

# Building Dashboards in PerformancePoint

A.K.A. "Make good choices, honey!"

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The summer before my senior year of college, went to Chile and worked in a software company. I lived in an apartment with 2 other Americans. One of my roommates, Natalia, would call her mom once a week, and her mom always ended the call with "Make good choices, honey! Remember, you actions have consequences."

## Goals

- Examine options for visualizations in a PerformancePoint dashboard
- Understand the consequences of your design decisions
- Find optimal ways to combine visualizations from various sources in a PerformancePoint Dashboard



Your design decisions have consequences for subsequent design options, maintenance, and user experience. I want to help you understand the downstream effects of your data visualization choices, which are a bit obscured with Dashboard Designer because you make the individual charts, tables, etc., and then use Dashboard Designer to combine the web parts. It's not until you launch the dashboard that you can realize the effects. So keep that in mind and "make good choices, honey!"



## Know Your Options

- PerformancePoint Analytic Chart
- PerformancePoint Analytic Grid
- PerformancePoint Scorecard
- Excel Services
- Reporting Services
- Visio Services
- Web Page

Question: Does anyone know how many different data visualization sources you can have in a PerformancePoint dashboard?

7

## Evaluation Criteria

- Data sources
- Ability to receive parameter values
- Ability to emit parameter values
- Chart and formatting options
- Flexibility in Calculations
- Interactivity
- Printing and Exporting Options
- Ability for power users to update without IT assistance



Data sources: If you can't get all of your data in a cube, you may need to consider options other than PPS charts and grids.

Most data visualization sources can be filtered by parameters.

The PPS scorecard is the only option that can cause other objects to be filtered based upon a selection inside the scorecard.

PPS charts and grids have limited formatting options. Excel and SSRS allow you to change colors and lines and provide more chart types.

If you can't work your calculations and KPIs into your data sources (which is the ideal), you may need to look into Excel, SSRS, or a scorecard to incorporate those calculations.

PPS has great interactivity options like the decomp tree and other ad hoc features.

This can be good or bad, depending on your target users. SSRS can be used to provide defined drill paths. Excel allows you to take advantage of cube drill throughs and other actions.

Most items can be printed or exported, but there currently isn't a good way to export an entire dashboard outside of a screenshot.

## Know Your Audience



What is their purpose for using the dashboard?

How do they want to interact with the dashboard?

Are they power users or casual users?

## PPS Analytic Grids

- Data sources: SSAS, Power Pivot
- Can receive parameters
- Cannot emit parameter values
- High interactivity (unless you write your own MDX)
- Limited formatting options
- Can be exported to .pptx, .xlsx
- Calculations should be done at the database/cube layer
- Business users could update through Dashboard Designer drag and drop interface with correct permissions

Online Sales By Product Category Hierarchy

Product Categories	CY 2005	CY 2006	CY 2007	CY 2008
▷ Accessories			\$293,709.71	\$407,050.25
▷ Bikes	\$3,266,373.66	\$6,530,343.53	\$9,359,102.62	\$9,162,324.85
▷ Clothing			\$138,247.97	\$201,524.64
▷ Components				

## PPS Analytic Charts

- Data sources: SSAS, PowerPivot
- Can receive parameter values
- Cannot emit parameter values
- High interactivity (unless you write your own MDX)
- Limited chart and formatting options
- Can be exported to .pptx, .xlsx
- Calculations should be done at the database/cube layer
- Business users could update through Dashboard Designer drag and drop interface with correct permissions



## PPS Scorecard

- Data sources: SSAS/PowerPivot, SP list, Excel, flat table, fixed values
- Can receive parameter values
- Can emit parameter values
- Some interactivity (less than Analytic chart)
- Somewhat limited chart and formatting options
- Can be exported to .pptx, .xlsx
- Very flexible: write your own calc for each value and target, choose comparison shown next to indicator
- Business users probably wouldn't update, but could with Dashboard Designer and correct permissions

