

DASHBOARDS

How to Choose Which Microsoft BI Tool?

SQL Saturday
Jacksonville
4/27/2013

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About Melissa

Business Intelligence developer
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BI Architect with Intellinet

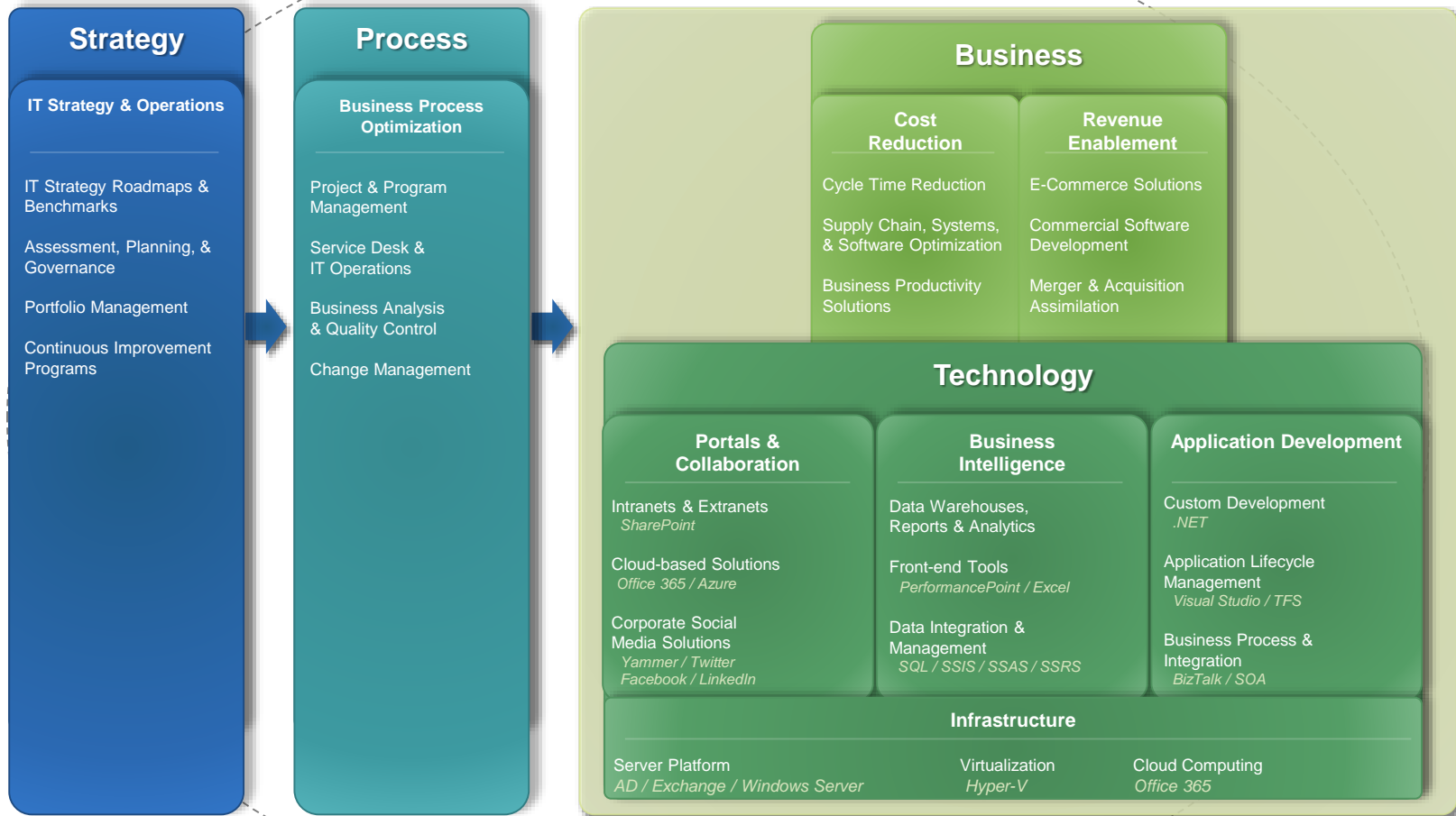
Specialist in BI and Data
Warehousing solutions using the
Microsoft platform



Melissa Coates
Blog: www.sqlchick.com
Twitter: @sqlchick

About Intellinet

Intellinet is a management consulting
and
Microsoft-centric technology services firm.



