POWER VIEW AND POWERPIVOT BASICS
AGENDA

• Power View: What it is and what you can do with it!
• PowerPivot: What it is and what you can do with it!
• Basics
  o Installation
  o Creating mash-ups
  o Designing PowerPivot reports
  o Extending with DAX
  o Publishing to SharePoint PowerPivot Gallery
  o Consuming as data source in SharePoint
• Resources
STUNNING, INTERACTIVE DATA VISUALIZATION
DISCOVER NEW INSIGHTS AT THE SPEED OF THOUGHT WITH POWER VIEW

- Explore, visualize and share insights with **Power View**
- **Interactive, browser-based, ad-hoc data exploration** for gathering insights at the speed of thought
- Rich **data visualizations** bar, line, pie and trellis charts, geospatial mapping and animations for identifying patterns and trends
- Advanced **filtering** capabilities enable powerful **What-If** type analysis
- **Visual** design experience
- **Presentation-ready**

![Data Visualization Example](image-url)
Easily develop fully interactive reports

Drag and drop, user defined drill paths

Geospatial Mapping

What-If type analysis with filtering

Wide variety of data visualizations

Save or export multiple views to PowerPoint

POWER VIEW
MANY POWER VIEW 2012 FEATURES

Model Explorer and Field list for model navigation and data region structure

What-If type analysis
Data region conversions
SharePoint integration (launch from doc lib, manage, preview, Power Pivot gallery)
Embedded image support
Sorting
Non Measures as Measures
Textboxes with rich text formatting
Export to PowerPoint
Measures as Non Measures
Drag and Drop to Canvas

Automatic Grouping improvements
Geospatial Mapping
Filter pane supports lists, measure slider, calendar, and advanced mode
Interactivity: highlight, cross filter, play axis, popup, transition animations, bubble trails...
Tab Strip and Cover Flow Tiles for data navigation
Show All

Multiple views in a single report
Interactive, user defined drill paths
Common chart types, chart titles, legend, axes, configure chart, chart series
Table & Matrix including subtotals, totals, blocking
Small multiples layout

View and data region level filtering with slicers and filter pane
DESIGNED FOR INFORMATION WORKERS

VISUAL EMBELLISHMENTS SUPPORT & ENRICH DATA STORY TELLING

1 way to do things
2 clicks to Return on Investment (ROI)

All tasks done in context

Everything happens on the canvas, with the data
Less is more

Choose the right default, by default

Easy for the user

Highly performing and efficient

Share dynamic reports quickly and easily

Collaborate with full interactivity

Easily change data and layout with quick clicks
POWER VIEW FOR ALL USERS

**Developers**
- **Sophisticated** Design Environment
- Report Viewer Controls
- Rich Design Capabilities

**IT Pros**
- **Productive** Authoring
- Re-use of **insights**
- Flexible layout

**Power Users**
- Visual data representation
- Highly Interactive
- Rich Presentation
- Excel or SharePoint

**End Users**

---

**Report Designer**

**Report Builder**

**Power View**

*Embedded*  *Operational*  *Business*
POWER VIEW

New Power View Worksheet Type in Excel 2013

Wide variety of data visualizations

Easy Drag and Drop Ad Hoc Reports from worksheet or loaded data
POWER VIEW

Contextually interactive charts highlight selected data across all charts.

Basic and advanced Filtering options.

Animated charts can play over time periods.
PowerPivot for Excel 2010

Voted one of the Top 10 Technologies of 2010 by eWEEK
POWERPIVOT ANALYST TOP 10

1. Ability to work with **massive data volumes** in **tens of millions**
2. Mash ups (pivot tables) from **multiple tables** and a **wide variety of data source types**
3. 80+ contextual **DAX** measures, **time intelligence**, distinct count, and many other **complex logical functions**
4. PowerPivot Relationships **in-memory, highly-scalable** technology is so **much faster** than classic VLOOKUPs
5. World-class 5x, 10x and even 15x **Data Compression**
6. SharePoint **PowerPivot Gallery** and automated, **scheduled data refresh**
7. SharePoint PowerPivot **self-service reporting data source**
8. SharePoint PowerPivot **usage** and query **source tracking**
9. User friendly, configurable **Slicers join multiple pivot charts** and pivot tables for **interactive dashboards**
10. **Minimal learning curve** for experienced Excel users to easily develop **creative and impactful analytic solutions**
POWERPIVOT MASSIVE DATA VOLUMES

