UNIVERSITY OF TORONTO BUSINESS INTELLIGENCE

PowerPlay Studio

User Documentation

POWERPLAY STUDIO

Appendix A: Definitions of Terms Associated with PowerPlay Studio Explorer

**All screen captures included in this document display representative data.
The data shown is not accurate and is for instructive purposes only.**

PowerPlay Studio

The IBM Cognos toolset is designed to provide users with the ability to make informed decisions on key business questions. The most popular tool within the suite is PowerPlay Studio.

PowerPlay Studio brings together the key dimensions of your business and lets you explore any combination of data: up, down, and across the critical dimensions. You can look at the impact that each area of your business has on overall results and compare that with other dimensions as you explore further. For example, you can examine graduate student funding in Arts and Science during 2011, and then filter your analysis for a specific funding type (e.g., Research Stipends) and Gender.

From your Web browser, you can
- explore information, either one dimension at a time or using multiple levels from the same or different dimensions (these are called nested categories)
- compare data using quantitative measures such as Funding Received and Student Count
- add your own calculations to the results
- show information as actual values, or as percentages
- filter data
- suppress, highlight, and sort values
- choose the type of display, such as crosstab, pie chart, or bar chart
- swap rows and columns, limit the number of rows and columns in the display, reorder the units of measure for your data
- drill down to lower-level categories
- save, export, print, or save views of cubes

This current version of PowerPlay Studio integrates cubes and reports in one environment.

Supported browsers

The UTBI Connection portal is running PowerPlay Studio 10.1. This version supports Internet Explorer 7, 8 and 9 (Windows) and Firefox 3.5, 3.6, and 4.5 (Windows/Mac/Linux).

This documentation has been created using the default PowerPlay Enhanced Interface which is shown here.

| Cube - Condensed Enrolment		
⊞ Faculty		
⊞ Year		
⊞ Grad/Undergrad		
⊞ Campus		
⊞ SGS Division		
⊞ Department		
⊞ Degree Type		
⊞ Degree		
⊞ Full-time/Part-time (FTPTRGST)		
⊞ Year of Study (YR_STUDY)		
⊞ Stage of Study (SESLEV)		
⊞ Domestic/International (DOM_I)		
⊞ New Intake (NEWINTK)		
⊞ Fee Category (FEECATTX)		
⊞ Gender		
⊞ TST?		
⊞ MEASURES		

Menu bar: ◁◁ ◁ Faculty ▾ Year ▾ Grad/Undergrad ▾ Campus ▾ SGS Division ▾ Department ▾ Degree Type ▾ Degree ▾ Full-time/Part-time (FTPTRGST) ▾ Year of Study (Y

Head Count as values	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Year
Applied Science & Engineering	10,424	11,089	11,942	12,324	12,267	12,297	12,462	13,624	13,963	14,650	15,120	2,045	142,207
Architecture, Landscape, and Design	526	515	471	512	609	581	556	655	711	754	738	74	6,702
Arts & Science	57,911	60,243	63,414	66,608	69,665	72,399	71,353	71,608	71,013	73,284	74,227	14,549	766,274
Arts & Science - UTM	14,632	15,104	16,740	19,417	20,960	22,016	23,751	24,293	24,860	26,563	27,898	5,451	241,685
Arts & Science - UTSc	13,868	14,633	16,203	18,693	20,837	23,045	24,487	25,101	25,454	25,871	25,849	5,265	239,306
Dentistry	1,014	1,023	1,051	1,055	1,070	1,086	1,094	1,062	1,060	1,075	1,118	151	11,859
Forestry	229	235	255	266	226	201	205	209	204	193	215	67	2,505
Information	613	618	683	901	881	946	1,067	1,171	1,265	1,397	1,449	271	11,262
Law	1,200	1,319	1,373	1,546	1,540	1,519	1,557	1,511	1,509	1,543	1,555	79	16,251
Management	1,711	1,811	2,211	2,465	2,678	2,678	2,694	2,669	2,482	2,764	2,729	542	27,434
Medicine	12,633	13,234	13,847	14,640	15,396	16,032	16,712	17,648	18,433	19,149	19,640	5,865	183,229
Music	1,314	1,282	1,235	1,273	1,255	1,316	1,354	1,459	1,446	1,576	1,688	255	15,453
Nursing	968	1,111	1,340	1,659	1,823	1,922	1,995	2,065	2,030	2,001	1,940	575	19,429
OISE/UT	14,881	15,944	15,837	17,226	11,757	7,874	7,634	8,212	8,583	8,972	8,890	1,825	127,635
Pharmacy	1,263	1,353	1,512	1,758	1,947	2,127	2,285	2,403	2,540	2,522	2,802	459	22,971
Physical Education and Health	1,010	1,060	1,048	1,183	1,253	1,324	1,389	1,381	1,419	1,619	1,693	224	14,603
SGS Centres & Institutes	834	787	712	730	760	577	562	593	629	0	0	0	6,184
Social Work	746	767	802	780	810	820	891	979	1,046	990	1,049	243	9,923
TST	2,637	2,727	2,724	2,882	3,098	3,169	3,190	3,110	3,134	3,149	3,315	748	33,883
TYP	420	399	453	501	670	549	606	565	512	635	737	40	6,087
UTM PGPC	0	0	0	0	0	0	0	181	555	549	587	226	2,098
UTSc Graduate Programs	0	0	0	0	0	0	0	0	0	0	138	64	202
Woodsworth	726	526	496	457	406	393	364	367	383	360	363	78	4,919
Faculty	139,560	145,780	154,349	166,876	169,908	172,871	176,208	180,866	183,231	189,616	193,740	39,096	1,912,101

Logging On

If you're an authorized user, you can access the UTBI site to access cubes and reports:

1. Go to https://reports.utbi.utoronto.ca/bi.
    Click on "Logon to UTBI Connection" in the green section of any UTBI site page.

2. At the UTBI logon screen, enter your User ID and Password. If you have forgotten your username or password contact Tony Di Felice (tony.difelice@utoronto.ca) or Christine Beckermann (c.beckermann@utoronto.ca).
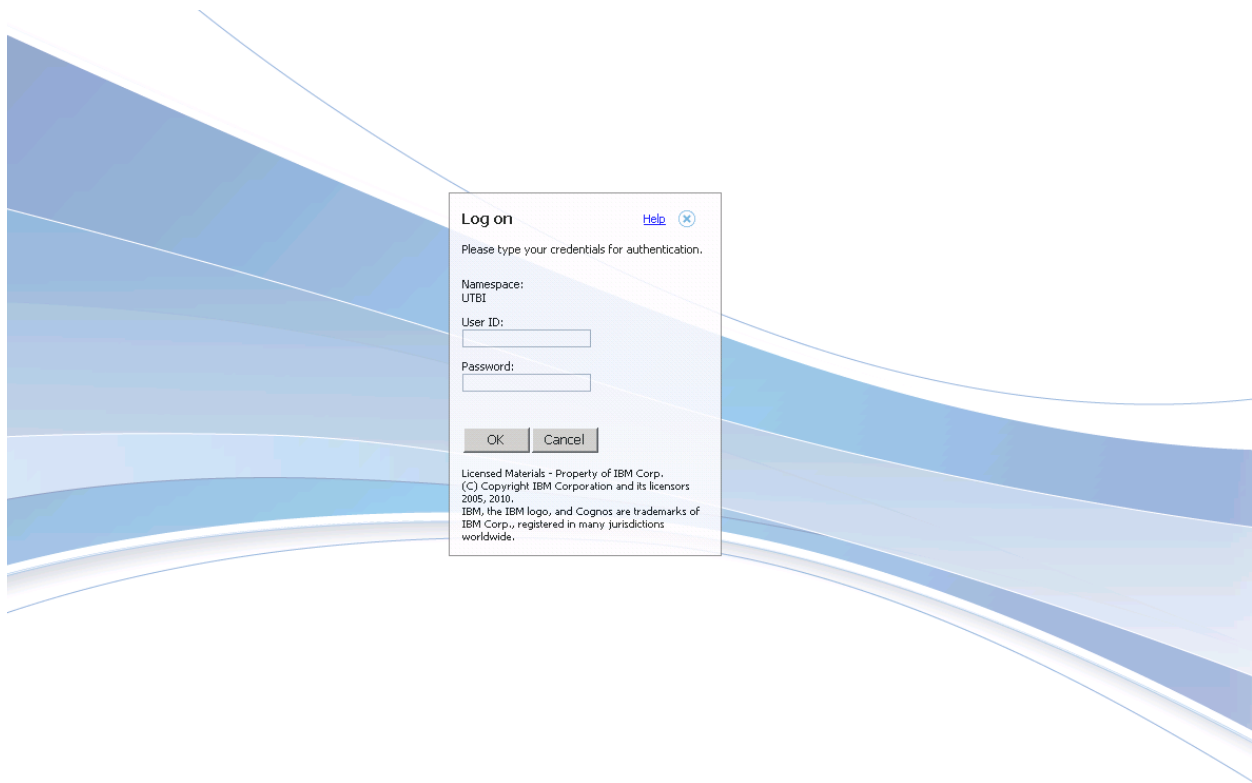
3. Click on **OK**.

<u>Don't forget to bookmark the location for future ease of access.</u>

The Cognos Table of Contents

Cubes and associated documentation are organized into folders in the PowerPlay Studio Table of Contents.

You will have access to two tabs: **Public Folders** and **My Folders**. The Public Folders section will contain all of the reports and/or cubes you have access to. Anything published by the UTBI team, available to end users, will be found under the Public Folders organized by subject matter.

The My Folders section is an area where you can save URL links of interest, PowerPlay reports, etc.

To access the cubes and reports, simply click once on the hyperlinked text for the folder containing the data in which you are interested.
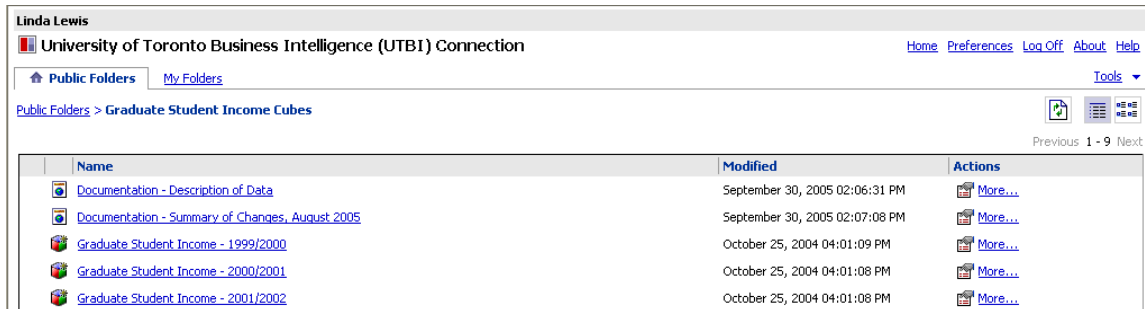
When you click a cube, identified by the cube icon , PowerPlay Studio Explorer opens; you can explore the data by choosing dimensions, performing calculations, and other activities. If there is a data dictionary available for the cube, you will see a hyperlink icon . Simply click to open the documentation.

Working in PowerPlay Studio

PowerPlay Studio uses multidimensional data sources called **CUBES**. A cube structures information so that you can explore the interactions between different dimensions or factors of your business. For example, the Graduate Student Income cube structures information into dimensions such as Academic Year, All Income, All Sources, Degree Type and Gender.   The cubes that you use are created and published by a PowerPlay administrator.

Open a Cube

Explore my data   A cube is a multidimensional data source that contains measures (data) organized into dimensions. From the PowerPlay Studio Table of Contents, click an entry identified by the cube icon. The cube opens in PowerPlay Studio Explorer in crosstab view and shows the first two dimensions as the rows (Academic Year) and columns (All Income).

Dimension Level Selector Areas

Dimension Line

| IBM Cognos PowerPlay Studio - Cube - Condensed Enrolment | | | | | | | | | | Alex Agostino | Log Off | | |

Faculty ▾   Year ▾   Grad/Undergrad ▾   Campus ▾   SGS Division ▾   Department ▾   Degree Type ▾   Degree ▾

| Head Count as values	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Year
Applied Science & Engineering	10,424	11,089	11,942	12,324	12,267	12,297	12,462	13,624	13,963	14,650	15,120	2,045	142,207
Architecture, Landscape, and Design	526	515	471	512	609	581	556	655	711	754	738	74	6,702
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Forestry	229	235	255	266	226	201	205	209	204	193	215	67	2,505
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Law	1,200	1,319	1,373	1,546	1,540	1,519	1,557	1,511	1,509	1,543	1,555	79	16,251
Management	1,711	1,811	2,211	2,465	2,678	2,678	2,694	2,669	2,482	2,764	2,729	542	27,434
Medicine	12,633	13,234	13,847	14,640	15,396	16,032	16,7??	17,648	18,433	19,149	19,640	5,865	183,229
Music	1,314	1,282	1,235	1,273	1,255	1,316	1,354	1,459	1,446	1,576	1,688	255	15,453
Nursing	968	1,111	1,340	1,659	1,823	1,922	1,995	2,065	2,030	2,001	1,940	575	19,429
OISE/UT	14,881	15,944	15,837	17,226	11,757	7,874	7,634	8,212	8,583	8,972	8,890	1,825	127,635
Pharmacy	1,263	1,353	1,512	1,758	1,947	2,127	2,285	2,403	2,540	2,522	2,802	459	22,971
Physical Education and Health	1,010	1,060	1,048	1,183	1,253	1,324	1,389	1,331	1,419	1,619	1,693	224	14,603
SGS Centres & Institutes	834	787	712	730	760	577	562	593	629	0	0	0	6,184
Social Work	746	767	802	780	810	820	891	979	1,046	990	1,049	243	9,923
TST	2,637	2,727	2,724	2,882	3,098	3,169	3,190	3,110	3,134	3,149	3,315	748	33,883
TYP	420	399	453	501	670	549	606	565	512	635	737	40	6,087
UTM PGPC	0	0	0	0	0	0	0	181	565	549	587	226	2,098
UTSc Graduate Programs	0	0	0	0	0	0	0	0	0	0	138	64	202
Woodsworth	726	526	496	457	406	393	364	367	383	360	363	78	4,919
Faculty	**139,560**	**145,780**	**154,349**	**166,876**	**169,908**	**172,871**	**176,208**	**180,866**	**183,231**	**189,616**	**193,740**	**39,096**	**1,912,101**

Dimension Viewer

Toolbar

Data Display

The **Dimension Line** appears at the top, the **display** is in the middle, and the **toolbars items** are at the bottom of your Web browser window. The **Dimension Viewer** appears on the left of your window.

Dimension Viewer
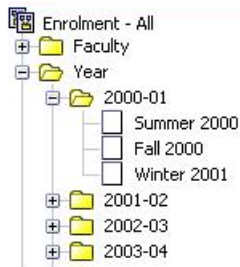
The Dimension Viewer displays a full tree view of the dimensions and measures in a cube. The Windows-type folder view lets you expand each dimension to the lowest level of detail which helps you understand the data structure.

To hide or show the Dimension Viewer, click on The arrow at the top of the dividing line separating the display and the Dimension Viewer.
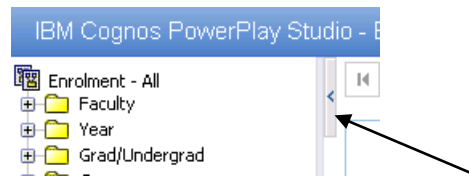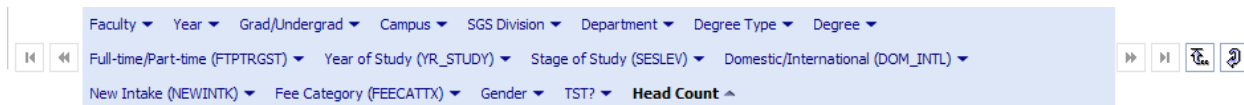

Dimension Line

By default, only a single line of dimensions is displayed in the Dimension Viewer.