	Sales Rev	Rev Target	
Internet - Accessories	\$293,710	\$3,266,374	🔴 -91%
Reseller - Accessories	\$296,533	\$92,735	🟢 220%
Internet - Bikes	\$9,359,103	\$6,530,344	🟢 43%
Resellers - Bikes	\$25,551,775	\$86,258,396	🔴 -70%
Resellers - Clothing	\$871,864	\$2,263,428	🔴 -61%
Internet - Clothing	\$138,248	\$201,525	🟡 -31%

## SSRS Chart

- Data sources: SSAS/PowerPivot, SP list, Excel, flat table, fixed values
- Can receive parameter values
- Cannot emit parameter values
- Pre-defined interactivity through actions
- Extensive chart and formatting options
- Extensive printing and exporting options
- Extensive flexibility in calculations
- Business users probably wouldn't update, but could with Report Builder and correct permissions

## Excel Chart

- Data sources: SSAS, PowerPivot, table, SP list, Excel
- Can receive parameter values
- Cannot emit parameter values
- Some interactivity
- Extensive chart and formatting options
- Extensive printing options
- Extensive flexibility in calculations
- Business users can easily update with Excel

## Visio Chart

- Data sources: SSAS
- Can receive parameter values
- Cannot emit parameter values
- Little interactivity
- Fairly extensive formatting options
- Extensive printing and exporting options
- Little flexibility in calculations
- Business users can update with Visio



Microsoft commonly refers to the Visio diagrams as strategy maps. These are commonly used with a balanced scorecard approach. You will often see a strategy map next to a scorecard because they are both driven off KPIs.

## Web Page

- Anything that renders as an html page with appropriate permissions
- Can receive parameter values
- Cannot emit parameter values
- Interactivity depends on source
- Chart and formatting options depend on source
- Printing and exporting options depend on source
- Depends on source, probably little flexibility in calculations
- Business users probably won't update on their own

	PPS Grid	PPS Chart	PPS Scorecard	SSRS	Excel	Visio	Web Page
<b>Data Sources</b>	SSAS, PowerPivot	SSAS, PowerPivot	SSAS, SQL table, SP list, Excel, Fixed Values	SSAS, SQL table, SP list, Excel, Fixed Values	SSAS, table, SP List, Excel	SSAS	?
<b>Receive Parameters</b>	YES					YES	Through query string
<b>Emit Parameters</b>	NO					NO	NO
<b>Interactivity</b>	Extens				at	Little	?
<b>Formatting Options</b>	Limited					Extensive	?
<b>Exporting and Printing Options</b>	Excel and Power					Extensive	?
<b>Flexibility in Calculations</b>	Limited				ve	Limited	?
<b>Updates</b>	Dashboard Designer and SP contribute permissions	Dashboard Designer and SP contribute permissions	Dashboard Designer and SP contribute permissions	Report Builder (Business) or SSDT (IT) and permissions	Excel and SP contribute permissions (Business or IT)	Visio and SP contribute permissions (Business or IT)	?

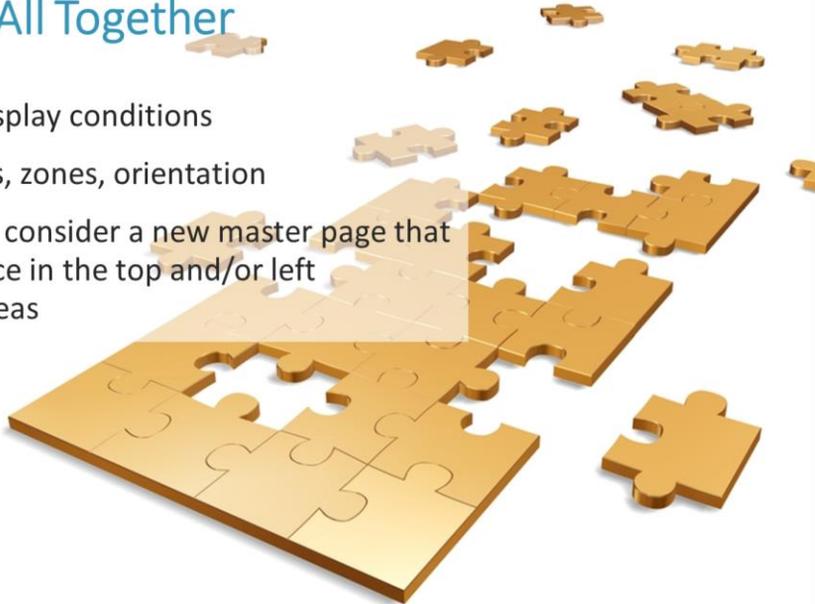
Quiz!