- Empowers anyone to create, \textit{interactive self-service data mash ups} from a variety of data sources
- Up to \textbf{100x faster than VLOOKUP} with high performance, \textit{in-memory} technology
- \textbf{No longer limited to 65K or 1 million rows}
### POWERPIVOT CASE STUDY

<table>
<thead>
<tr>
<th>SQL Server</th>
<th>22 TB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactions per Minute</td>
<td>396,907</td>
</tr>
<tr>
<td>Transactions per Year</td>
<td>210 billion</td>
</tr>
<tr>
<td>PowerPivot “mash-ups”</td>
<td>33 million rows, 1.7GB compressed</td>
</tr>
</tbody>
</table>

Recent Retail Scenario
74 million rows, 11GB raw compressed to > 1GB in PowerPivot

"The new tools in Office 2010 help everyone be more productive... We work faster and smarter than the competition"

— Andre Simha

Chief Information Officer, Mediterranean Shipping Company
DATA SOURCES

• **Excel Worksheet Data**
• **Databases**: Relational or multidimensional
  • Microsoft SQL Server
  • Microsoft Access
  • Microsoft Analysis Services Cubes
• **Reports**: Reporting Services data feeds
• **Data Feeds**: Cloud, web service or other internet data source feeds
• **Text**: Raw delimited text files
• **Other Data Sources**:
  • Microsoft SQL Azure
  • Microsoft SQL Server Parallel Data Warehouse
  • Oracle, Teradata, Sybase, Informix, IBM DB2
  • Others (OLE DB/ODBC)
  • Excel Files
  • SAP or SAP BW
POWERPIVOT WITH SAP

- PowerPivot for combining SAP ECC, SAP BW, SAP HANA data sources with other Non-SAP data
  - Options with No Third Party: NetWeaver, Open Hub, Reporting Services
  - Options with Third Party: Theobald, ERPLink, Simplement
  - Much easier reporting than traditional SAP reporting tools
MANY OTHER FREE AND FOR FEE DATA SOURCES

https://datamarket.azure.com
DATA ANALYSIS EXPRESSIONS (DAX)

• PowerPivot contextual formula language for easy, advanced custom calculations
• Over 80 additional functions designed to perform dynamic aggregation
  • Date and Time Functions
  • Filter Functions
  • Information Functions
  • Logical Functions
  • Mathematical and Trigonometric Functions
  • Statistical Functions
  • Text Functions
  • Time Intelligence Functions

PARALLELPERIOD()
PREVIOUSMONTH()
PREVIOUSYEAR()
NEXTMONTH()
NEXTYEAR()
DATESMTD()
DATESQTD()
DATESYTD()
DISTINCT()
FILTER()
RELATED()
...
POWERPIVOT GALLERY IN SHAREPOINT

- Simple publish to SharePoint to share and collaborate
- Interactive Excel PowerPivot renders as HTML in the web browser; can use with mobile devices and iPads
- Manage security like a document
POWERPIVOT DATA SOURCE FOR POWER VIEW

- Create new Power View reports from Excel PowerPivot data sources or BI Semantic Models
- Easily Preview report views
POWERPIVOT DATA SOURCES IN SHAREPOINT

- Browse Excel PowerPivot
- Create New Power View report
- Schedule Data Refresh
POWERPIVOT DATA SOURCES IN SHAREPOINT

• Personal/Team Dashboards and Ad Hoc Reports from PowerPivot data sources in SharePoint
POWERPIVOT MANAGEMENT DASHBOARD

- Increase IT efficiency:
- Familiar Technologies for Authoring, Sharing, Security and Compliance
- Visualize system performance and usage
- Find out what data sources are being used

- PowerPivot is great for IT:
- Track the usage of PowerPivots
- Discover mission-critical applications
NEW EXCEL 2013 CONTROLS

- New Excel controls via Prodiance integration for even better self-service BI governance, controls and monitoring
- **Audit** and **Control Management Server**
- **Discovery** and **Risk Assessment**
- **Spreadsheet Inquire**
- **Spreadsheet Compare**
- **Database Compare**
ADDITIONAL POWERPIVOT FEATURES

• Developed for BI use cases
  • **Hierarchies** / Parent Child dimensions
  • **Multiple table relationships**
  • Role playing dimensions
  • Date type table and **Time Intelligence**
  • **KPIs**
  • **DAX** server queries and language improvements
    • Rank, Top N, Switch and more
  • **Many-to-many** optimizations via DAX
• Usability Enhancements
  • Relationship **diagrams designer**
• Life-cycle upgrade for **self-service BI to enterprise BI**
  • Analyst > Power User > BI Developer
  • Restore Excel PowerPivot to BISM Server Model
EXCEL 2013 POWERPIVOT