To display all of the dimensions in the Dimension Viewer, click on the **Wrapping** button .

To return to a single row, click on the **Wrapping** button again which now has a slightly different look.

Level Selector

The row and column level selector areas are shown in the cube as small rectangular boxes above the rows and to the left of the columns.
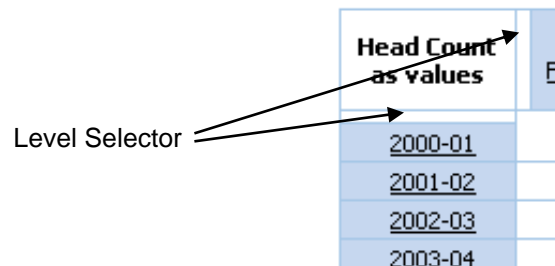
You can left-click or right-click within these areas to display the level selector options. The options included are:

Expand	Expands the category to nest the next level of data
Delete	Deletes the level of data shown
Swap Left	The selected level becomes the parent of the nested level
Swap Right	The selected level becomes the nested level
Down a Level	The data changes to show the next lower level of data in the category
Up a Level	The data changes to show the next higher level of data in the category
Explain	Shows an explanation of the data you are exploring

Choose Categories

When you open a cube, the categories from the first two dimensions on the Dimension Line appear as the rows and columns. To explore the categories from other dimensions, choose categories to replace the current categories or add nested categories to the cube.

A **CATEGORY** is a set aspect of your business, represented by a row or column in a crosstab. For example, the dimensions in the Graduate Income cube include categories such as Sessions, All Income, All Sources, Degree Type, All Programs by Faculty and Gender. The intersections of all the categories on the Dimension Line are calculated to give the values for your cube.

Categories appear as hyperlinks in the cube. When you click a category, its child categories replace the categories in the cube.

USING THE DIMENSION LINE

1. Click the dimension in the Dimension Line.
2. Drag the dimension to the location you wish to add the new category.
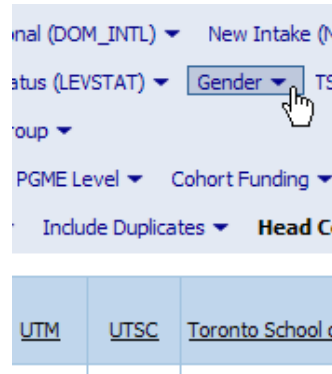
USING THE DIMENSION VIEWER WITH DRAG AND DROP

1. In the Dimension Viewer, expand the dimensions to locate the category you want to show in the display.
2. Click the category, and then drag it to the column heading area or the row heading area.

USING THE DIMENSION VIEWER AND RIGHT-CLICK

1. Right-click the category in the Dimension Viewer at the Left of the screen.
2. Click either **Replace Rows** or **Replace Columns**.
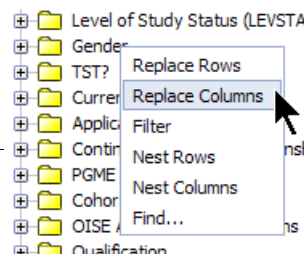
The drag and drop functionality is not supported in Firefox, If you use Firefox as your Web browser, you can use the Dimension Viewer and Right-Click as described above, or you can use the Dimension Viewer toolbar to switch categories.

USING THE DIMENSION VIEWER TOOLBAR

The Dimension Viewer Toolbar displays at the bottom of the screen under the Dimension Viewer window.

1. In the Dimension Viewer, expand and then click on the category that you want to appear as a row or column on the crosstab.
2. In the Dimension Viewer toolbar, choose where to add the selected category to the crosstab.

|	
	To add the category as the nested top level in the columns, click the **Insert Before the Columns** button
	To add the category as the nested sublevel in the columns, click the **Insert After the Columns** button.
	To replace the category in the columns, click the **Replace Columns** button.
	To add the category as the nested top level in the rows, click the Insert Before the Rows button.
	To add the category as the nested sublevel in the rows, click the **Insert After the Rows** button.
	To replace the category in the rows, click the **Replace Rows** button.

Choose Measures

A **measure** is a quantifiable amount built into a cube. It is often used to gauge how a service is operating, such as in identifying performance indicators.

A measure may be
- a simple summary of available information such as Intended Funding, Funding Received or a Student Count
- a calculated value such as Intended Funding less Funding Received

By default, PowerPlay Studio uses the first measure in the list of measures (e.g., Funding Received for the Graduate Student Income cube). You can change the measure used.
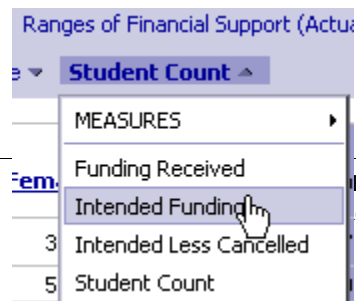
USING THE DIMENSION LINE

1. Click Measures in the Dimension Line.
2. Click the measure you want to show in the display.

To view all measures, drag the **Measures** to the row heading area or the column heading area. You can also drag the measure to the **Measure heading area** in the display.

Head Count as values	FEMALE	MALE	Unreported	Gender
2000-01	79,286	60,274	0	139,560
2001-02	83,464	62,316	0	145,780
2002-03	88,279	66,070	0	154,349

USING THE DIMENSION VIEWER WITH DRAG AND DROP

In the Dimension Viewer, expand the Measures folder to locate the measure you want to show in the display.

1. To view a different measure, click the measure, and then drag it to the **Measure heading area** in the display.
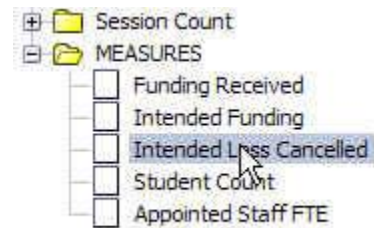
USING THE DIMENSION VIEWER WITH RIGHT-CLICK

In the Dimension Viewer, expand the Measures folder to locate the measure you want to show in the display.

1. To view a different measure, right-click the measure
2. select Filter
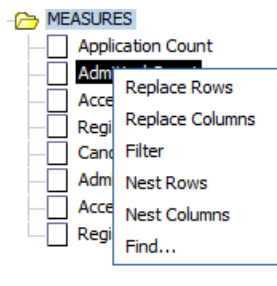
USING THE DIMENSION VIEWER TOOLBAR
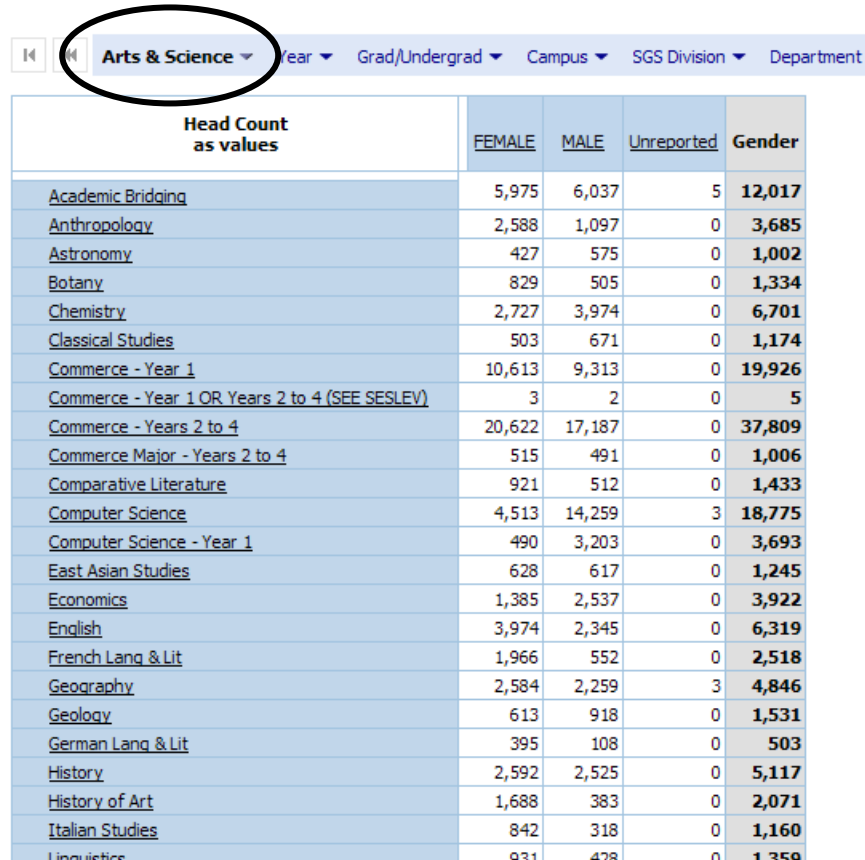
If the Dimension Viewer toolbar does not appear under the Dimension Viewer, right-click under the Dimension Viewer and click **Show Toolbar**.

1. In the Dimension Viewer, expand the Measures category and click once on the measure that you want to appear on the crosstab.

2. In the Dimension Viewer toolbar, click the **Replace Measures** button.

Explore Data

Use PowerPlay Studio Explorer to explore data by drilling down for more specific details or drilling up for a more general picture. You can also filter data to get the information you want. For example, if you only require funding information for Arts & Science, you can filter the report so that only values for Arts and Science departments appear. To further explore, you can nest child categories under a parent category or add calculations to show you the exact information you require. Depending on how the cube was created, you can even drill through the current cube to another cube, report, or data source.

| Head Count as values	FEMALE	MALE	Unreported	Gender
Academic Bridging	5,975	6,037	5	12,017
Anthropology	2,588	1,097	0	3,685
Astronomy	427	575	0	1,002
Botany	829	505	0	1,334
Chemistry	2,727	3,974	0	6,701
Classical Studies	503	671	0	1,174
Commerce - Year 1	10,613	9,313	0	19,926
Commerce - Year 1 OR Years 2 to 4 (SEE SESLEV)	3	2	0	5
Commerce - Years 2 to 4	20,622	17,187	0	37,809
Commerce Major - Years 2 to 4	515	491	0	1,006
Comparative Literature	921	512	0	1,433
Computer Science	4,513	14,259	3	18,775
Computer Science - Year 1	490	3,203	0	3,693
East Asian Studies	628	617	0	1,245
Economics	1,385	2,537	0	3,922
English	3,974	2,345	0	6,319
French Lang & Lit	1,966	552	0	2,518
Geography	2,584	2,259	3	4,846
Geology	613	918	0	1,531
German Lang & Lit	395	108	0	503
History	2,592	2,525	0	5,117
History of Art	1,688	383	0	2,071
Italian Studies	842	318	0	1,160
Linguistics	931	428	0	1,359

Find Specific Dimensions or Measures

You can search the current cube to find specific data. Finding specific items in highly complex and large dimensions can significantly speed up your analysis time.

When you search the cube, PowerPlay Studio searches all the data in the cube. You can search for text in a category or measure based on the following criteria:

- contains
- begins with
- ends with

The search results provide the category name and full path. For example, searching in the Graduate Student income cube for "geology" shows the following results:
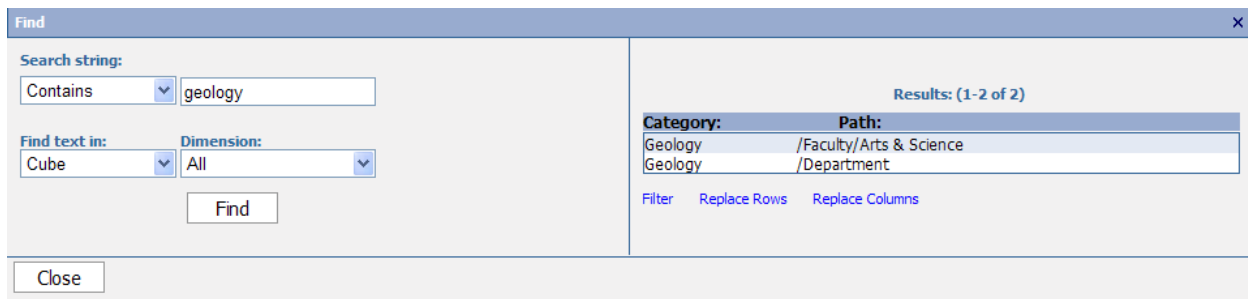
1. With the PowerPlay Studio Explorer report open, click the arrow to the right of the help button on the toolbar.
2. Select **Find**. The Find window opens in the lower half of your browser window.
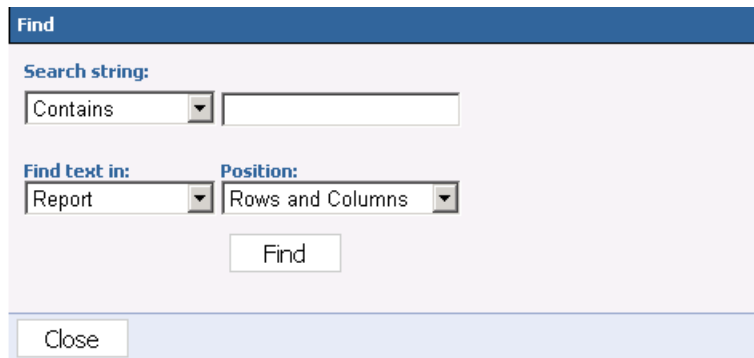
3. In the *Search string* box, select the search criteria you want to use, and in the adjacent box, type the text to search for.
4. In the *Find text in* box, choose **Cube**.
5. In the *Dimension* box, choose whether to search Rows, Columns, or Rows and Columns. (Using this method, one can limit the search to a particular dimension.)
6. Click **Find**.
7. The search results appear to the right of the Find box (see picture above).
8. To view the data you were searching for in your PowerPlay Studio Explorer, select the category in the *Results* list and choose one of the following options:
   - To filter the cube on the returned category, click **Filter**.
   - To show the returned category in the cube rows, click **Replace Rows**.
   - To show the returned category in the cube columns, click **Replace Columns**.

Alternatively, to find a specific item in your data, you can also right-click a category in the Dimension Viewer, and then click **Find**.


Drill Down and Drill Up

You can drill down and drill up to explore different aspects of your business and move between levels of information. For example, you can examine funding for an entire faculty and then drill down to see revenue for each individual academic unit in the faculty. When you finish viewing the unit, you can drill back up. After you familiarize yourself with the hierarchy, you can drill down and drill up multiple levels at a time. If you want to examine the impact of a single aspect of your business on the whole, you can drill down to the lowest-level category in a dimension.

When you drill down on a nested category, some information may be removed. For example, a report shows Years in the rows and Sessions as nested categories. If you drill down on a Session, the redundant Years level is removed. The available drill-down and drill-up features depend on the display type you choose.

Different Paths to a Category

It is possible to have multiple paths in a dimension that lead to the same categories. A primary drill-down path is the main path in a dimension. An alternate drill-down path is another path in the same dimension leading to the same categories. For example, the main path of the Year dimension is by academic year and one of its alternate paths is *By Term* or *By Fall and Winter Only* or *By Session*. All of these paths drill down to the funding categories.
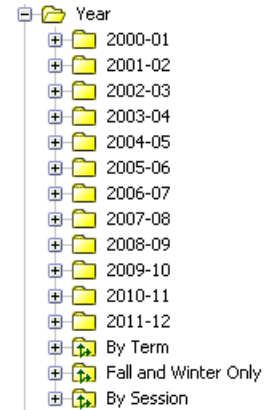
Restricted Data Values

Your PowerPlay administrator can build security rules into cubes where data is sensitive, for example in financial applications. When PowerPlay shows a category level for which you do not have the correct security access, you will see the word "denied" instead of a data value. When you drill down on a category, you cannot view a lower level of a restricted data value. PowerPlay Studio also shows the word denied for summary totals of a category that include this restricted data value.