**Quiz!**

1. Users want to see progress against goals for several KPIs in one view and use it to filter surrounding charts (PPS Scorecard)
2. Users want a table of summary statistics with the ability to do ad hoc analysis (PPS Grid)
3. Users want a highly formatted table built on complex calculations that they can update themselves as needed with no extra expense for software (Excel or SSRS)
4. Users want to incorporate a view from a LOB system that is not in their data warehouse (web page)
5. Users want to see a chart with supporting detail but might not be familiar with the data model enough to know which fields are related and relevant (SSRS)

## Putting It All Together

- Filters and display conditions
- Layout: pages, zones, orientation
- Master page: consider a new master page that uses less space in the top and/or left navigation areas



Filters can be used to filter data or hide/show a chart.

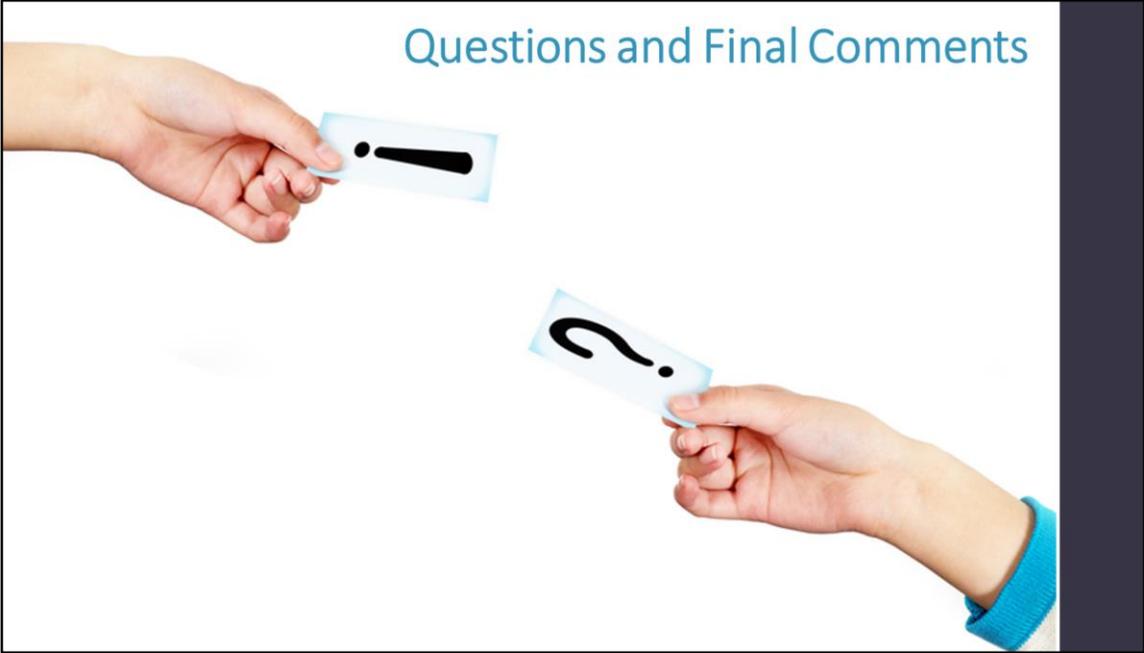
You aren't committed to the zones you chose when initially creating the dashboard.

You can add remove/change them later.

Orientation: when you add a new chart to a zone, do you want it to show up below or to the right?

Consider using a minimal master page to maximize the screen real estate for the important part of the page: the dashboard. You choose the master page when you deploy the dashboard. This is especially important when you users have low screen resolutions.

## Questions and Final Comments



Please feel free to contact me with questions or feedback:

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Slides will be posted on the SQLSaturday #197 site and on my blog.