• Data model functionality now natively integrated into Excel 2013, no longer requires separate PowerPivot add-in
• Excel automatically loads data into the xVelocity in-memory engine
• Optional PowerPivot add-in for advanced modeling capabilities
  • Filter data when importing
  • Rename tables and columns as you import data in PowerPivot
  • Manage the model and create relationships with the Diagram View
  • Apply formatting for Power View and PivotTable reports)
  • Define calculated fields and advanced DAX calculations
  • Define key performance indicators (KPIs)
  • Create user-defined hierarchies
  • Define perspectives
• Excel and PowerPivot now have a single, uniform Field List
• New Data Discovery with Suggested Related Data
EXCEL 2013 POWERPIVOT

Enhance analytic context with the new ability to automatically import **Suggested Related Data**
POWERPIVOT EXAMPLES

Social Analytics
Twitter, LinkedIn and Facebook
POWERPIVOT EXAMPLES

Personal Time Management
POWERPIVOT EXAMPLES

Average Yards Per Down

Pass Vs Rush Play Count

1

6478

7865

2

5769

5150

3

5049

1724
POWERPIVOT EXAMPLES
POWERPIVOT EXAMPLES

Understanding the UNITED STATES DEBT

Source: U.S. Treasury Bureau of Public Debt. FY2021-2025 estimates from the FY2021 budget of the Office of Management and Budget (OMB)

Century (Multiple Items)

Fiscal Year  | Debt Held By the Public | Intragovernmental Holdings | Grand Total
---|---|---|---
2010-1 | $8,275,424,699,884 | $4,508,743,968,175 | $123,860,773,753,019
2000-0 | $6,711,908,785,487 | $3,900,140,892,005 | $12,331,349,677,592
1990-9 | $3,651,180,301,615 | $2,085,166,000,000 | $5,656,346,361,615
1990-8 | $2,135,753,960,187 | $683,677,000,000 | $2,819,430,960,187
1990-7 | $650,189,000,090 | $176,560,000,000 | $826,749,000,000
1990-6 | $965,930,748,841 | $664,785,000,000 | $1,630,715,748,841
1990-5 | $463,841,168,078 | $383,221,739,000 | $847,062,907,078

Top 10 - Estimated Foreign Ownership (in billions) of U.S. Public Debt

Japan, $2,977
China, Mainland, $937
United Kingdom, $470
Hong Kong, $2,82
Taiwan, $2,14
OIL Exporters, $214
Russia, $382
Caribbean Basin, $134
Brazil, $278
Other, $163

POWERPIVOT EXAMPLES

**Government**

**Education**

2010 school survey | NYC

- **Student respondents**: 30% early childhood school, 20% elementary school, 15% middle school, 10% high school, 5% average of middle/high school, 5% high school, 5% elementary school.
- **Teacher respondents**: 40% early childhood school, 20% elementary school, 15% middle school, 10% high school, 5% average of middle/high school, 5% high school, 5% elementary school.
- **Parent respondents**: 40% early childhood school, 20% elementary school, 15% middle school, 10% high school, 5% average of middle/high school, 5% high school, 5% elementary school.

**Average number of respondents**: Numbers are rounded to the nearest whole number.

**Total academic expectations**: Scores are based on a 10 point system.

**Total safety and respect**: Scores are based on a 10 point system.

**Average total scores**: Scores are based out of 10 point system.

“Killer PowerPivot” Tech Ed 2011
POWERPIVOT EXAMPLES

Medical Survey
COMMON POWERPIVOT APPLICATIONS

• **Personalized Excel and SharePoint Dashboards**
  • Excel Reports, Reporting Services Report Builder and PerformancePoint Dashboards built on PowerPivot models
  • Power User mashes up and *personalizes corporate data sets* for team reporting model usage
  • Many data source types available!!!

• **Forecasting, Budgeting, What-If Analysis**
  • Combining OLAP actuals with free form data scenarios
  • Unions of Excel files with same column structures to combine departmental inputs into one consolidated view

• **Surveys**
DEMO
POWER VIEW BASICS
EXCEL 2013 POWER VIEW DATA SOURCE

• Data right within Excel 2013 can be a data source for Power View

• When tables and relationships are added, Excel is creating an Excel Data Model behind the scenes

• Optionally the Excel data model can be edited in PowerPivot in Excel for more sophisticated data model for Power View reports

• You can also create Power View reports based on a tabular model running on a SQL Server 2012 Analysis Services (SSAS) server

• Tabular and data models act as a bridge between the complexities of back-end data sources and your perspective of the data
CREATE POWER VIEW REPORT

Insert a Power View Report from the INSERT menu
CREATE POWER VIEW REPORT

Power View starts with a Table that you can change into a data visualization.

