
Total Fixed Assets	Ignore	None	None
Other Non-Current Assets	Add	Other Non-Current Assets	Other Non-Current Assets
Total Other Non-Current Assets	Ignore	None	None
Total Assets	Ignore	None	None
Trade Creditors	Add	Trade Creditors	Trade Creditors
Inventory Payables	Add	Inventory Payables	Inventory Payables
Total Trade Payables	Ignore	None	None
Interest Payable	Add	Interest Payable	Interest Payable
Dividends Payable	Add	Dividends Payable	Dividends Payable
Total Non-Trade Payables	Ignore	None	None
Corporate Tax Payable	Add	Corporate Tax Payable	Corporate Tax Payable
Total Taxation	Ignore	None	None
Other Current Liabilities	Add	Other Current Liabilities	Other Current Liabilities
Total Other Current Liabilities	Ignore	None	None
Commercial Paper	Add	Debt	Commercial Paper
Bank Debt	Add	Debt	Bank Debt
Working Capital Facility	Add	Debt	Working Capital Facility
Total Debt	Ignore	None	None
Other Non-Current Liabilities	Add	Other Non-Current Liabilities	Other Non-Current Liabilities
Total Other Non-Current Liabilities	Ignore	None	None
Total Liabilities	Ignore	None	None
Net Assets	Ignore	None	None
Share Capital	Add	Ordinary Equity	Ordinary Equity
Other Equity	Add	Other Equity	Other Equity
Retained Earnings	Ignore	None	None
Total Equity	Ignore	None	None

*Rolling Business Planning*

Rolling business planning modeling requires models that contain both historical and forecast information, combined to give a comprehensive and continuous view of the business. The forecast financials are projected off the latest historical numbers and if required the model is 'rolled' forward at the end of each period and the first period of forecast assumptions are replaced by a new period of latest historical assumptions.

This is shown below for an eight year annual model, where the initial time series columns have been constructed with three historical periods (columns J to L) for 2010 to 2012 and five forecasts periods (columns M to Q) for 2013 to 2017. The roll forward from 2012 to 2013 (performed at the completion of 2013) changes the 2013 analysis from a period of forecast numbers to a set of historical assumptions, as shown below:

**Rolling Forward One Period Example**

**Time Series Schematics**

Time Series Column	J	K	L	M	N	O	P	Q	R
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018

**Initial - Time Series Columns**

Historical	1	1	1						
Forecast	-	-	-	1	1	1	1	1	
All Periods	1	1	1	1	1	1	1	1	1

**Year 2 - Time Series Columns**

Historical	1	1	1	1					
Forecast	-	-	-	-	1	1	1	1	
All Periods	1	1	1	1	1	1	1	1	1

In addition to inserting an extra column of historical information, as per the above, it is also possible to insert an extra column of forecast data for 2018 to retain the full five periods of forecast analysis, as shown below:

**Rolling Forward One Period (with Extra Forecast Year)**

**Time Series Schematics**

Time Series Column	J	K	L	M	N	O	P	Q	R
Year	2010	2011	2012	2013	2014	2015	2016	2017	2018

**Year 2 - Time Series Columns - Extra Forecast Year**

Historical	1	1	1	1					
Forecast	-	-	-	-	1	1	1	1	1
All Periods	1	1	1	1	1	1	1	1	1

For more information regarding the fundamentals of time series analysis, see the time series analysis fundamentals documentation within the Best Practice Modelling Resources at [www.bestpracticemodelling.com/resources/knowledge/time\\_series](http://www.bestpracticemodelling.com/resources/knowledge/time_series).



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Other Best Practice Modelling publications...



**Standards**  
Tabulated Listing



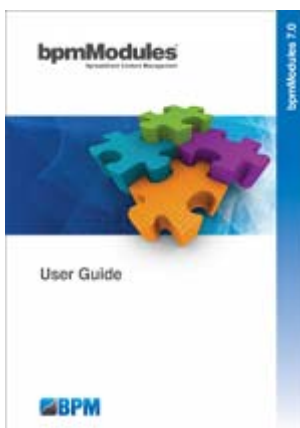
**Standards**  
Commentary & Examples



**bpmToolbox**  
User Guide



**Modular Development**  
Fundamentals



**bpmModules**  
User Guide



**Business Planning**  
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