Define | Align | Implement | Administer | Govern

Agenda

Overview

Brief overview of dashboards & Microsoft BI tools

Requirements & technology considerations

Factors to consider when choosing which BI tool

Compare & contrast functionality

Find times when you might choose one tool over another

Visualization Options

Interactivity

Data Sources, Formatting, Exporting & Printing

INTRODUCTION

Ways of Categorizing Reports

Enterprise Reporting

Financial statements; high level board reports

Operational Reporting

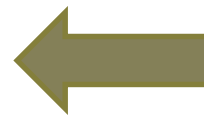
Detailed reports for day-to-day decision making

Analytics

Data exploration; statistical & predictive analytics; mining

Performance Management

Scorecards & dashboards



*Primary focus
for this session*

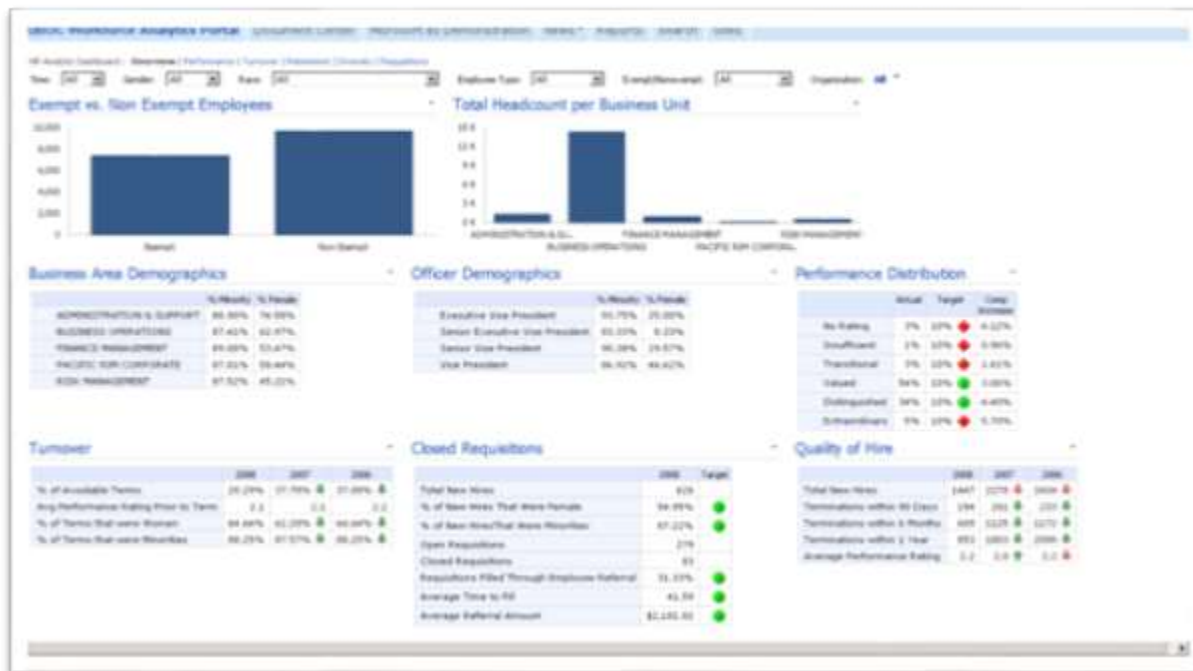
Self-Service and Ad-Hoc Reporting

Empowering end users in an IT-managed environment

Definition of a Dashboard

According to
Stephen Few:

A **visual display**
of the
most important information
needed to achieve 1 or more objectives
which fits entirely on a single computer screen
so it can be **monitored at a glance**.



Rule of thumb:

Can the
information be
consumed within
several seconds?