Drag and Drop Fields onto report
Select the table, click DESIGN menu and choose a Chart type.
ADD A DRILL DOWN PATH

Select chart and then choose the fields for drill down and place them on the AXIS.
ADD A DRILL DOWN PATH

1. Double-click on an area of the chart to drill down.
2. Click the arrow at the top of the chart to drill up.
CREATE INTERACTIVE MAP

1. Select fields and drag to LOCATIONS

2. Select the table, click DESIGN menu and choose Map

Select fields and drag to LOCATIONS
CREATE SCATTER PLOT ANIMATION

1. Select and drag 3 measures and a description field.

2. Select the table, click DESIGN menu and choose Scatter.

Select and drag 3 measures and a description field.
CREATE SCATTER PLOT ANIMATION

1. Select and drag a TIME field to the PLAY AXIS.
2. Now click arrow to see chart animation.
ADD A FILTER

Select and drag a field to the Filters area
ADD A FILTER

Adjust filters and view report
ZOOMING AND SORTING

At the top of every chart in Power View there is a “Pop out” icon that allows you to zoom that chart to full screen size.

There is also a “Sort By” option that allows you to sort the data by a selected field in Ascending or Descending order.
ADD BRANDING

Choose a Theme for the report
ADD BRANDING

1. Add a background image to the report
SAVE AND PUBLISH REPORT

• Power View reports can be saved simply by using the File > Save menu options in Excel
• To publish a report, choose File > Save As or File > Share and choose the publishing location
POWERPIVOT BASICS
GETTING STARTED

1. To Start PowerPivot, open Excel and click the PowerPivot tab.

2. To start loading data from various sources, click the PowerPivot Window Launch icon.
TO LOAD DATA FROM DATABASE

1. Select From Database, click SQL Server
2. Enter Log In information
   - Server name: <<x>>
   - User Name: <<user name>>
   - Password: <<password>>
   - Database name: <<x>>
3. Click Next
TO LOAD DATA FROM DATABASE

1. Select from a list of tables and views to choose the data to import

2. Click Next

3. Click tables to import

4. WARNING
   Use Filters to limit data you import with Preview & Filter

5. Click Finish
USING PREVIEW & FILTER

1. Select column drop down arrow to display Filter options
2. Choose Filter type
3. Enter Filter criteria
USING PREVIEW & FILTER

Click column check boxes to include or remove them from the import.
TO LOAD DATA FROM DATABASE

Wait for data to finish loading.
USING ADVANCED FILTERING

1. Select Write a Query to have better Filter control or use advanced features.

2. Click Next.

3. Click Design for Visual Query Designer.

Click Next
USING ADVANCED FILTERING

1. Select table to Filter
2. Select Field to Filter
3. Click Filter Icon
4. Define Filter criteria
5. Click Run Query to Test
6. Click OK
Each Table loaded to a PowerPivot Worksheet

Unlike OLAP Cubes, PowerPivot data is not automatically refreshed. It is copied. To Refresh data, click the Refresh icon.
CREATE RELATIONSHIPS

Click Design tab

Click Manage Relationships
CREATE RELATIONSHIPS

• A relationship is a connection between two data sources that establishes how data should be correlated together in PowerPivot

• Relationships join data together from unrelated sources
  • For example, Employee ID might be a value that uniquely identifies an employee and that ID could be related to various payroll, HR and expense reporting systems
  • In a perfect world Employee ID would be the same in all the systems for enabling PowerPivot automatic relationship detection
  • In reality intermediate mapping tables are often used to cross reference Employee ID in one system to another system Employee ID value; mapping tables need to be imported into PowerPivot to relate systems that do not have exact matching identifiers

• Some relationships are created automatically in data imports while others require manual creation in PowerPivot
CREATE RELATIONSHIPS

Requires a unique identifier, non-repeating rows

Link to unique identifiers, can be repeated
CREATE RELATIONSHIPS

1. Click Create or Edit

Choose what columns have the same data to “relate” them. For example, DimProduct table uses ProductKey and FactInternetSales table also has a ProductKey column to tie them together for slicing and dicing.