DRILL DOWN ONE LEVEL IN THE DISPLAY

1. To drill down a level within one category in the PowerPlay Studio display, click the column heading link (the hyperlink text). The next level categories replace the column headings in the display.
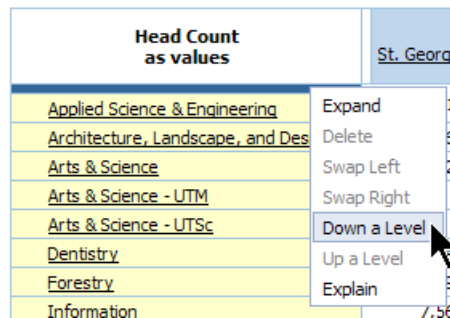
Or

1. To choose a category level from the Dimension Line, click the dimension, and then click the lower-level category you want to show in the display.
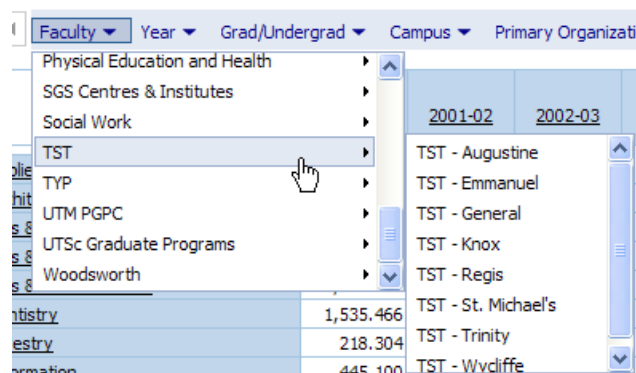
Or
1. To drill down a level across all categories in the PowerPlay Studio display itself, right-click the column or row level selector area, and then click **Down a Level**.   (The column level selector area is located to the immediate right of the first column heading area. The row level selector area is located immediately above the first row heading area.)

DRILL DOWN MULTIPLE LEVELS IN THE DISPLAY

1. To drill down multiple levels from the Dimension Line, click the dimension, and then pause the pointer on the next category level to expose the next level of categories.
2. Continue to expose the lower-level categories, and then click the category level you want to show in the display.
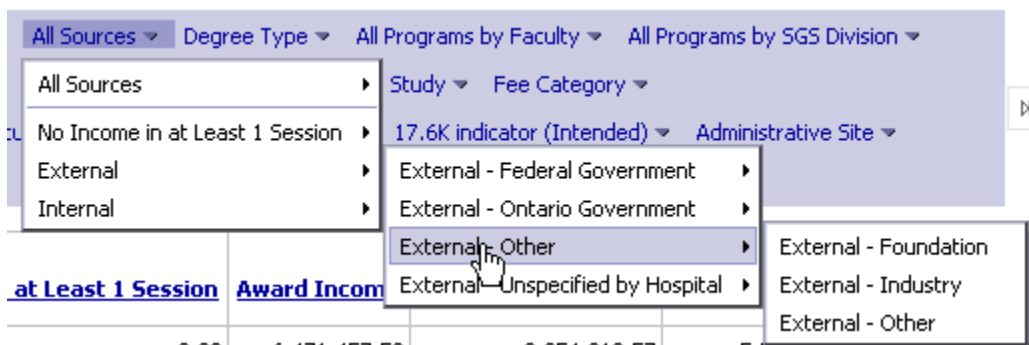
Or
1. To drill down multiple levels in the PowerPlay Studio display, click the column heading links until you reach the category level you want to show in the display.

Or
1. In crosstab view, double-click the data value where the row and column intersect.
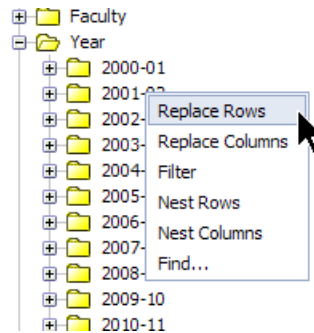
DRILL UP IN THE DISPLAY

1. To drill up from the Dimension Line, click the dimension, and then click the category level you want to drill up to.

DRILL DOWN ONE LEVEL USING THE DIMENSION VIEWER

1. In the Dimension Viewer, expand the dimension to locate the next level category in the dimension, click the next level category, and then drag it to the column heading area or the row heading area.

Or

2. Right-click the next level category in the Dimension Viewer, and then click either **Replace Rows** or **Replace Columns**.

DRILL DOWN MULTIPLE LEVELS IN THE DIMENSION VIEWER

1. In the Dimension Viewer, expand the dimensions to locate the category level you want to show in the display.
2. Click the category level, and then drag it to the column heading area or the row heading area.

Or

1. You can also right-click the category level in the Dimension Viewer, and then click either **Replace Rows** or **Replace Columns**.

DRILL UP IN THE DIMENSION VIEWER

1. In the Dimension Viewer, locate the category level you want to show in the display.
2. Click the category level, and then drag it to the column heading area or the row heading area.

Or

1. You can also right-click the category level in the Dimension Viewer, and then click either **Replace Rows** or **Replace Columns**.

To return quickly to the top level (without drilling up), simply click on the **Reset** button at the right of the Dimension line.

You can also use the **Back** button of your Web browser to drill back (up or down) to where you previously were.

Filter Data

A filter changes the focus of a report by limiting information to a level of a dimension and emphasizing only the information you choose. If you want to examine the impact of a single aspect of your business on the whole, you can filter to the lowest-level category in that dimension. This allows you to look at a subset of your data even though it may not be represented in the rows or columns.

The following illustration shows an enrolment cube by head count for all degree types.

Head Count as values	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Year
Applied Science & Engineering	10,424	11,089	11,942	12,324	12,267	12,297	12,462	13,624	13,963	14,650	15,120	2,045	**142,207**
Architecture, Landscape, and Design	526	515	471	512	609	581	556	655	711	754	738	74	**6,702**
Arts & Science	57,911	60,243	63,414	66,608	69,665	72,399	71,353	71,608	71,013	73,284	74,227	14,549	**766,274**
Arts & Science - UTM	14,632	15,104	16,740	19,417	20,960	22,016	23,751	24,293	24,860	26,563	27,898	5,451	**241,685**
Arts & Science - UTSc	13,868	14,633	16,203	18,693	20,837	23,045	24,487	25,101	25,454	25,871	25,849	5,265	**239,306**
Dentistry	1,014	1,023	1,051	1,055	1,070	1,086	1,094	1,062	1,060	1,075	1,118	151	**11,859**
Forestry	229	235	255	266	226	201	205	209	204	193	215	67	**2,505**
Information	613	618	683	901	881	946	1,067	1,171	1,265	1,397	1,449	271	**11,262**

The following illustration shows the same cube filtered on Undergraduate Degrees in the *Degree Type* dimension, even though Degree Type is not currently set as the rows or columns of the crosstab.

Head Count as values	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	Year
Applied Science & Engineering	7,196	7,502	8,067	8,343	8,431	8,618	8,795	9,622	9,747	10,123	10,307	576	**97,327**
Architecture, Landscape, and Design	286	151	9	0	0	0	0	0	0	0	0	0	**446**
Arts & Science	46,826	49,030	51,776	54,953	57,532	59,831	58,919	58,582	57,824	59,132	60,272	10,521	**625,198**
Arts & Science - UTM	14,185	14,626	16,314	18,969	20,452	21,623	23,376	23,927	24,476	26,192	27,454	5,346	**236,940**
Arts & Science - UTSc	13,466	14,206	15,821	18,379	20,469	22,719	24,170	24,735	25,107	25,502	25,433	5,155	**235,162**
Dentistry	586	567	567	557	550	551	587	645	642	637	638	0	**6,527**
Forestry	0	0	0	0	0	0	0	0	0	0	0	0	**0**
Information	0	0	0	0	0	0	0	0	0	0	0	0	**0**

1. To add a filter from the Dimension Line, click the dimension, and then click the category you want to filter on.
   To remove a filter, click the filtered category in the Dimension Line, and then click the dimension level.

Or

1. In the Dimension Viewer, locate the category you want to filter on.
2. Right-click the category, and then click **Filter**.
3. The filtered category appears bolded in the Dimension Line and, in the display, the values change to reflect the filtered category.

To remove all filters from all dimensions, click the **Reset Dimensions** button on the Dimension Line or click the highest-level category from the same list.

Whole rows or columns may change to zeros after you filter information for the categories. You can use the **Suppress Zeros** button on the toolbar to hide columns that show all zeros in the report.

By selecting the triangle next to the **Suppress Zero** you can select the ability to hide zeros for only rows or only columns.
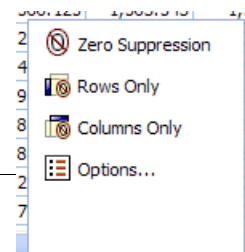
Nest Categories

When you open a cube, the categories from the first two dimensions of the Dimension Line appear in the rows and columns. To view more detail in the report, you can add nested categories from the current dimension, different dimensions, and measures. For example, a cube shows Head Count by Gender with the departments nested (at a second level) in the rows within the Faculty Dimension.

|	Head Count as values	FEMALE	MALE	Unreported	Gender
Applied Science & Engineering	Aerospace Science	406	2,822	0	3,228
	Biomedical Engineering	1,100	1,452	0	2,552
	Chemical Engineering & Applied Chemistry	7,469	8,608	1	16,078
	Civil Engineering	4,408	11,797	0	16,205
	Electrical & Computer Engineering	10,227	46,452	3	56,682
	Lassonde Mineral Engineering	226	911	0	1,137
	Mechanical & Industrial Engineering	6,566	24,301	3	30,870
	Telecommunications MEng	104	515	0	619
	1st Year General Engineering	380	1,095	0	1,475
	Engineering Science	1,307	4,403	0	5,710
	Applied Science - Specials	203	579	0	782
	Materials Science & Engineering	1,750	5,119	0	6,869
	Applied Science & Engineering	**34,146**	**108,054**	**7**	**142,207**
Architecture, Landscape, and Design	Architecture	2,084	2,911	0	4,995
	Landscape Architecture	708	441	0	1,149
	Urban Design	214	223	0	437
	Architecture - Specials	59	62	0	121
	Architecture, Landscape, and Design	**3,065**	**3,637**	**0**	**6,702**
Arts & Science	Academic Bridging	5,975	6,037	5	12,017
	Anthropology	2,588	1,097	0	3,685
	Astronomy	427	575	0	1,002
	Botany	829	505	0	1,334
	Chemistry	2,727	3,974	0	6,701
	Classical Studies	503	671	0	1,174

A nested report includes subtotal information for nested categories. For example, the subtotal for each Head Count for each faculty is shown in the illustration.

NEST CATEGORIES IN THE DISPLAY

1. To nest a category from the Dimension Line, click the dimension, locate the category you want to nest, and then drag it to the row nest level area or the column nest level area. (The row nest level area is located in the far right of the row heading area. The column nest level area is located at the bottom of the column heading area. When you move your cursor over the nest level area, the background will change to black to indicate that the mouse is in the correct location.)
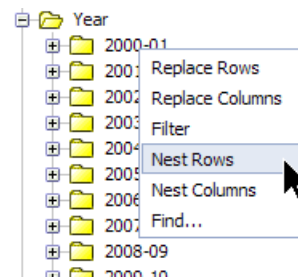
Or

1. In the PowerPlay Studio display, right click the level selector area and select **Expand**.
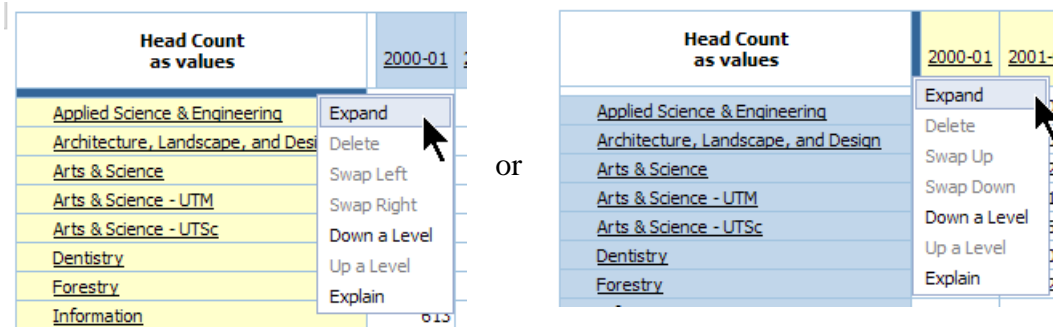
or

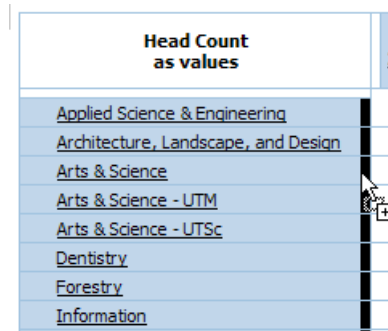## NEST CATEGORIES IN THE DIMENSION VIEWER

1. In the Dimension Viewer, locate the category you want to nest in the display.
2. Right-click the category, and then click either **Nest Rows** or **Nest Columns**.
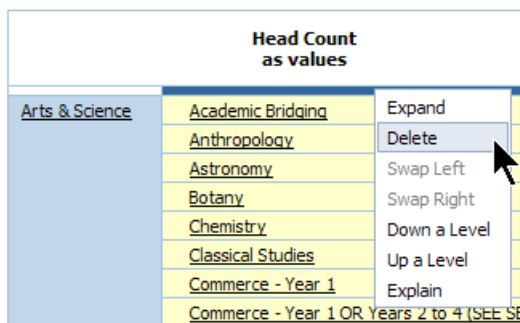   The nested category appears in the display as sublevels within the row or column category.

Or

1. You can click the category you want to nest in the Dimension Viewer, and then drag it to the row nest level area or the column nest level area.
2. As you drag the category over the nest level area, the area becomes highlighted black. (The row nest level area is located in the far right of the row heading area. The column nest level area is located at the bottom of the column heading area.)

REMOVE NESTED CATEGORIES

In the PowerPlay Studio display, right-click the level selector area (located to the immediate left of nested column categories and immediately above nested row categories) for the nested category, and then click **Delete**.

Replace Nested Categories

You can replace a nested level with the parent category or all the child categories. For example, you nest Years with the next level down, Quarters. Then you want the report to show Months instead of Quarters. You can replace the nested level with Months.

NEST CATEGORIES IN THE DISPLAY

1. Click the new category you want to nest in the Dimension Viewer, and then drag it to the row nest level area or the column nest level area of the parent category. (The row nest level area is located in the far right of the row heading area. The column nest level area is located at the bottom of the column heading area.)
    As you drag the category over the nest level area, the area becomes highlighted.

Or
1. To nest a new category from the Dimension Line, click the dimension, locate the category you want to nest, and then drag it to the row nest level area or the column nest level area.

Or
1. Replace a nested category by dragging and dropping another nested category in the crosstab.

NEST CATEGORIES IN THE DIMENSION VIEWER

1. In the Dimension Viewer, locate the category you want to show as the new nested level.
2. Right-click the category, and then click **Nest Rows** or **Nest Columns**.

This category is now the nested level in the display.

Hide Totals or Subtotals

Each report using a crosstab display shows a row and column with the total value of each category. If you do not want the total row or column in the report, you can hide the totals. Hiding totals or subtotals affects only reports using a crosstab or indented crosstab display.