Types of Dashboards

Strategic

Generally very high level targeted at senior management & execs
Visualization needs to be simple: facilitate quick decisions & forecasting
Typically very little interactivity

Analytical

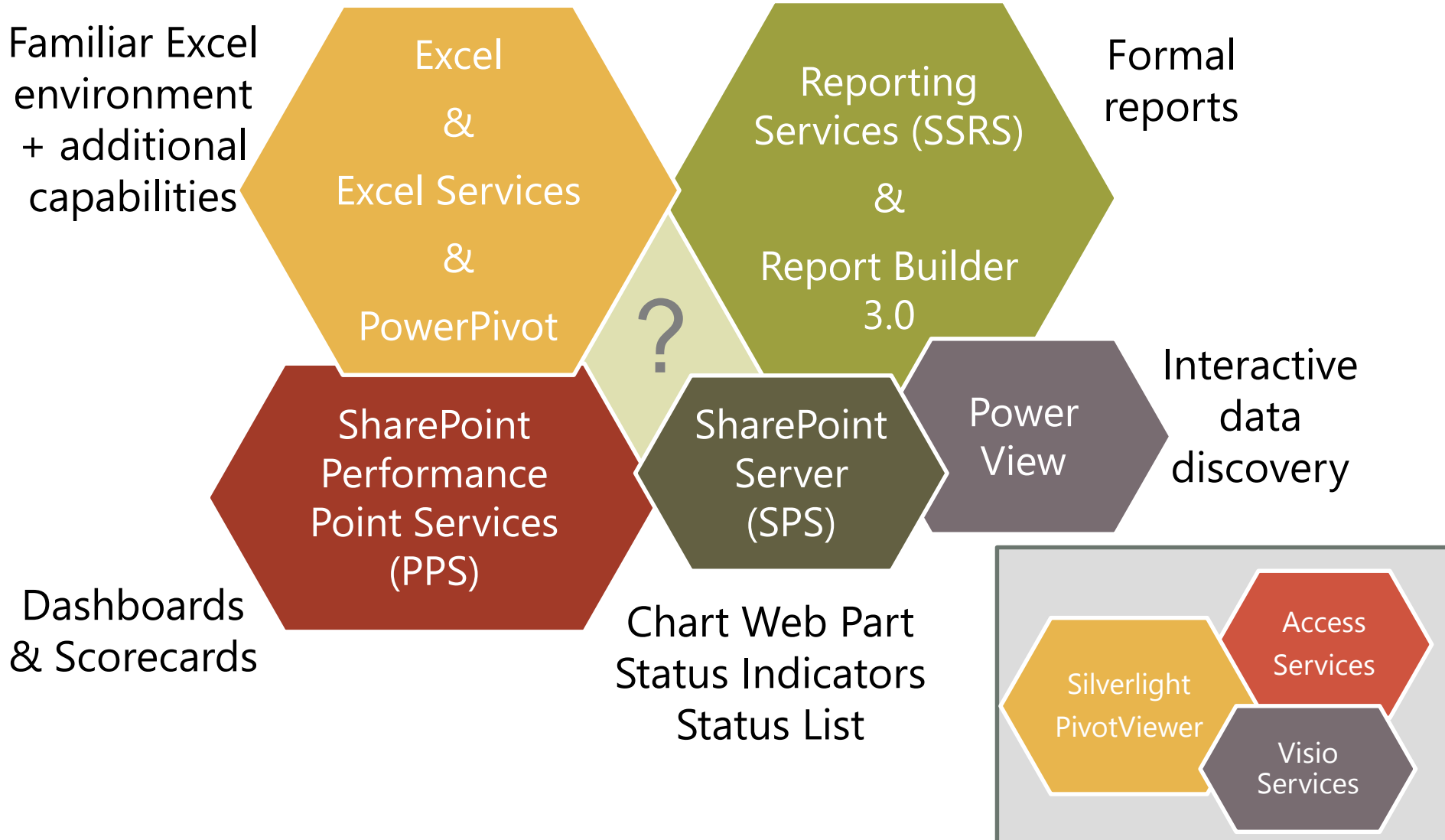
Targeted at data analysts (power users)
Usually offers the most interactivity to facilitate exploration

Operational


























Could be targeted at nearly anyone in the organization
Much less data latency is acceptable (near real time)
Simple visualization; little interactivity

MICROSOFT BI TOOLS & FACTORS TO CONSIDER

Microsoft BI Tool Choices




Where to Start?

MSBI Tool	Visualization Options	Interactivity	Data Sources	Formatting Control	Printing & Exporting
PPS					
SharePoint					
SSRS					
Power View					
Excel					

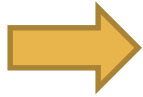
 Limited

 Somewhat limited

 Good number of options

 Many options

Factors to Consider...