2. Click OK

3. Click OK
CREATE RELATIONSHIPS

New Diagram View in “Denali” PowerPivot

Drag and drop to Create Relationships or Hierarchies
If PowerPivot detects missing Relationships it can automatically build them for you when you click Create. Click Close when it completes.
CREATE POWERPIVOT REPORTS

1. Click Home tab
2. Select Pivot Table layout type
Pick field for “Power” Pivoting

NOTE
All fields are now available for drag and drop reporting!
CREATE POWERPIVOT REPORTS

1. Create interactive reports and charts
2. Insert Charts for dynamic visuals
3. Insert Slicer for dynamic filtering
4. Apply Conditional Formatting or Sparklines
POWERPIVOT REFRESHES WHEN SOURCE DATA COLUMNS ARE ADDED, REMOVED OR CHANGED

If PowerPivot detects changes to the source data columns, it will prompt you to Refresh. Click Refresh and new source tables and columns will be available in the PowerPivot Field List.
**FORMATTING TIPS**

1. Format chart with don’t move or size with cells for consistent chart displays with any filters.

2. Uncheck Gridlines, Formula Bar and Headings for better report displays.

3. Unclutter charts with Hide All Field Buttons option.
CREATE AND MANAGE SETS

1. Create and Manage Custom sets with Pivot Table Options

2. Define and Name Custom Set

3. Toggle off filtered items in totals
CUSTOM SORTING AND FILTERING

1. Define custom sort
2. Choose sort order
3. Label Filters and Value Filters
GETPIVOTDATA

Technique to “break out” of pivot table format

1. GETPIVOTDATA

2. Free form report layout referencing cell in PowerPivot pivot table

PowerPivot GETPIVOTDATA Formulas
CONVERT TO FORMULAS

- Allows OLAP pivot table data to be converted to linked tabular data for working around limited pivot table report display formats.
- Additional custom columns and functions can be created, can re-pivot but no longer have nice cube OLAP pivot table data controls.
LOADING ADDITIONAL DATA TO MASH UP

• Loading data using simple copy and paste
• Loading data from an MS Word table
• Loading data from text files
• Loading data from Excel files
• Loading data other types of data sources
  – SQL Server, Oracle, Teradata, Sybase, Informix, IBM DB2
  – OLEDB and ODBC
  – Analysis Services Cubes
  – Data Feeds
  – SAP or SAP BW
• Loading data from Reporting Services Reports
TO LOAD DATA FROM TEXT FILES

- Default data type is string, to assign data types use a Schema.ini file
  [link](http://msdn.microsoft.com/en-us/library/windows/desktop/ms709353(v=vs.85).aspx)

1. Review text file data types and structure
2. Create a Schema.ini file and place it in the folder with the text file to load
3. During text file import a Schema.ini message should be displayed
COMBINE BEST ANALYSIS SERVICES AND POWERPIVOT

- PowerPivot “mash-ups” allow combining best of both
- Consider potential of mixed Analysis Services cube Actuals data with PowerPivot Excel source Forecast data

1. Add Analysis Services query data set in mash ups
2. Relate Analysis Services query fields to mash up fields
TO LOAD, LINK AND USE AN EXTERNAL LIST

1. Create a list that contains a column that has the same content as a column in the other data sources in a new worksheet in the same PowerPivot workbook.

2. Select all the cells in the list.

3. Click the PowerPivot tab.
TO LOAD, LINK AND USE AN EXTERNAL LIST

1. Click the Create Linked Table

2. Confirm the cell range
TO LOAD, LINK AND USE AN EXTERNAL LIST

1. Rename the new linked tab Table1 to something you like.
TO LOAD, LINK AND USE AN EXTERNAL LIST

1. Click Design tab
2. Click Manage Relationships
3. Click Create to add your list
4. Choose what columns have the same data to “relate” them. For this example, PromotionKey matches PromotionID.
5. Click Create
TO LOAD, LINK AND USE AN EXTERNAL LIST

1. Optionally “Hide” unfriendly columns by clicking Hide and Unhide

2. Choose fields to Hide in Pivot Table

3. Click OK
TO LOAD, LINK AND USE AN EXTERNAL LIST

1. Click Home tab
2. Select Pivot Table layout type
TO LOAD, LINK AND USE AN EXTERNAL LIST

Agency list is now available to be combined with other data sources for pivoting.
LINKING TO MULTIPLE PIVOT OBJECTS