HIDE TOTALS

1. In the PowerPlay Studio display, right-click a total summary row or a total summary column, and select **Hide/Show**.
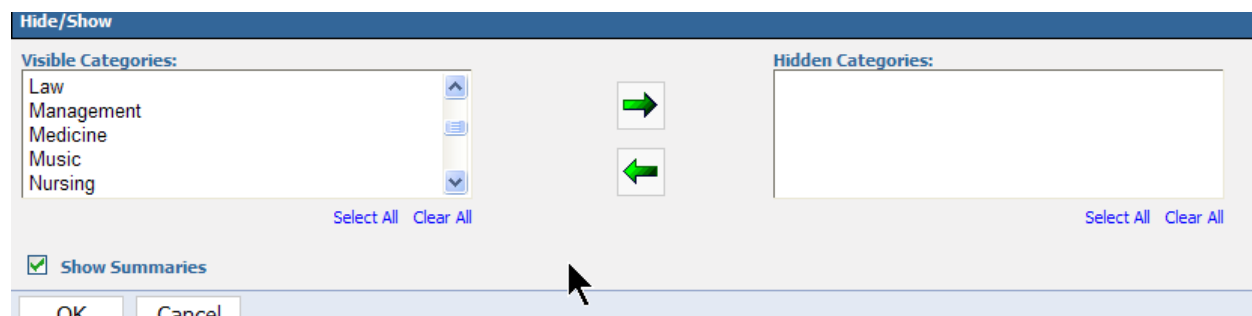
2. In the Hide/Show dialog box, clear the *Show Summaries* check box.
3. Click **OK**.

The total summary row or column is no longer visible in the display.

1. In the PowerPlay Studio display, right-click one subtotal summary row or one subtotal summary column, and select **Hide/Show**.
2. In the Hide/Show dialog box, clear the *Show Summaries* check box
3. Click **OK**.

The subtotal summary rows or columns are no longer visible in the display.

UNHIDE SUBTOTALS

1. In the PowerPlay Studio display, right-click one subtotal summary row or one subtotal summary column, and select **Hide/Show**.
2. In the Hide/Show dialog box, turn on the *Show Summaries* check box
3. Click **OK**.

The subtotal summary rows or columns will now be visible in the display.

Move Rows, Columns, and Nesting Levels

In the Enhanced interface, you can drag and drop rows, columns, and nesting levels within your crosstab. You can also reorder measures in your crosstab using drag-and-drop. This helps you to quickly change the view of your data.

To drag and drop within a crosstab, you must use Internet Explorer as your Web browser.

To move a particular level:
1. **To move a level**, click the level selector area of the nested level you want to move.
2. Choose where you want to drag the level:
   - To swap rows or columns, drag the level to the row or column you are swapping with.
   - To remove the level, drag it outside the crosstab.
   - To nest a category quickly, drag the level to the target level area of the level you selected.

Alternatively, you click on the **Swap** button to switch the current row and column dimensions.

Hide Data While Exploring your Report

Use the Get Data Later option to allow you to create your cube without showing the data. **This can save you time if you are exploring a large cube with many levels.** When you have set up the cube view you are interested in, you can quickly show the data in the display. <u>Get Data Later is available only for a Crosstab display.</u> Some of the options on the PowerPlay Studio Explorer toolbar are unavailable while **Get Data Later** is enabled.

1. On the toolbar, click the **Crosstab** ⊞ button.
2. On the PowerPlay Studio toolbar, click the Display Options ⊞⏷ button, and then click **Get Data Later**.
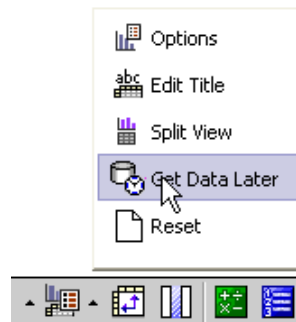
3. Explore the report until you are satisfied with its current state.

4. In the display, click **Get Data**.

Perform Calculations

You can combine rows or columns to obtain a new item based on a custom calculation. After a new calculated category is added, you can add other calculations based on an existing one.

You can perform the following calculations in PowerPlay Studio:

Operation Type:	Operation:
Arithmetic	- add - subtract - multiply - divide - exponentiate (raise a power – e.g., x^2)
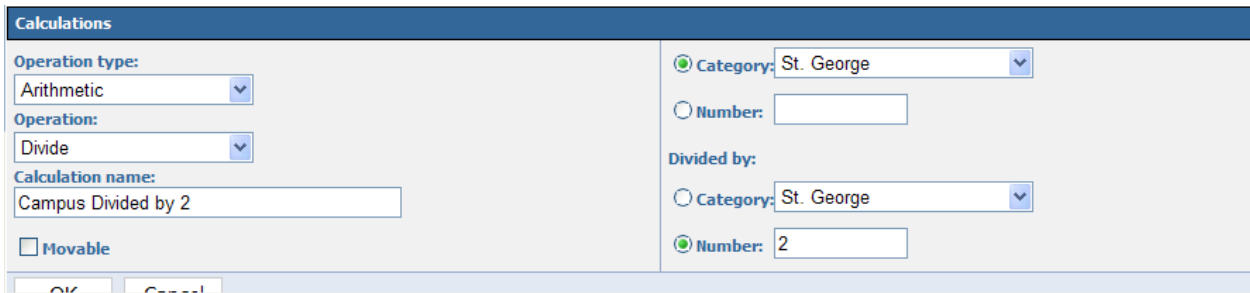
Percentage	• percent • percent of base • cumulative percent
Analytic	• average • median • maximum • minimum • percentile • rollup
Financial	• accumulate

1. Right-click a category in a crosstab display or in the legend of a graphic display. Select **Insert Calculation** from the shortcut menu.
   Or

   Click on the **Insert Calculation** [icon] button on the toolbar.

2. In the *Operation type* box, select an operation type (see chart above). Then select an operation to perform from the *Operation* box.

3. From the *Category* list, select the items you want included in the calculation.
   The *Category* list contains only the categories that are in the current display. For example, if you have limited the number of rows to 10, the *Category* list will contain only the 10 categories that correspond to the rows in the display.
   If you want to use a constant in the calculation, select the radio button beside *Number* and enter the constant in the box.
4. In the *Calculation name* box, type a name for the new row or column.
5. Click **OK**.

The new category appears in italicized text in the display.

EDIT CALCULATIONS

Calculations that you have inserted as columns or rows in a PowerPlay Studio cube can be edited or added to and can be renamed.

1. Right-click a row or column heading containing a calculation, display the shortcut menu and select **Edit Calculation**.

Format Data

It is possible to format the data in the following ways:
  ➢ showing data as a percentage
  ➢ changing the currencies and values used in the cube
  ➢ highlighting exceptional values
  ➢ sorting
  ➢ changing the display
  ➢ removing categories you do not want to see or that do not contribute to the totals

SHOW VALUES AS PERCENTAGES

You can show values as a percentage of the row or column subtotals or of the totals.

1. Click the **Display Options** button on the PowerPlay Studio toolbar.
2. In the *Display Measures* box, select a percentage data format.
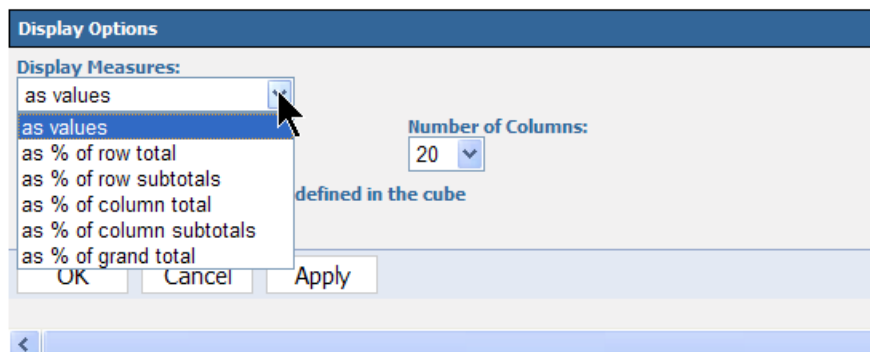
OR

1. An alternative method is to right-click in the upper left quadrant that displays the measure. When you right-click in this area you are given a number of options as to how the data should be displayed.

	If you use Firefox as your web browser, you must use the **Display Options** button to display measure values as percentages.

DEFINE CUSTOM EXCEPTION HIGHLIGHTING

Custom exceptions highlight values which you need to be alerted to – values which are too high or too low or within a specific range. There are two steps to this process:

1. The custom exception needs to be created
2. You need to apply the exception to the cube.

If you want to save a custom exception, you must save the cube view with the exception applied and reopen the saved view to use it again. See Page 51 for *Saving Cube Views*.

Create a Custom Exception

A custom exception can contain up to five value ranges, with formatting attached to each range. For each value range there is a minimum value, a maximum value, a text colour and a background cell colour. Value ranges are inclusive. All data that falls within a value range appears with the defined formatting. For example, from 10 to 100 would include 10 as well as 100 and everything in between.

1. On the PowerPlay Studio toolbar, click the **Custom Exception Highlighting** button .
2. In the Exceptions dialog box, click **Add**.

3. In the *Exception Name* box, type a name for the custom exception.
4. In the *From* box, enter a minimum value for the first range.
5. In the *To* box, enter a maximum value for the first range.
6. From the *Text* box, select a colour for the text.
7. From the *Cell* box, select a colour for the background.
8. From the *Style* options, select bold, italic or underline.

9. From the *Align* options, select your justification preference.
10. From the *Size* drop down menu, select your desired font size.

11. Define up to four additional value ranges for this exception.
12. Click **OK**.

The new definition appears in the Defined Exceptions list.

Edit a Custom Exception Definition

1. Click on the Custom Exception Highlighting ▦ button
2. Select the exception in the *Defined Exceptions* list and click **Edit**. You can make changes to the range values specified for the exception definition, their characteristics, or the name of the exception.

3. Click on **OK**.
4. Click on **OK**.

Delete a Custom Exception Definition

1. Click on the Custom Exception Highlighting ▦ button
2. Select the exception in the *Defined Exceptions* list and click **Delete**.
3. Click on **OK**.

When you delete a custom exception that is currently applied, your display refreshes dynamically.

Apply a Custom Exception

You must apply a defined custom exception before it appears in the report. PowerPlay can show only one custom exception definition for a particular cell at a time. When you apply an exception to a column, a row, or to the whole report, this application removes any exception that was previously applied to the same selection.

Total FTE (UAR) as values	2000-01	2001-02	2002-03	2003-04	2004-05
Applied Science & Engineering	6,198.800	6,678.810	7,231.564	7,594.826	7,521.987
Architecture, Landscape, and Design	356.265	404.657	450.980	502.900	591.500
Arts & Science	25,811.150	26,742.950	28,126.300	29,738.650	31,017.750
Arts & Science - UTM	5,346.350	5,590.900	6,339.950	7,491.900	8,172.950
Arts & Science - UTSc	5,216.350	5,527.100	6,182.900	7,272.450	8,005.450
Dentistry	625.135	637.851	660.218	673.087	689.087
Forestry	229.000	235.000	253.600	263.200	226.000
Information	449.200	464.700	510.800	694.500	672.400
Law	646.967	735.870	757.185	895.724	902.807
Management	1,232.200	1,354.600	1,637.700	1,898.000	2,019.300
Medicine	7,816.007	8,219.014	8,632.508	9,203.384	9,731.492
Music	794.387	781.550	755.326	781.497	750.049
Nursing	506.305	546.019	684.495	860.060	1,041.572
OISE/UT	6,388.200	6,757.600	6,898.900	7,040.300	6,171.950
Pharmacy	658.943	679.022	762.170	939.055	1,041.522
Physical Education and Health	497.150	545.300	521.200	591.700	616.900
SGS Centres & Institutes	761.900	719.800	653.200	659.300	690.000
Social Work	682.300	692.100	706.800	677.100	698.000
TST	1,161.050	1,162.950	1,203.600	1,329.500	1,375.500
TYP	85.900	82.500	102.400	100.800	121.600
UTM PGPC	0.000	0.000	0.000	0.000	0.000
UTSc Graduate Programs	0.000	0.000	0.000	0.000	0.000
Woodsworth	131.900	96.900	104.400	94.500	84.000
Faculty	65,595.459	68,655.193	73,176.196	79,302.433	82,141.816

Where a cell lies at an intersection between two defined custom exceptions, only the most recently applied exception will be visible for that cell.

PowerPlay shows custom exceptions **in crosstab and indented crosstab view only**. You can define custom exceptions in any view, but PowerPlay ignores them.

Custom exceptions apply to all cell types, including calculations, calculated categories, and measures.

1. Select a row, column, or measure in the crosstab.
2. On the PowerPlay Studio toolbar, click the **Custom Exception Highlighting** button.
3. In the *Defined Exceptions* list, select the custom exception you want to apply and click **Apply**.
4. Click **OK**.

Remove the Application of an Exception

1. On the PowerPlay Studio toolbar, click the **Custom Exception Highlighting** button.
2. Select a row, column, or measure in the crosstab.
3. Select **(none)** from the *Defined Exceptions* list.

4. Click **Apply**.
5. Click **OK**.

SORT VALUES

In crosstab displays, you can sort the row and column values in ascending or descending order. For example, a report shows the Funding Received by Faculty. You may want to view the funding figures from the highest to the lowest. The data remains sorted until you drill down or drill up.

1. Select the row or column in which you want to sort the values.
2. The row or column becomes highlighted, and the **Sort** icon ⬍ appears in the row or column heading.
3. Click the **Sort** icon, and then choose the order in which you want to sort:
   Click **Sort Descending** to sort the values in descending order.
   Click **Sort Ascending** to sort the values in ascending order.
   The values and the Sort icon change to show the type of sort action that you applied to the row or column.

Head Count as values	FEMALE	MALE	Gender
2000-01	79		9,560
2001-02	83,464	62,316	145,780
2002-03	88,279	66,070	154,349
2003-04	96,129	70,747	166,876
2004-05	96,761	73,147	169,908
2005-06	97,627	75,244	172,871
2006-07	99,165	77,043	176,208
2007-08	101,208	79,658	180,866
2008-09	102,571	80,660	183,231
2009-10	106,045	83,558	189,616
2010-11	108,303	85,381	193,740
2011-12	22,449	16,632	39,096
Year	**1,081,287**	**830,730**	**1,912,101**

With **Sort Descending** becomes

Head Count as values	FEMALE	MALE	Gender
2010-11	108,303	85,381	193,740
2009-10	106,045	83,558	189,616
2008-09	102,571	80,660	183,231
2007-08	101,208	79,658	180,866
2006-07	99,165	77,043	176,208
2005-06	97,627	75,244	172,871
2004-05	96,761	73,147	169,908
2003-04	96,129	70,747	166,876
2002-03	88,279	66,070	154,349
2001-02	83,464	62,316	145,780
2000-01	79,286	60,274	139,560
2011-12	22,449	16,632	39,096
Year	**1,081,287**	**830,730**	**1,912,101**

To remove the value sorting, click the Sort icon, and then click **No Sort**.

SWAP ROWS AND COLUMNS

You can exchange the positions of categories in rows and columns. For example, a report contains few rows but many columns that exceed the width of the printed page. You swap the rows and columns to fit the report on one page.

1. Click the **Swap Rows and Columns** button.

You can also drag and drop rows and columns to swap them. See instructions on Page 20.

LIMIT THE SIZE OF CROSSTABS

To improve the performance and readability of large reports, you can limit the data that appears in crosstab displays. For example, you set a row limit of 20 and a column limit of 10. Values that you set in PowerPlay Studio for the rows and columns override the default row and column limits set by your PowerPlay administrator.