#1
driver

Requirements:

- Visualization options
- Drill down
- Drill through
- Conditional display
- Data Sources
- Printing
- Exporting
- Formatting
- Tooltips
- Parameters, filters & slicers
- ...etc.

Technology:

- Edition of software
- Version of software
- Software dependencies
- Staff skillsets & preferences

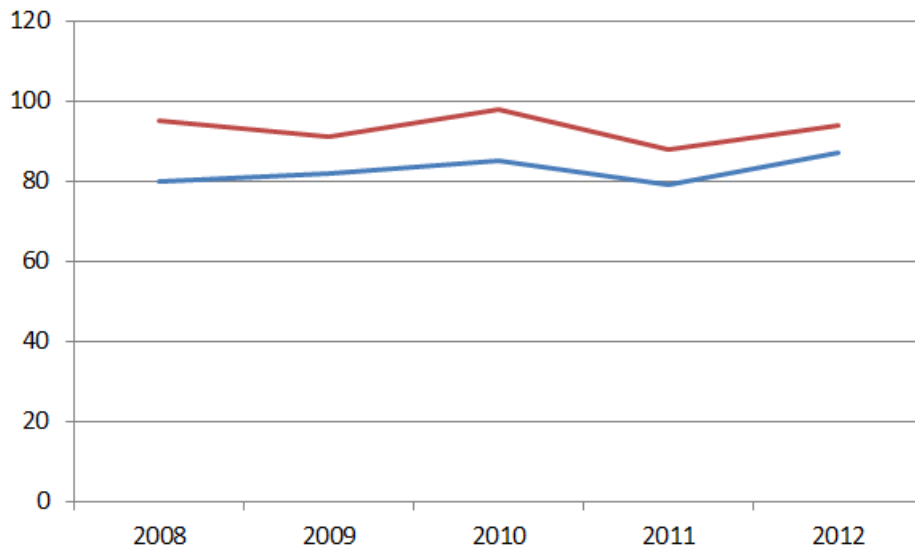
Other:

- User population
- User perceptions
- Security
- Customization
- Reusability
- Extensibility
- ...etc.

VISUALIZATION OPTIONS

Line Chart

Line Charts display trends in data;
most suitable for display over time



MSBI Tool	Available?
PPS	Yes
SharePoint	Yes
SSRS	Yes
Power View	Yes
Excel	Yes

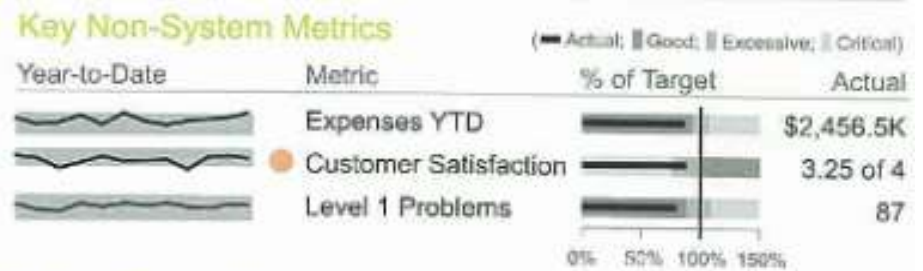
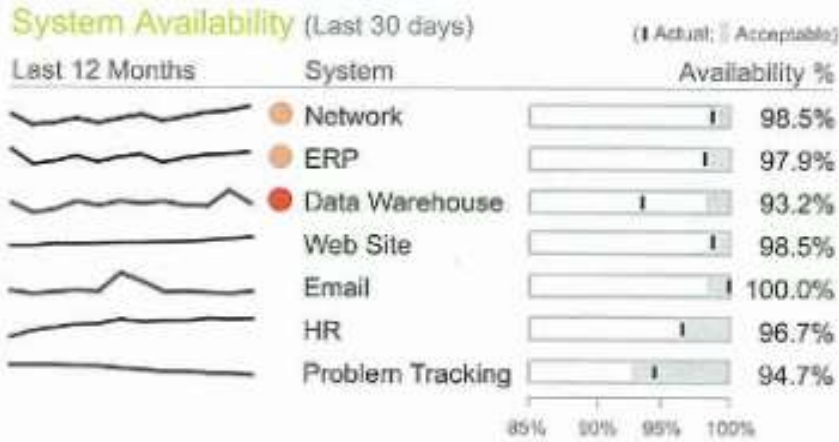
➤ PPS, SSRS, and Excel
can do Line Charts
with Markers