1. Select Slicer Tools and Slicer Settings or click PivotTable Connections

2. Right-click Slicer and select PivotTable Connections

3. Choose the Pivot Tables you want the Slicer to dynamically filter
TO ADD A DAX CALCULATED MEASURE

1. Click New Measure

2. Enter Measure Settings and add a Formula

3. New Measure is now available with a Calculator icon
VIEWING AND EDITING DATA SOURCES

- Click Existing Sources and choose Data Source
- Select Open to change queries or tables
- Pick Edit to change data source

1. Select Source
2. Click Open to change queries/tables and Edit to change data source
DAX EXPRESSIONS

1. Click Add Column

2. Enter a DAX expression identified by prompt “expression evaluated for each row in a table”
Example PREVIOUSYEAR DAX formula syntax: 
```dax
=CALCULATE([Sum of Profit], PREVIOUSYEAR(DimDate[FullDateAlternateKey]))
```
DAX EXPRESSIONS


DATE TIME FUNCTIONS
• DATE(<year>, <month>, <day>)
• DATEVALUE(date_text)
• DAY(<date>)
• EDATE(<start_date>, <months>)
• EOMONTH(<start_date>, <months>)
• HOUR(<datetime>)
• MINUTE(<datetime>)
• MONTH(<datetime>)
• NOW()
• SECOND(<time>)
• TIME(hour, minute, second)
• TIMEVALUE(time_text)
• TODAY()
• WEEKDAY(<date>, <return_type>)
• WEEKNUM(<date>, <return_type>)
• YEAR(<date>)
• YEARFRAC(<start_date>, ...)

INFORMATION FUNCTIONS
• ISBLANK(<value>)
• ISERROR(<value>)
• ISLOGICAL(<value>)
• ISNONTEXT(<value>)
• ISNUMBER(<value>)
• ITEXT(<value>)

FILTER AND VALUE FUNCTIONS
• ALL(<table_or_column>)
• ALLEXCEPT(<table>,column1>,<column2>,...)
• BLANK()
• CALCULATE(<expression>,<filter>,<filter>...)
• CALCULATETABLE( <expression>, <filter>...)
• DISTINCT(<column>)
• EARLIER(<column>, <number>)
• EARLIEST(<table_or_column>)
• FILTER(<table>,<filter>)
• RELATED(<column>)
• RELATEDTABLE(<table>)
• VALUES(<column>)
• FIRSTNONBLANK(<column>,<expression>)
DAX EXPRESSIONS


LOGICAL FUNCTIONS
• AND(<logical1>,<logical2>,…)
• FALSE()
• IF(logical_test>,<value_if_true>, ...)  
• IFERROR(value, value_if_error)
• NOT(<logical>)
• TRUE()
• OR(<logical1>,<logical2>,…)

TEXT FUNCTIONS
• CODE(<text>)
• CONCATENATE(<text1>, <text2>,…)
• FIND(<find_text, within_text, start_num)
• FIXED(<number>, <decimals>, ...)
• LEFT(<text>, <num_chars>)
• LEN(<text>)
• MID(<text>, <start_num>, <num_chars>)
• REPLACE(<old_text>, <start_num>,...)
• REPT(<text>, <num_times>)
• RIGHT(<text>, <num_chars>)
• VALUE(<text>)
• FORMAT(<value>, <format_string>)

TIME INTELLIGENCE
• DATESINPERIOD(<date_column>…)
• DATESBETWEEN(<column>,<start_date>…)
• DATEADD(<date_column>,...,)
• FIRSTDATE (<datecolumn>)
• LASTDATE (<datecolumn>)
• LASTNONBLANK (<datecolumn>,...)
• STARTOFMONTH (<date_column>)
• STARTOFYEAR(<date_column>,[<YE_date>])
• ENDOFMOUTH(<date_column>)
• ENDOFYEAR(<date_column>)
• PARALLELPERIOD(<date_column>,...)
• PREVIOUSDAY(<date_column>)
• PREVIOUSSMONTH(<date_column>)
• PREVIOUSYEAR(<date_column>)
• NEXTDAY(<date_column>)
• NEXTMONTH(<date_column>)
• NEXTYEAR(<date_column>[,<YE_date>])
• DATESMTD(<date_column>)
• DATESQTD (<date_column>)
• DATESYTD (<date_column> [,<YE_date>])
Click blue ? Icon when inside the PowerPivot Window.

Select a help topic.
Go to http://www.powerpivot.com
Watch videos and review other help sources
GOOD POWERPIVOT WEB SITES AND BOOKS

- http://powerpivot-info.com
- http://powerpivotgeek.com
- http://powerpivotpro.com
- https://datamarket.azure.com