When you limit the size of a crosstab, PowerPlay Studio provides the following navigation buttons within the crosstab itself:

Button	Description
▷	Moves to the next page of columns.
◁	Moves to the previous page of columns.
⧏⧏	Moves to the first page of columns.
⧐⧐	Moves to the last page of columns.
▽	Moves to the next page of rows.
△	Moves to the previous page of rows.
⤒	Moves to the first page of rows.
⤓	Moves to the last page of rows.

Rows 1-5 of 12. Columns 1-5 of 23.
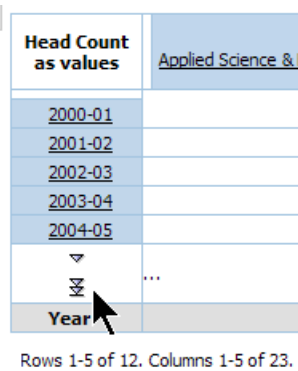
When you limit the number of rows or columns in a report with nested categories, you must choose the number of categories you want to show at the lowest level. Subtotal categories are always included on each page (unless Hide Subtotals is enabled), even if the limit must be exceeded to do so.

1. Click the **Display Options** button .
2. Click **Options**.
3. In the *Number of Rows* box, select the number of rows you want to show.
4. In the *Number of Columns* box, select the number of columns you want to show.
5. Click **Apply**.
6. Click **OK**.

The crosstab shows the limited number of rows and columns as text in the display.

SUPPRESS VALUES

You can ignore categories whose values fall into a low range. You can also ignore categories that either don't apply to the report or that return zero values. In these situations, you can use one or both of the following suppression features:

- Zero suppression removes rows or columns containing all zeros.
- 80/20 suppression removes rows or columns whose absolute values do not contribute to the top 80% of results. It then summarizes the removed rows or columns into a single row or column called "Other."
- When you apply 80/20 suppression, the data for the cells is sorted in descending order and a total is made of the absolute values. Then the sorted values are added until the cumulative total is eighty percent of the total. If the last value added to the cumulative total appears in more than one cell, all those cells are considered part of the eighty percent.
- All the suppression buttons remain enabled until you click them again.

1. On the PowerPlay Studio toolbar, click the arrow to the right of the **Zero Suppression** button.
2. Choose where to apply zero suppression:
   - To apply zero suppression to rows and columns, click **Zero Suppression**.
   - To apply zero suppression to rows only, click **Rows Only**.
   - To apply zero suppression to columns only, click **Columns Only**.

The rows or columns that contain only zeros are removed, and a comment indicating the type of zero suppression applied appears at the bottom of the report.

1. Click the **80/20 Suppression** button.

PowerPlay Studio shows the total of values suppressed in an additional row or column called "Other" and shows "80/20 suppression" at the bottom of the report page. If a category labeled "Other" is not shown, all the categories in the report dimension contribute to eighty percent of the total.

HIDE CATEGORIES

You can selectively show or hide any category in a report, including categories that were inserted when the cube was created. <u>When you hide categories, the summaries in the report are not affected.</u>
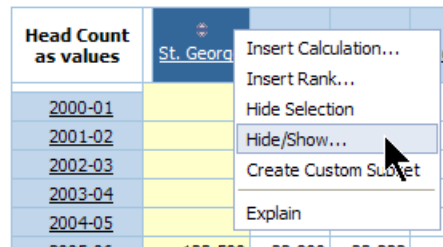
Hide a Single Category
1. In the PowerPlay Studio display, right-click the category you want to hide, and then click **Hide Selection**.

Or
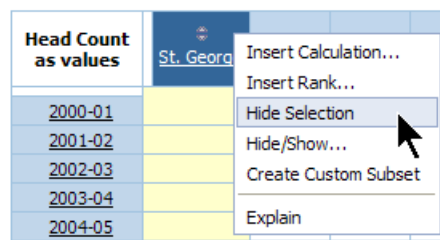
1. In the PowerPlay Studio display, right-click a category heading, and then click **Hide/Show**.


2. In the *Visible Categories* and *Hidden Categories* lists, select the categories you want to hide or show and use the arrow buttons to move them to the preferred list. Again, note that the Summary totals remain the same despite the categories you choose to hide. Therefore you may want to uncheck the Show Summaries.
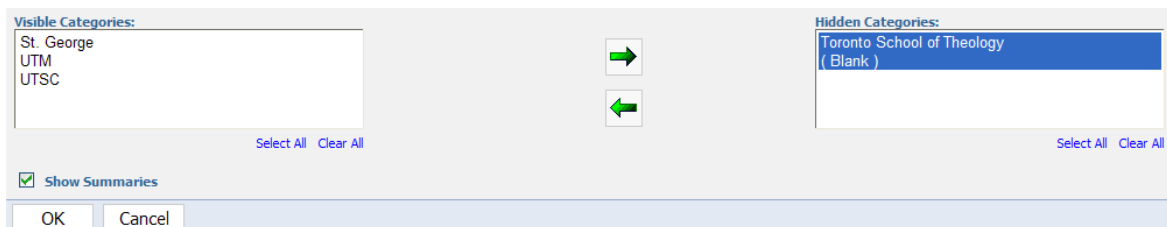
3.   Click on **OK**.

Steps to Hide Pre-Calculated Categories

1. On the PowerPlay Studio toolbar, click the **Display Options** button.
2. Select the *Hide Calculated Categories Defined in the cube* check box.
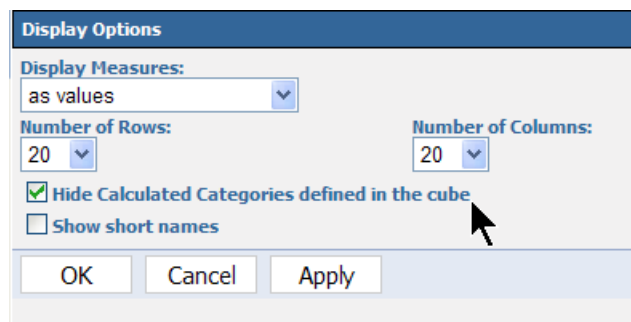
3. Click on **OK**.

ADD A TITLE

You can create or edit a title for the current cube. Meaningful titles can help you to categorize the cubes that you use.

1. Click the **Display Options** button, and select **Edit Title.**
2. In the *Title Text* box, specify the text and formatting of your title:

- Type the text you want to appear in your report title.
- Add valid HTML tags. (Example: <B> </B>)
- If you want to add variables such as date and time of printing to the title, select them from the Variables box, and click **Insert**.
- If you want to use the cube title instead of the report title, click the **Default** button.

3. If you want the dimension bar and default measure appended when you generate a PDF report, select the *Display Dimension Bar Information* check box.   This is useful when a filter is applied to the report and is not reflected in the row or column headings. (For information on generating a PDF report, see p. 53)

4. Click **OK**.

Add Rank Categories Based on Measure Values

Ranking adds ordinals to a report to allow comparisons between the categories. Categories are ranked by their value in a specific row or column. The rank ordinals appear in an italicized format in a new row or column.

The rank results can be unsorted, meaning that they are not in numerical order, or they can be sorted in ascending or descending order. If you want to see the top or bottom items, you sort the rank category to arrange the ordinals in numerical order.   Rank categories and sort orders are automatically regenerated whenever there is a change to the report data.

1. Right-click the column or row on which you want to base the rank category, and then click **Insert Rank**.

2. Verify the category on which you want to base the rank category in the *Rank the rows by the following column* box.

3. In the *Show ordinals* list box, click **Top**, **Bottom** or **All**, and type the number of ordinals you want to show.
    Select **Top** to show the highest values, **Bottom** to show the lowest values, or **All** to show all the values.
4. In the *Start the ordinals from* list box, click **Highest** or **Lowest** to identify which ordinal is ranked as ordinal 1.
5. In the *Sorting order* list box, click **Descending**, **Ascending**, or **None** to set the sorting order.
6. In the *Rank name* box, specify a name for the rank category.
    The rank category name will appear at the top of the column or beginning of the row in italicized text.
7. Click **OK**.

You can also use the Rank button to add, delete, edit, or rename a rank category.

The new rank category appears in the PowerPlay Studio Explorer report, to the right of the selected column or under the selected row.

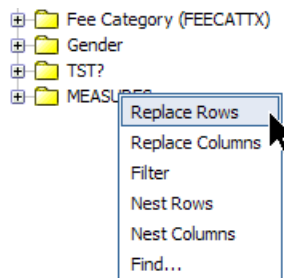| Head Count as values	2003-04	2002-03	2001-02	2000-01	2011-12	Ranked Faculty for 2010-11
Arts & Science	66,608	63,414	60,243	57,911	14,549	1
Arts & Science - UTM	19,417	16,740	15,104	14,632	5,451	2
Arts & Science - UTSc	18,693	16,203	14,633	13,868	5,265	3
Medicine	14,640	13,847	13,234	12,633	5,865	4
▽ Applied Science & Engineering	12,324	11,942	11,089	10,424	2,045	5
OISE/UT	17,226	15,837	15,944	14,881	1,825	6
TST	2,882	2,724	2,727	2,637	748	7
Pharmacy	1,758	1,512	1,353	1,263	459	8
Management	2,465	2,211	1,811	1,711	542	9
Nursing	1,659	1,340	1,111	968	575	10
Faculty	**166,876**	**154,349**	**145,780**	**139,560**	**39,096**	**NA**

Ranked Faculty for 2010-11 displays top 10 ordinals.

Working with Measures

When you open a cube in PowerPlay Studio, a default measure is defined (in the Graduate Student Income cube, it is Funding Received). You can add and reorder multiple measures to the report. To reorder measures, you must be using Internet Explorer as your Web browser.

You can reorder measures in your crosstab using drag-and-drop. PowerPlay maintains this order in any layout view. However, when you close your cube, the new order is lost. To retain this order for future use, you must save your cube view, or export it in .pdf or .csv format. (See pp. 51-54 for details on saving or exporting cube views)

1. In the Dimension Viewer, right-click the **Measures** folder, and then click either **Replace Rows** or **Replace Columns**.

⊞ ☐ Fee Category (FEECATTX)
⊞ ☐ Gender
⊞ ☐ TST?
⊞ ☐ MEASURES

| Replace Rows |
| Replace Columns |
| Filter |
| Nest Rows |
| Nest Columns |
| Find… |

The measures are shown in the rows or columns.

MEASURES as values	2000-01	2001-02	2002-03	2003-04	2011-12
BIU (UAR)	85,154.800	88,887.874	96,205.045	104,333.816	21,866.374
Total FTE (UAR)	65,595.459	68,655.193	73,176.196	79,302.433	18,070.609
Eligible FTE (UAR)	55,551.492	57,648.763	61,377.883	66,419.612	13,524.141
Head Count	139,560	145,780	154,349	166,876	39,096
MEASURES	**NA**	**NA**	**NA**	**NA**	**NA**

2. In the crosstab view, click a measure that you want to move within the list or click on the measure in the Dimension Viewer.
3. Drag the measure to the highlighted area that appears between two other measures in the list. Note that if you are dragging from the Dimension Viewer a measure that is hidden in the report, the measure becomes visible.
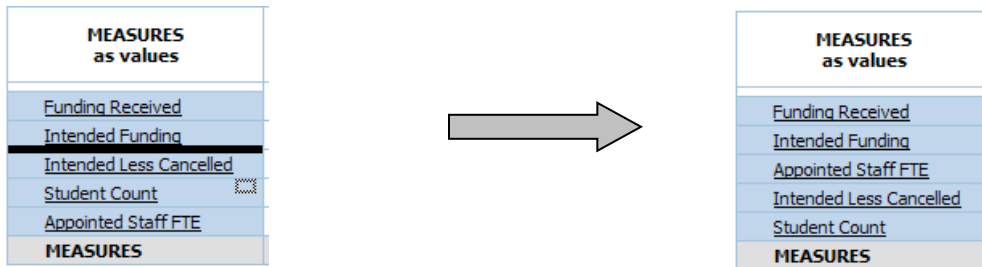
4. Repeat steps 2 to 3 until all the measures appear in the PowerPlay Studio display in the order that you want.

Use Layers to Page through Categories in Your Report

You can use Layers to create individual pages in your data when you export to pdf. Layers can be used to present data in pages where each page is filtered on a value of a level within a dimension. For example, if you have chosen the *Faculty of Applied Science and Engineering*, this would produce individual pages for each of the units within the Faculty.

1. Select a filter within one of the dimensions in your dimension filter bar. In the image, note that Faculty of Applied Science & Engineering is selected.

Head Count as values	FEMALE	MALE	Unreported	Gender
Aerospace Science	406	2,822	0	3,228
Biomedical Engineering	1,100	1,452	0	2,552
Chemical Engineering & Applied Chemistry	7,469	8,608	1	16,078
Civil Engineering	4,408	11,797	0	16,205
Electrical & Computer Engineering	10,227	46,452	3	56,682
Lassonde Mineral Engineering	226	911	0	1,137
Mechanical & Industrial Engineering	6,566	24,301	3	30,870
Telecommunications MEng	104	515	0	619
1st Year General Engineering	380	1,095	0	1,475
Engineering Science	1,307	4,403	0	5,710
Applied Science - Specials	203	579	0	782
Materials Science & Engineering	1,750	5,119	0	6,869
Applied Science & Engineering	**34,146**	**108,054**	**7**	**142,207**

2. On the toolbar, click the **File** button, and click **Export PDF**.
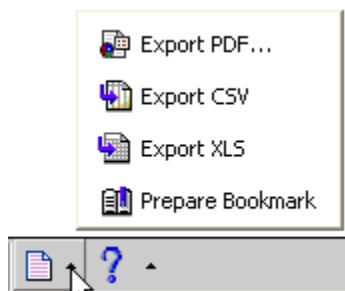
3. In the Export PDF dialog box, select the **Display** tab and turn on **Include Layers** and choose the dimension for which you would like to apply the layers effect. For example, to see all the units within the Division select "Faculty".
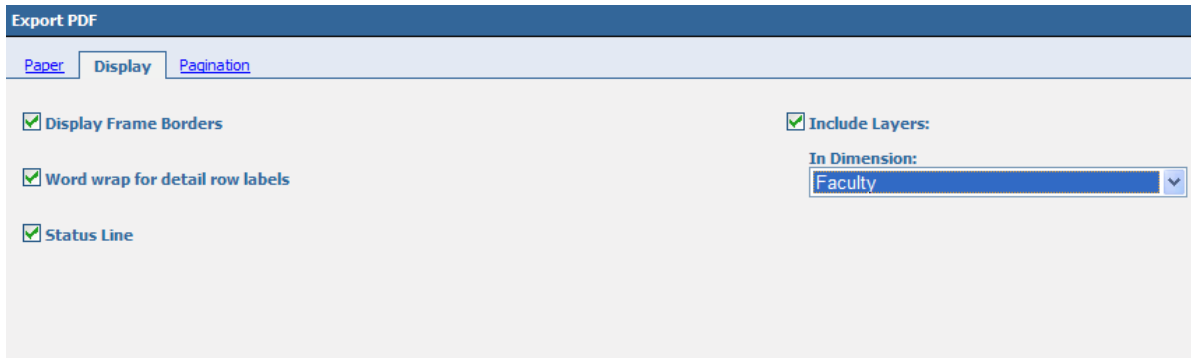
4. Click on **Export**.

A pdf file will be generated with each unit on an individual page with the unit name displayed as a title.

Choose a Display

A display is a visual representation of the cube data. You can change displays to
- show information from different perspectives
- find a trend
- compare variables, show variance, and track performance

When you view nested categories in graphic display types, each lowest-level intersection is shown in a separate display. To isolate the display for a nested category, click the link for the nested category. If there are no nested categories, only one display is shown.