➤ SSRS and SharePoint
can do Smooth Lines

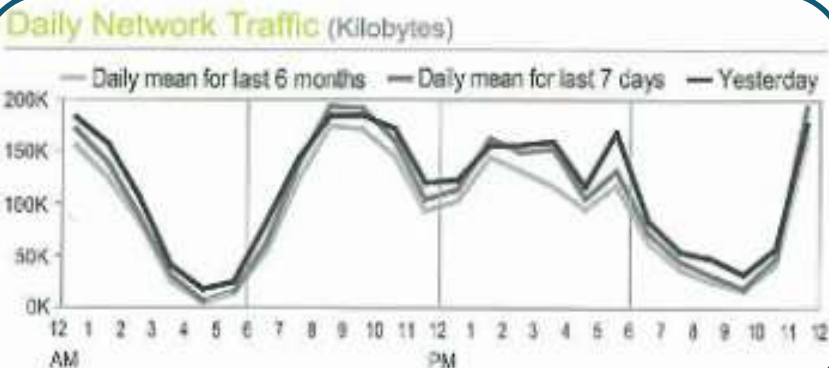


Line Chart Example



Major Project Milestones

Project	Milestone	Due Date	Days Until/ Past Due
ERP Upgrade	Full system test	01/10/06	22
● Add services data to DW	ETL coding	12/15/05	-3
● Upgrade mainframe OS	Prepare plan	12/23/05	4
Disaster recovery site	Install hardware	01/08/06	20
● Budgeting system	Hire team	12/06/05	-13
Web site face-lift	Move into production	01/05/06	17



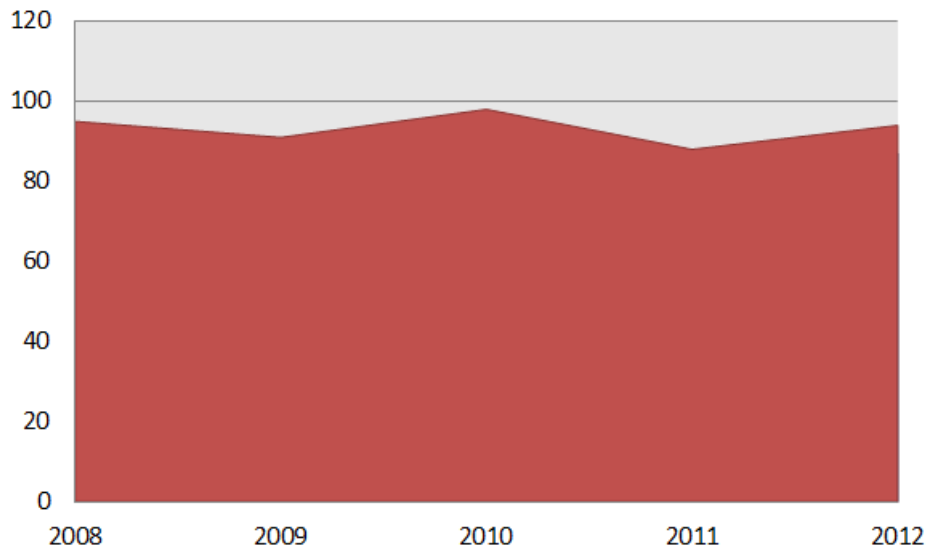
5 Top Projects

Project	Funding approved	Sched. Start
1 Professional services	X	05/10/06
2 Upgrade Mainframe		02/15/06
3 Failover for ERP		06/02/06
4 Upgrade data warehouse	X	04/15/06
5 Executive dashboard		07/01/06

Line Chart
Suitable for display over time

Area Chart

Same as a Line Chart; with fill color behind to emphasize the degree of change over time