You can use any one of the following displays to present your report. It is also possible to view charts and tables together.

CROSSTAB DISPLAY

The standard crosstab display is the default display type, and it shows data in tabular format. The first two dimensions of the cube represent the rows (see **Academic Year** below) and columns (see **All Income** below) respectively.

Funding Received as values	Award Income	Employment Income	Research Stipend
1998/1999	6,471,457.59	3,054,012.57	5,596,463.84
1999/2000	51,818,747.28	21,176,942.08	21,696,568.18
2000/2001	59,180,714.16	22,804,726.78	24,870,896.06
2001/2002	69,475,559.48	24,032,286.81	30,103,996.37
2002/2003	71,238,724.29	26,647,860.27	28,584,696.70
2003/2004	75,637,126.24	29,477,364.29	31,740,584.63
2004/2005	78,121,959.09	31,667,891.50	32,874,832.00
2005/2006	81,452,221.43	34,443,068.33	33,866,951.98
2006/2007	90,220,910.80	36,590,768.77	37,028,799.82
2007/2008	104,333,501.86	41,581,370.22	38,780,734.71
2008/2009	108,936,949.63	43,737,809.31	42,254,475.35
2009/2010	108,480,481.80	44,091,132.72	43,933,754.14
2010/2011	111,566,945.54	46,652,374.75	46,651,851.52
2011/2012	54,754,558.88	20,641,265.48	16,930,149.13
Academic Year	**1,071,689,858.07**	**426,598,873.88**	**434,914,754.43**

If you nest categories, the nested categories appear in rows below or columns to the right of the top level dimensions.

Funding Received as values		Award Income	Employment Income	Research Stipend
1998/1999	May - Aug 99	6,471,457.59	3,054,012.57	5,596,463.84
	1998/1999	**6,471,457.59**	**3,054,012.57**	**5,596,463.84**
1999/2000	Sep - Dec 99	24,511,125.33	8,983,928.95	7,311,840.00
	Jan - Apr 00	16,772,167.88	8,890,114.27	6,949,121.95
	May - Aug 00	10,535,454.07	3,302,898.86	7,435,606.23
	1999/2000	**51,818,747.28**	**21,176,942.08**	**21,696,568.18**
2000/2001	Sep - Dec 00	28,636,357.93	9,513,255.84	8,477,686.72
	Jan - Apr 01	19,318,945.50	9,802,618.80	8,281,734.83
	May - Aug 01	11,225,410.73	3,488,852.14	8,111,474.51
	2000/2001	**59,180,714.16**	**22,804,726.78**	**24,870,896.06**
2001/2002	Sep - Dec 01	32,737,089.25	9,915,493.59	10,315,339.87
	Jan - Apr 02	23,556,444.24	10,431,157.74	10,287,324.36
	May - Aug 02	13,182,025.99	3,685,635.48	9,501,332.14
	2001/2002	**69,475,559.48**	**24,032,286.81**	**30,103,996.37**

1. Click the arrow to the right of the **Crosstab** button on the PowerPlay Studio toolbar.
2. Select **Crosstab**.

INDENTED CROSSTAB DISPLAY

Use indented crosstabs so that the levels of nested categories are indented and the relationships between the categories are more easily identified. This display also presents a more compact format than a crosstab, making it better for printing.

Funding Received as values	Award Income	Employment Income	Research Stipend
1998/1999			
May - Aug 99	6,471,457.59	3,054,012.57	5,596,463.84
1998/1999	**6,471,457.59**	**3,054,012.57**	**5,596,463.84**
1999/2000			
Sep - Dec 99	24,511,125.33	8,983,928.95	7,311,840.00
Jan - Apr 00	16,772,167.88	8,890,114.27	6,949,121.95
May - Aug 00	10,535,454.07	3,302,898.86	7,435,606.23
1999/2000	**51,818,747.28**	**21,176,942.08**	**21,696,568.18**
2000/2001			
Sep - Dec 00	28,636,357.93	9,513,255.84	8,477,686.72
Jan - Apr 01	19,318,945.50	9,802,618.80	8,281,734.83
May - Aug 01	11,225,410.73	3,488,852.14	8,111,474.51
2000/2001	**59,180,714.16**	**22,804,726.78**	**24,870,896.06**
2001/2002			
Sep - Dec 01	32,737,089.25	9,915,493.59	10,315,339.87
Jan - Apr 02	23,556,444.24	10,431,157.74	10,287,324.36
May - Aug 02	13,182,025.99	3,685,635.48	9,501,332.14
2001/2002	**69,475,559.48**	**24,032,286.81**	**30,103,996.37**

1. Click the arrow to the right of the **Crosstab** button on the PowerPlay Studio toolbar.
2. Select **Indented Crosstab**.

PIE DISPLAY

The pie display charts the summary row of each column to show its proportional contribution to the whole. Any negative numbers are treated as absolute values; for example, the values -50 and 50 are plotted as 50. This type of display is useful for situations where there are not too many categories.
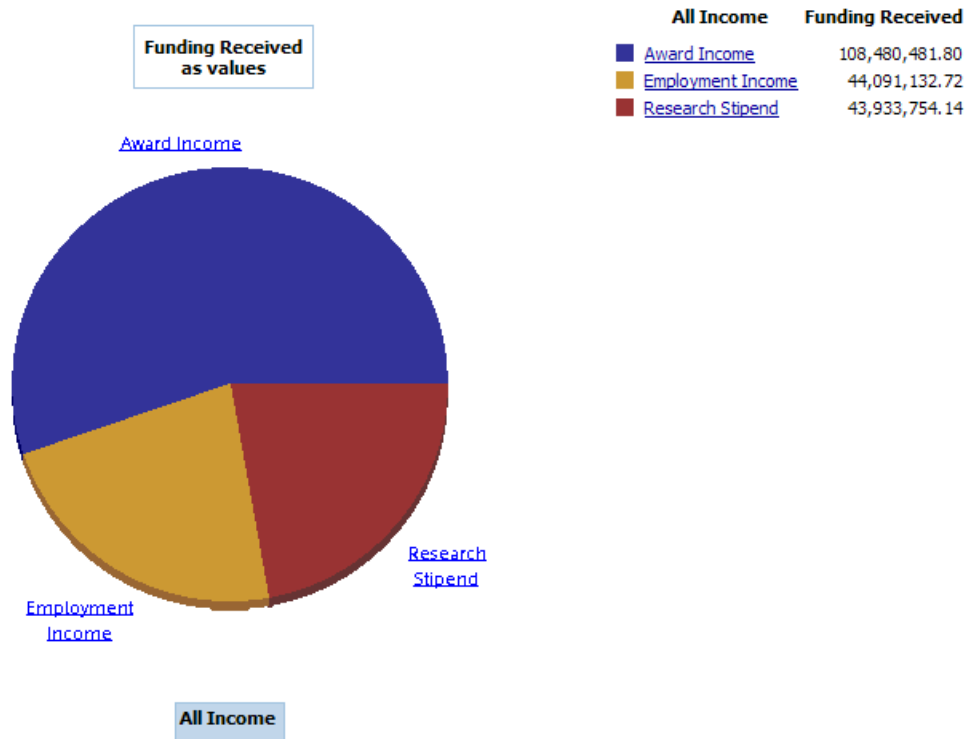
If the display does not have nested categories, a legend is shown which identifies the column and data value associated with each colored section of the pie.

1. Click the arrow to the right of the **Chart** button ![chart icon] on the PowerPlay Studio toolbar.
2. Select **Pie**.

Modify the Pie Display

1. On the PowerPlay Studio toolbar, click the **Chart** button ![chart icon], and then select **Chart Options**.

2. In the *Pie* section of the *Options* dialog box, choose whether to use names or values to label the pie slices.
3. If you want to resize the chart to a percentage of the screen, select the *Percentage of Screen* check box and, in the *Height* or *Width* box, type a number between 10 and 500.
4. You can also alter features to change *Depth, Hole Size, Tilt, Rotation* and *Explode*.
5. In addition there are items in the **Palette Tab** and **Labels Tab** to alter the appearance of your pie chart.
6. Once you've edited your chart to suit your needs click **OK**.

SIMPLE BAR DISPLAY

The simple bar display charts the summary row of each column to show absolute contribution. Use to show change over a specific time period, contrast two or more variables, and reveal trends in a clear format.
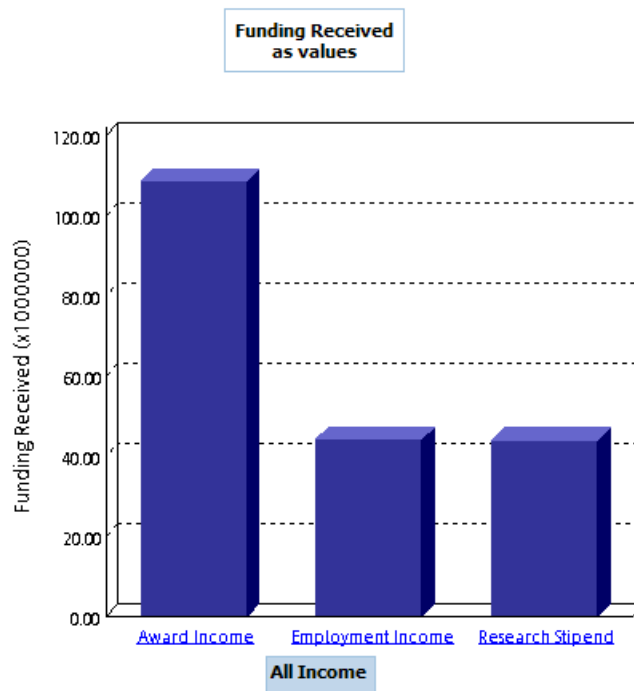
1. Click the arrow to the right of the **Chart** button on the PowerPlay Studio toolbar.
2. Select **Simple Bar**.

Modify the Simple Bar Display

1. On the PowerPlay Studio toolbar, click the **Chart** button and select **Chart Options**.
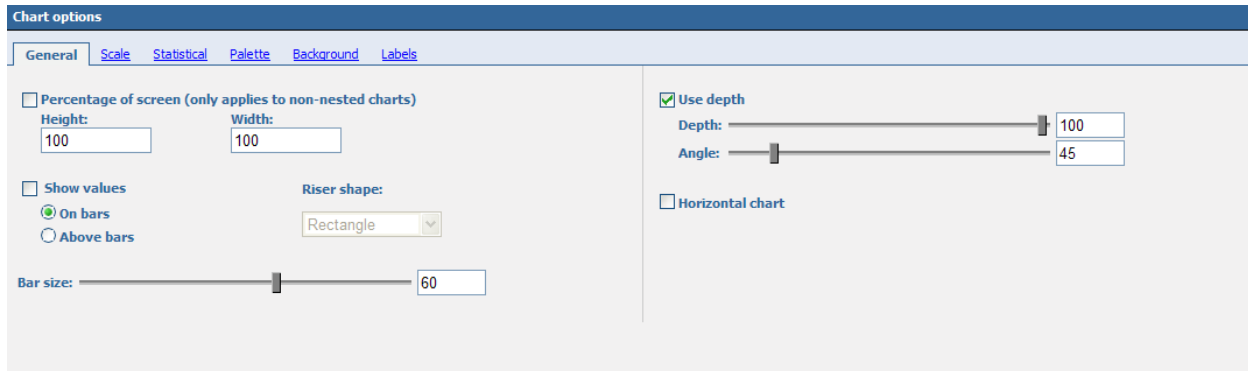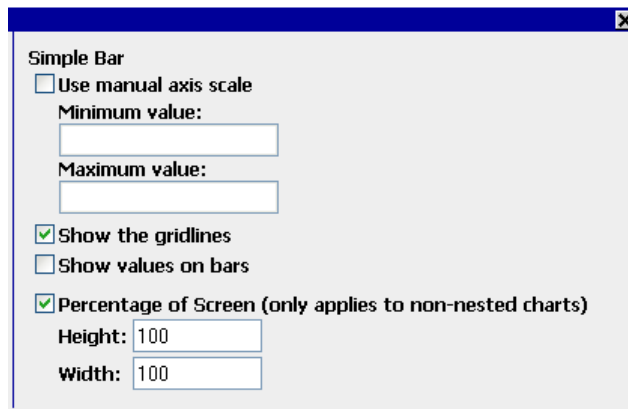
2. In the *Simple Bar* chart options you can change the following settings under various tabs:

General Tab
- If you want to resize the chart to a percentage of the screen, select the *Percentage of Screen* check box and, in the *Height* and *Width* boxes, type numbers between 10 and 500,
- To show the data values on the bars in the bar display, select the *Show Values on Bars* check box.
- To resize the thickness of the bars, you can slide the *Bar Size* scale.
- To change the depth you can slide the *Depth* and/or *Angle* scale.

Scale Tab
- To modify the y-axis scale, select the *Use Manual Axis Scale* check box, and then enter new values for the y-axis in the *Minimum Value* and *Maximum Value* boxes.
- To show the gridlines on the bar display, select the *Show the Gridlines* check box.
- You can also *Reverse Axis* or change *Axis Placement*.

Statistical Tab
- Use the various options in this table to display statistical lines to indicate minimum, maximum, mean, standard deviation, logarithmic regression, linear regression, or custom values

Palette Tab
- You can modify the bar values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the bars can also be modified in this tab.

Background Tab

- You can modify the background values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the background can also be modified in this tab.

Labels Tab
- The *Graph* Title can be edited to a name of your choice as can the position and font of the chart title.

3. Once you've edited your chart to suit your needs click **OK**.

CLUSTERED BAR DISPLAY

The clustered bar display plots the cell values of a crosstab in groups so that you can easily compare related information, summaries, and categories. One bar group is created for each column. Each bar in a group represents the row value.
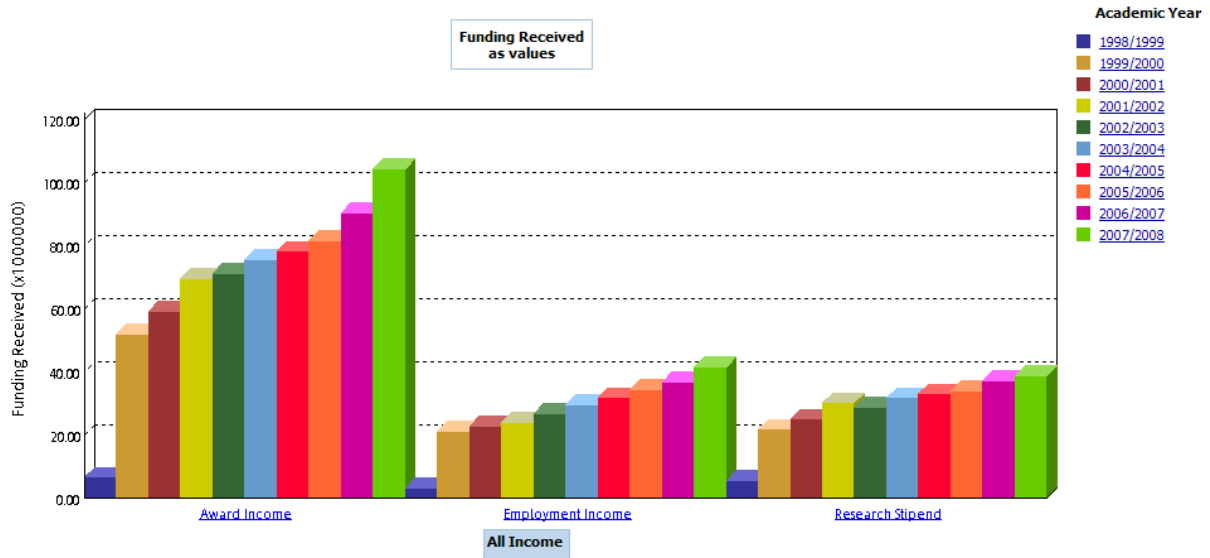
1. Click the arrow to the right of the **Chart** button on the PowerPlay Studio toolbar.
2. Select **Clustered Bar**.

Modify the Clustered Bar Display

1. On the PowerPlay Studio toolbar, click the **Chart** button and select **Chart Options**.

2. In the *Clustered Bar* section of the Options dialog box, you can change the following settings under various tabs:

   General Tab

- If you want to resize the chart to a percentage of the screen, select the *Percentage of Screen* check box and, in the *Height* and *Width* boxes, type numbers between 10 and 500.
- To resize the thickness of the bars, you can slide the *Bar Size* scale.
- To resize the thickness of the clusters, you can slide the *Cluster* scale.
- To change the depth you can slide the *Depth* and/or *Angle* scale.

Scale Tab
- To modify the y-axis scale, select the *Use Manual Axis Scale* check box, and then enter new values for the y-axis in the *Minimum Value* and *Maximum Value* boxes.
- To show the gridlines on the bar display, select the *Show the Gridlines* check box.
- You can also *Reverse Axis* or change *Axis Placement*.

Statistical Tab
- Use the various options in this table to display statistical lines to indicate minimum, maximum, mean, standard deviation, logarithmic regression, linear regression, or custom values

Palette Tab
- You can modify the bar values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the bars can also be modified in this tab.

Background Tab
- You can modify the background values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the background can also be modified in this tab.

Labels Tab
- The *Graph* Title can be edited to a name of your choice as can the position and font of the chart title.

3. Click **OK**.

STACKED BAR DISPLAY

The stacked bar display shows trends across columns by plotting the relative proportions of parts to the whole and the relationship between the parts. One bar is created for each column. Within a bar, a segment represents the row value.
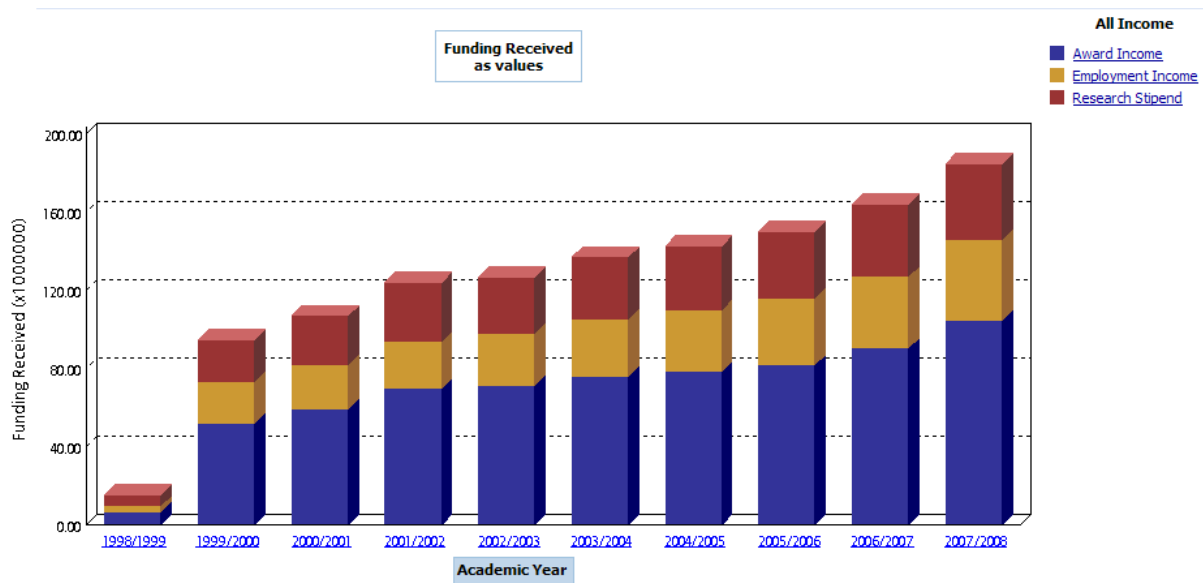
1. Click the arrow to the right of the **Chart** button ![chart icon] on the PowerPlay Studio toolbar.
2. Select **Stacked Bar**.

Modify the Stacked Bar Display

1. On the PowerPlay Studio toolbar, click the **Display Options** button ![icon], and select **Chart Options**.
2. In the *Stacked Bar* section of the Options dialog box, you can change the following settings under various tabs:

General Tab
- If you want to resize the chart to a percentage of the screen, select the *Percentage of Screen* check box and, in the *Height* and *Width* boxes, type numbers between 10 and 500.
- To resize the thickness of the bars, you can slide the *Bar Size* scale.
- To change the depth you can slide the *Depth* and/or *Angle* scale.

Scale Tab
- To modify the y-axis scale, select the *Use Manual Axis Scale* check box, and then enter new values for the y-axis in the *Minimum Value* and *Maximum Value* boxes.
- To show the gridlines on the bar display, select the *Show the Gridlines* check box.
- You can also *Reverse Axis* or change *Axis Placement*.

Statistical Tab
- Use the various options in this table to display statistical lines to indicate minimum, maximum, mean, standard deviation, logarithmic regression, linear regression, or custom values

Palette Tab
- You can modify the bar values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the bars can also be modified in this tab.

Background Tab
- You can modify the background values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the background can also be modified in this tab.

Labels Tab
- The *Graph* Title can be edited to a name of your choice as can the position and font of the chart title.

3. Click **OK**.

MULTILINE DISPLAY

The multiline display shows trends across columns by plotting the cell values of a crosstab in a line chart. One line is created for each column, with a segment of the line representing each row value. Use to reveal and compare trends and cycles that show relationships between variables, or to show time series analysis and relationships between variables.
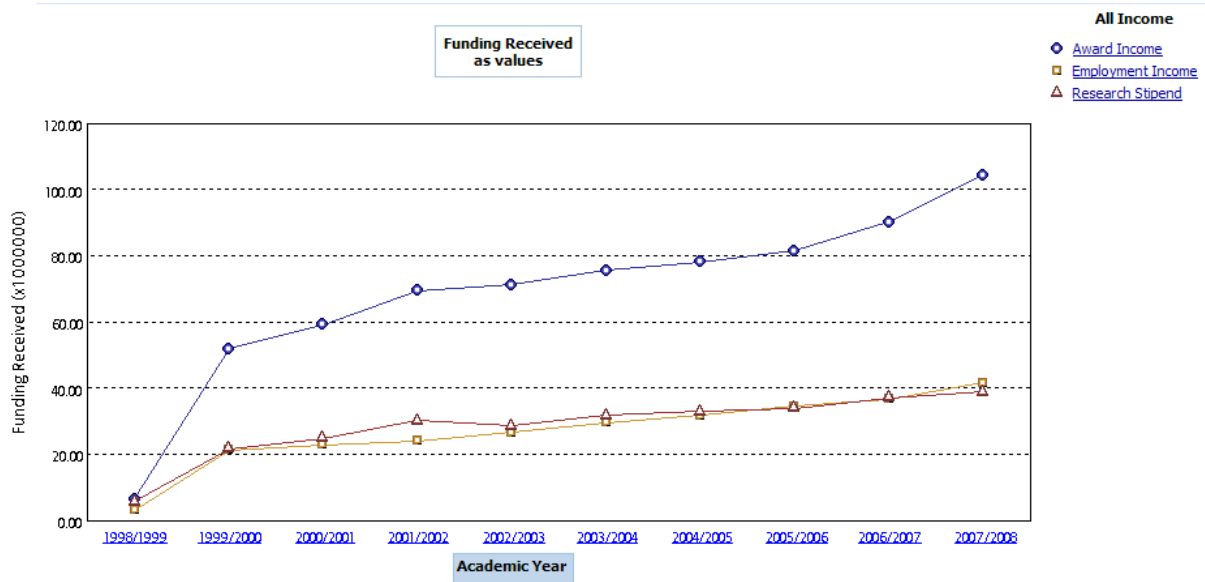
1. Click the arrow to the right of the **Chart** button [icon] on the PowerPlay Studio toolbar.
2. Select **Multiline**.

Modify the Multiline Display

1. On the PowerPlay Studio toolbar, click the **Chart** button [icon], and select **Chart Options**.
2. In the Multiline section of the Options dialog box, you can change the following settings under various tabs:

   General Tab
   - If you want to resize the chart to a percentage of the screen, select the *Percentage of Screen* check box and, in the *Height* and *Width* boxes, type numbers between 10 and 500.
   - To display values select the *Show values above markers*

   Scale Tab
   - To modify the y-axis scale, select the *Use Manual Axis Scale* check box, and then enter new values for the y-axis in the *Minimum Value* and *Maximum Value* boxes.
   - To show the gridlines on the bar display, select the *Show the Gridlines* check box.
   - You can also *Reverse Axis* or change *Axis Placement*.

   Statistical Tab
   - Use the various options in this table to display statistical lines to indicate minimum, maximum, mean, standard deviation, logarithmic regression, linear regression, or custom values

Palette Tab
- You can modify the bar values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the bars can also be modified in this tab.

Background Tab
- You can modify the background values to select: *Solid, Pattern* or *Gradient*.
- The *Colour* of the background can also be modified in this tab.

Labels Tab
- The *Graph* Title can be edited to a name of your choice as can the position and font of the chart title.
3. Click **OK**.

THREE-DIMENSIONAL BAR DISPLAY

The three-dimensional bar display shows trends across columns by plotting the cell values of a crosstab in a three-dimensional bar. One bar is created for each column, with the top of the bar representing each row value. Use to show relationships between two or more variables to analyze large quantities of data that are difficult to interpret otherwise, or to provide a different perspective on the data.
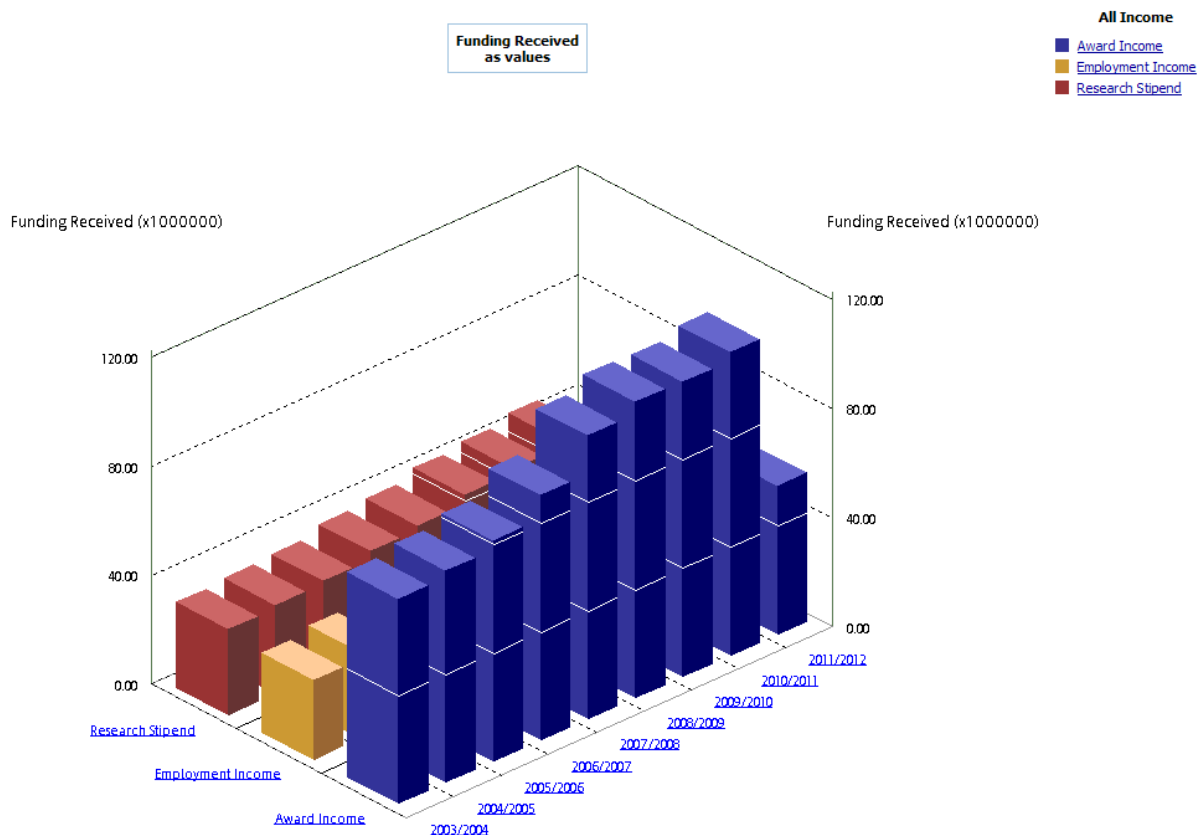
1. Click the arrow to the right of the **Chart** button on the PowerPlay Studio toolbar.

2. Select **3D Bar**.

Modify the Three-Dimensional Bar Display

1. On the PowerPlay Studio toolbar, click the arrow next to the **Chart** button , and select **Chart Options**.
2. In the *3D Bar* section of the Options dialog box, you can change the following settings under various tabs:

   General Tab
   - If you want to resize the chart to a percentage of the screen, select the *Percentage of Screen* check box and, in the *Height* and *Width* boxes, type numbers between 10 and 500.

   Scale Tab
   - To modify the y-axis scale, select the *Use Manual Axis Scale* check box, and then enter new values for the y-axis in the *Minimum Value* and *Maximum Value* boxes.
   - To show the gridlines on the bar display, select the *Show the Gridlines* check box.

   Palette Tab
   - You can modify the bar values to select: *Solid, Pattern* or *Gradient*.
   - The *Colour* of the bars can also be modified in this tab.

   Background Tab
   - You can modify the background values to select: *Solid, Pattern* or *Gradient*.
   - The *Colour* of the background can also be modified in this tab.

   Labels Tab
   - The *Graph* Title can be edited to a name of your choice as can the position and font of the chart title.
3. Click **OK**.

DISPLAY A CHART AND CROSSTAB TOGETHER

This option allows you to create a split screen with a crosstab in one section and a chart in the other. The data is the same in both sections and drilling down or up in one section will change the data in both.

1. On the PowerPlay Studio toolbar, click the **Display Options** button , and select **Options**.
2. Select *Split View*.

By default, the data will appear as a simple bar chart in one section and a crosstab in the other. You can use the regular icons at the bottom of the screen to change to another type of chart or make any changes to the chart or the crosstab.
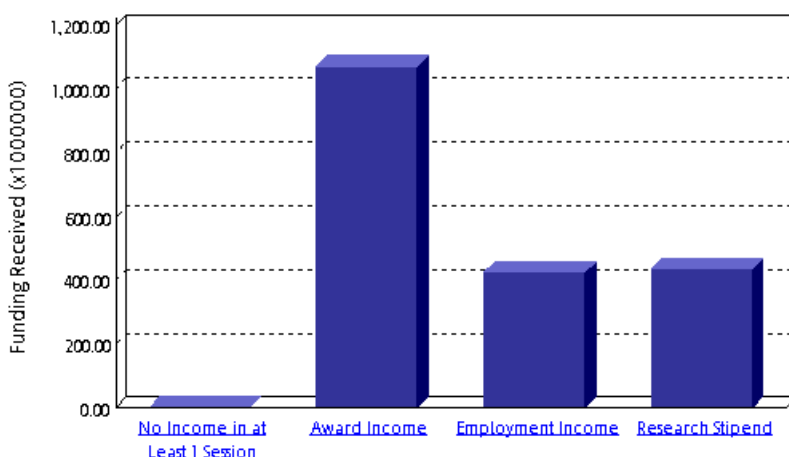
Funding Received as values	No Income in at Least 1 Session	Award Income	Employment Income	Research Stipend
1998/1999	0.00	6,471,457.59	3,054,012.57	5,596,463.84
1999/2000	0.00	51,818,747.28	21,176,942.08	21,696,568.18
2000/2001	0.00	59,180,714.16	22,804,726.78	24,870,896.06
2001/2002	0.00	69,475,559.48	24,032,286.81	30,103,996.37
2002/2003	0.00	71,238,724.29	26,647,860.27	28,584,696.70
2003/2004	0.00	75,637,126.24	29,477,364.29	31,740,584.63

RESIZE CHARTS

You can resize a chart to a percentage of the screen. This helps you to view a chart in a size that suits your monitor.