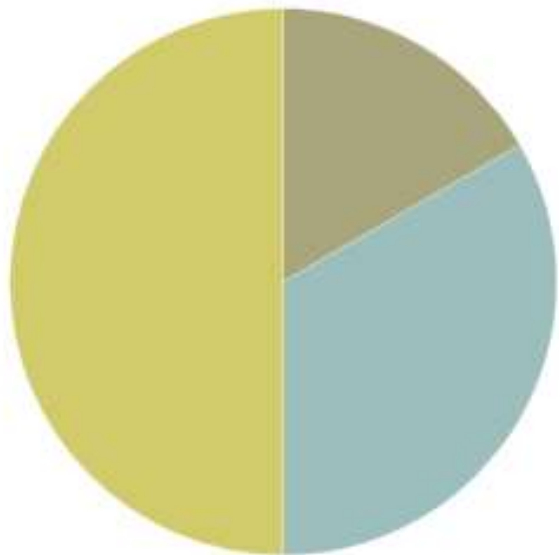
MSBI Tool	Available?
PPS	---
SharePoint	Yes
SSRS	Yes
Power View	---
Excel	Yes

Area Charts don't work well when a data series with smaller values gets hidden behind the fill color of another series

Pie Chart

There's a lot of debate among visualization experts about Pie Charts!

Pie Charts are most suitable for data with very few distinct values (ex: Yes/No or Male/Female) so they can easily show the proportion % of the total value.



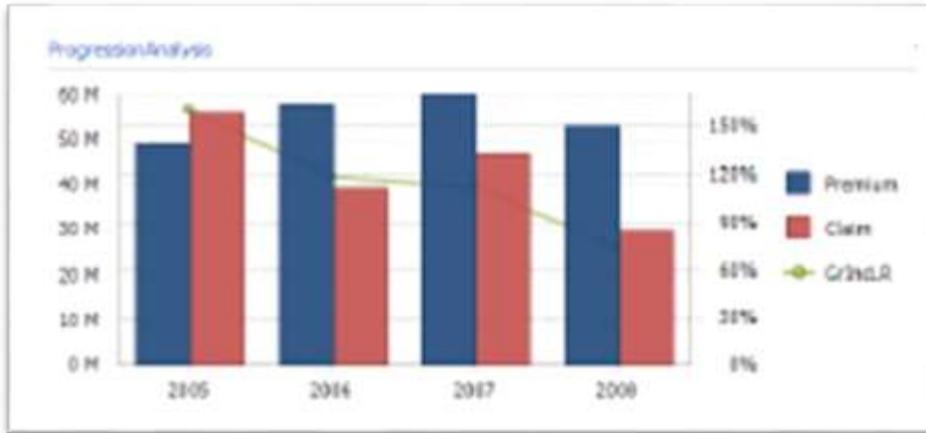
MSBI Tool	Available?
PPS	Yes
SharePoint	Yes
SSRS	Yes
Power View	Yes
Excel	Yes

- Pie Charts are introduced in Power View for Excel 2013 & Power View for SharePoint 2013
- SSRS and Excel can do an "exploded" pie for added emphasis

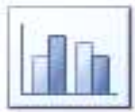


Column Chart

Two-Dimensional Column Charts with x and y values are useful for comparing values across categories.



Example of a "Clustered Column" chart with a dual axis line chart. A dual axis chart (shown in PerformancePoint) is only available in PPS if the last measure is a %.



Clustered Column



Stacked Column



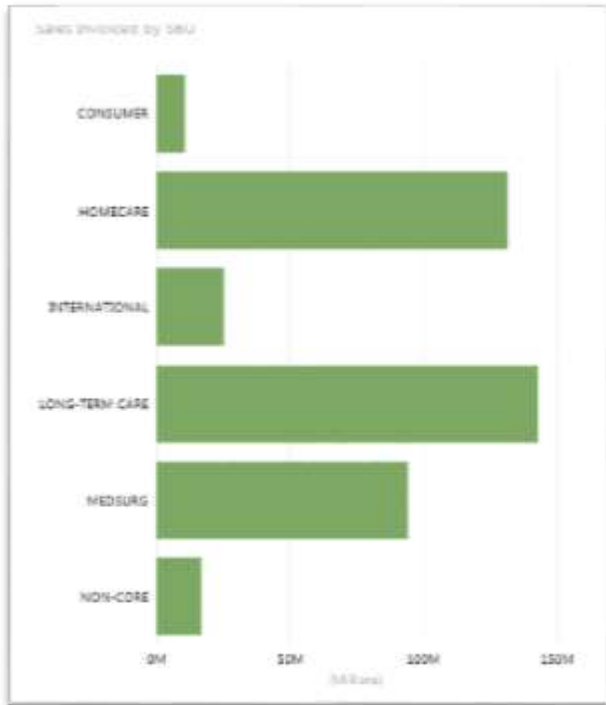
100% Stacked Column

MSBI Tool	Available?
PPS	Yes
SharePoint	Yes
SSRS	Yes
Power View	Yes
Excel	Yes

- Sometimes also be referred to as a Vertical Bar Chart
- PerformancePoint refers to its Column charts as "Bar Charts" even though they are vertical rather than horizontal
- PPS, SSRS, and Excel can do 3D (but try to resist the urge!)