1. Click the arrow to the right of the **Chart** button on the PowerPlay Studio toolbar.
2. Select a chart type.

3. On the PowerPlay Studio toolbar, click the **Display Options** button .
4. Select **Options**.
5. Select the **Percentage of Screen** check box.
6. In the *Height* box, type a number between 10 and 500. This number represents the percentage of the screen to which you want to resize the height.

For a Pie Chart or 3D Bar Chart, to maintain a 1:1 aspect ratio in the resized chart, the number you type appears in both the *Height* and *Width* boxes.

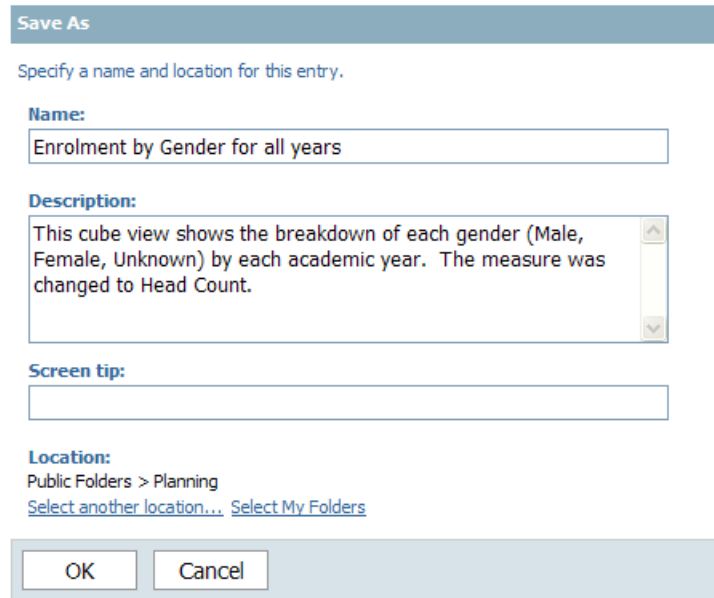7. In the *Width* box, type a number between 10 and 500. This number represents the percentage of the screen to which you want to resize the width.
   For a Pie Chart or 3D Bar Chart, to maintain a 1:1 aspect ratio in the resized chart, the number you type appears in both the *Height* and *Width* boxes.

8. Click **OK**.

The Results

Once you have created a report which you would like to use again or share, you can do one of the following:

- Save the cube view
- Export the cube view as PDF files or as comma separated value tables or as Microsoft Excel.
- Print a cube view

Saving Cube Views

1. Click the **Save As** button which is located to the extreme right corner on the PowerPlay Studio toolbar.

2. This Save As dialog window appears.

- Enter a name for the cube view.
- Enter a brief description (for your own purposes) if you wish.
- Under **Location** select **My Folder** to have the cube view saved to your folder to access in the future.

3. Click on **OK**.

OPEN A SAVED CUBE VIEW

1. Access PowerPlay Studio Explorer.
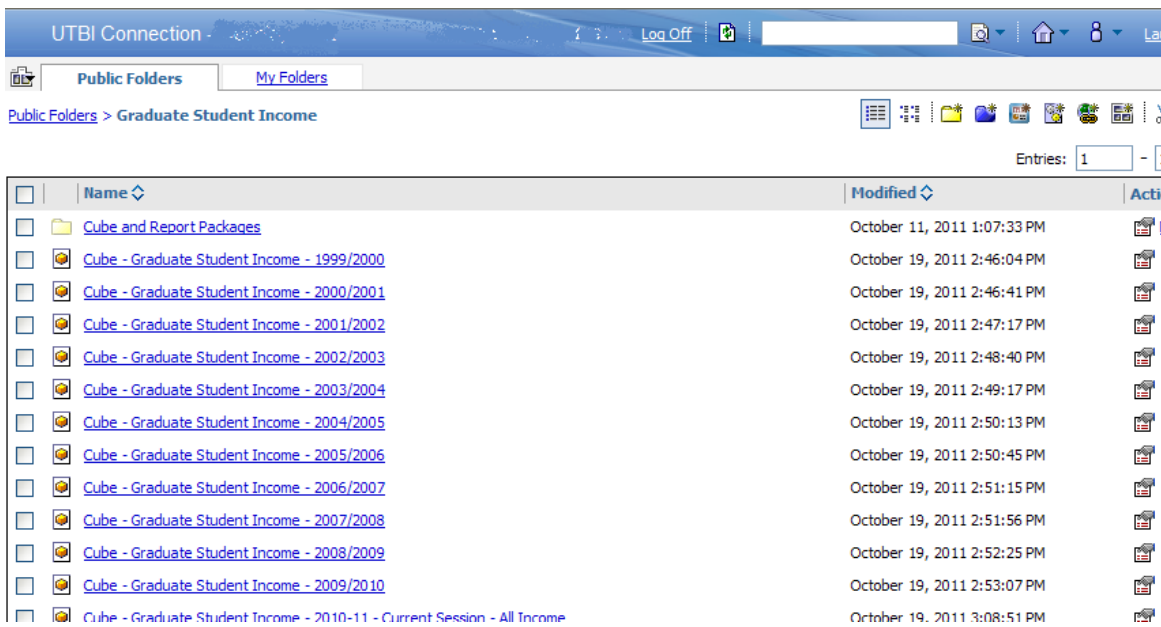
2. Click on **My Folders** tab in the PowerPlay Studio Table of Contents.
3. Click on the cube view which you wish to see. <u>Note that the content of saved cube view will always reflect the latest refresh of the cube data.</u>
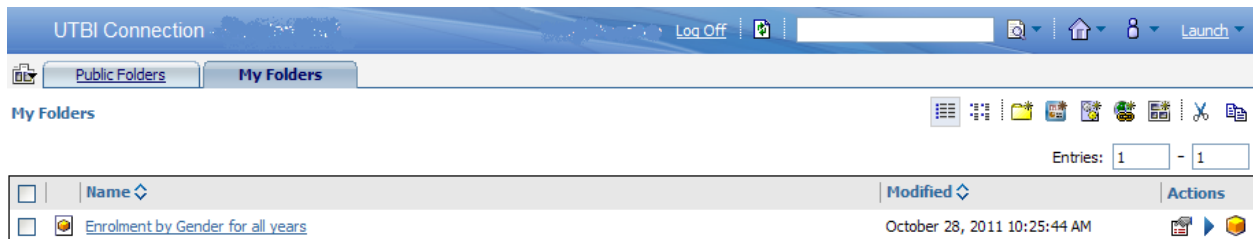
To see the descriptions which you typed in when you saved the cube view , click on the **Details View** button in the toolbar on the upper right side.
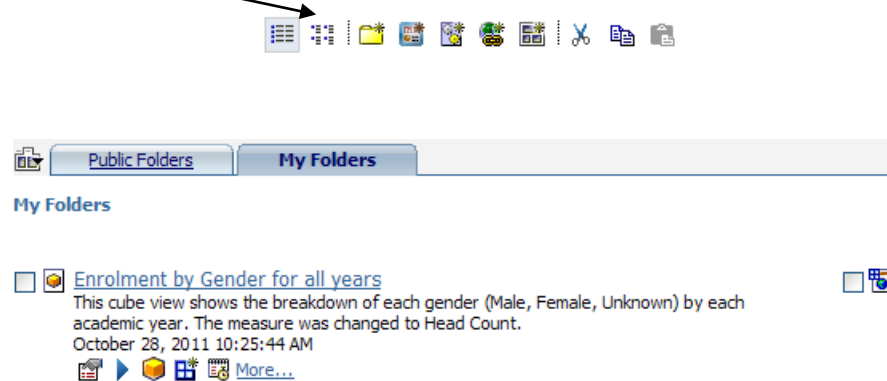
UPDATE CUBE VIEWS

If you change a cube view that was already saved, you can replace the cube view.

1. Open the cube view from your My Folders tab.

2. Explore and format your cube view until you are satisfied with its current state:

3. On the PowerPlay Studio toolbar, click the **Save** button 💾 located on the bottom right-hand corner.

4. The old report view format is overwritten, and the cube view remains open in your Web browser.

Export Data

You can export the data in a PowerPlay cube for use in other applications. You can export data in Excel, PDF format (Adobe Acrobat) or in comma separated value (.csv) file format.

PDF FORMAT

You can export and print PowerPlay Studio Explorer cube views in Adobe Acrobat PDF format. You can choose the paper size and orientation of your PDF report output, as well as whether to show borders to aid report readability.
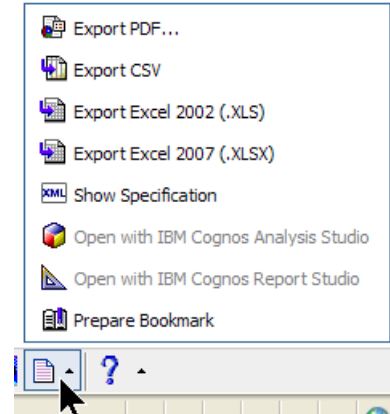
1. Select the **File** button on the toolbar.
2. Select **Export PDF**.

3. Use the tabs to design your output

   Paper
   * In the *Orientation* field, click either *Portrait* or *Landscape*.
   * In the *Paper Size* box, select the size you want.

   Display
   * If you want to show the borders for crosstab and chart frames, select the *Display Frame Borders* check box.
   * If you want to show layer views filtered on each sibling in a dimension level, turn on Include Layers (see page 34 for more information).

   Pagination

- Define the number of *rows* and *columns* appearing on a page
4. Click **Apply**.
   The settings are changed throughout the current browser session even if you don't export a PDF file. If you don't click Apply, the settings are applied to only the current PDF export. To revert to the default PDF settings, click **Reset** button.
5. Choose one of the following options:
   To save the PDF export settings and return to the PowerPlay Studio Explorer report, click **Close**.
   To export the PDF file with the settings you chose, click **Export**.

CSV FILE FORMAT

You can export data as delimited text in Comma Separated Value file format (.csv). Delimited text format is one of the most popular export formats, because the resulting file can be used as an import source by many applications.

1. Explore and format your report until you are satisfied with its current state.
2. Select the **File** button on the toolbar.
3. Select **Export CSV**.
4. You are prompted to open the file or save it to your computer or your file may directly open using Microsoft Excel.

MS EXCEL FORMAT

You can export PowerPlay Studio Explorer reports as formatted Microsoft Excel 2002 (.xls) or Microsoft Excel 2007 (.xlsx) spreadsheets.

1. Explore and format your report until you are satisfied with its current state.
2. Select the **File** button on the toolbar.
3. Select **Export Excel 2002 (.XLS)** or **Export Excel 2007 (.XLSX)**
4. You are prompted to open the file or save it to your computer. When you open the file you may get the following message:
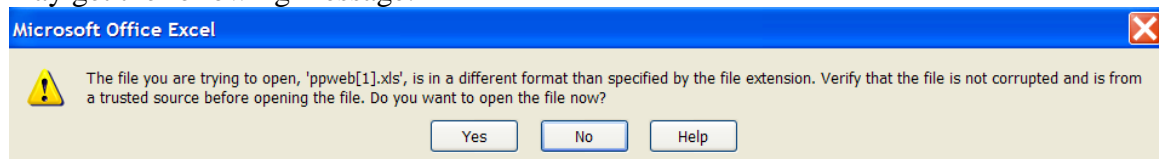
Select Yes to open the file.

Print Cube Views

In PowerPlay Studio Explorer, you can print the cube view by exporting to PDF and then using the Print button on the Adobe Acrobat toolbar. You print reports using the Adobe Acrobat PDF format to render, paginate, and size the output, producing high-quality reports suitable for distribution.

1. For information about exporting PowerPlay Studio Explorer reports to PDF format, see Export Data in PDF Format on Page 53.
2. On the Adobe Acrobat Reader toolbar, click the **Print** button.

You can also print in your web browser. Choose **File … Print Preview** before printing. Change any necessary page settings.

Logging Off

When you have completed your session and want to leave PowerPlay Studio Explorer:

1. Click the **Log Off** in the upper right corner of the display.

For any problems or questions, contact the UTBI Team (http://www.utbi.utoronto.ca/about/team.htm)

# Appendix A: Definitions of Terms Associated with PowerPlay Studio

Dimension   Components or factors of your everyday dealings. Each dimension includes different levels of categories in one or more drill-down paths.

For example, the Graduate Student Income cube structures information into several dimensions including *Academic Year*, *All Income*, *All Sources*, *Degree Type* and *Gender*.
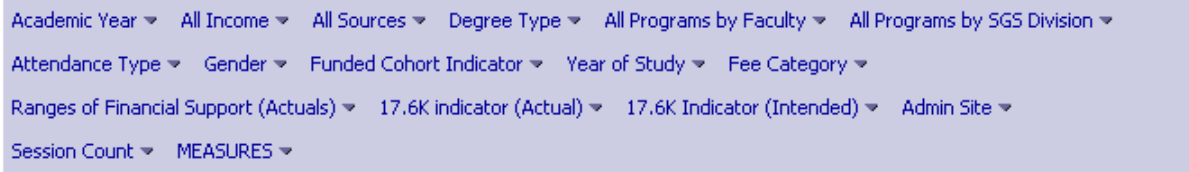

Categories   The items in the rows or columns of the cube. The intersections of the categories are calculated to give the values for your cube.

For example, the dimension *All Income* breaks down to four categories: *No Income in at Least 1 Session*, *Award Income*, *Employment Income* and *Research Stipend*. Each of those breakdowns further. For example, *Award Income* breaks down into *Awards – Clinician Scientist Trainee*, *Awards – Fellowship/Scholarship*, *Awards – Grant (bursary)* and *Awards – Other*.
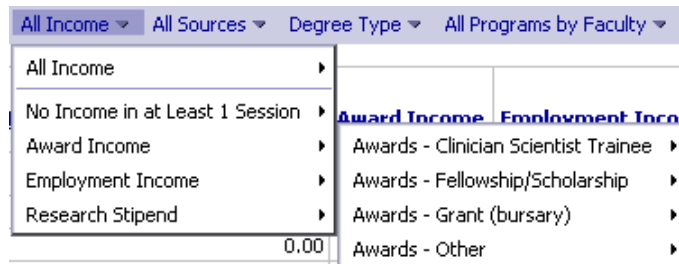
Measures   A **measure** is a quantifiable amount built into a cube. It is used to gauge how a service is operating, such as in identifying performance indicators.

In the Graduate Student Income cube, one can see *Award Income* displayed as *Funding Received*, *Intended Funding*, or even *Student Count*. Allows one to compare the different categories in different ways.
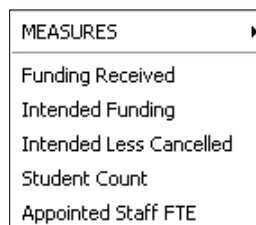
Cube   Cubes are data sets that contain a large number of consolidated rows of data (measures) organized into dimensions and categories to provide faster retrieval and drill-down in PowerPlay.