Bar Chart

Same as a Column Chart;
rotated 90 degrees



Clustered
Bar



Stacked
Bar



100% Stacked
Bar

MSBI Tool

Available?

PPS

SharePoint

Yes

SSRS

Yes

Power View

Yes

Excel

Yes

- Sometimes also referred to as a Horizontal Bar Chart
- No horizontal bar charts in PerformancePoint

Gauges

Linear Gauge

Rectangular or “thermometer” type format displays value.

May also show the goal.



Radial Gauge

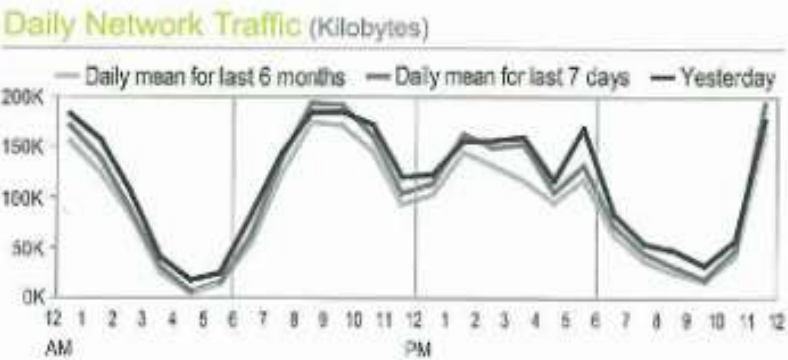
Circular format; indicator pivots around scale to display value compared to goal.



MSBI Tool	Available?
PPS	Yes
SharePoint	---
SSRS	Yes
Power View	---
Excel	---

- Reporting Services offers a lot of options for gauges – first introduced with SQL Server 2008
- Be cautious with use of radial gauges – they take up a lot of space & can be difficult for users to interpret quickly

Linear Gauge Example



Major Projects

Project	Date	Days Until/Past Due
ERP Upg	0/06	22
Add serv	5/05	-3
Upgrade	3/05	4
Disaster r	8/06	20
Budgeting	6/05	-13
Web site	5/05	17

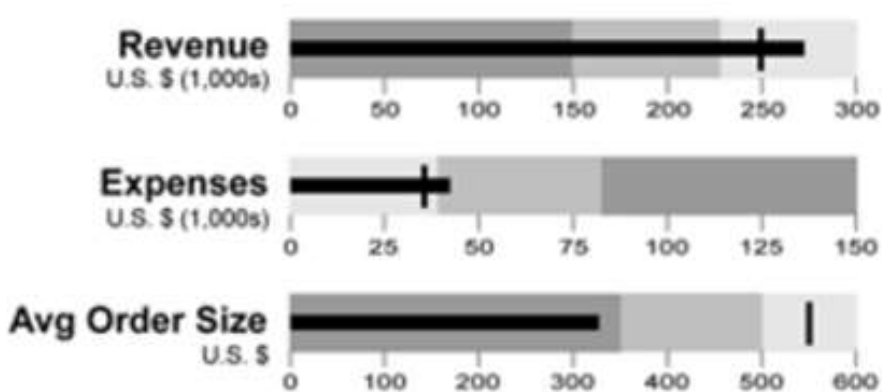
5 Top Projects in the Queue (Sorted by priority)

Project	Status	Funding Approved	Sched. Start
1 Professional services module	Pending available staff	X	05/10/06
2 Upgrade MS Office	Cost-benefit analysis		02/15/06
3 Failover for ERP	Preparing proposal		06/02/06
4 Upgrade data warehouse HW	Evaluating options	X	04/15/06
5 Executive dashboard	Vendor assessment		07/01/06

Linear Gauge
Displays value as compared to goal

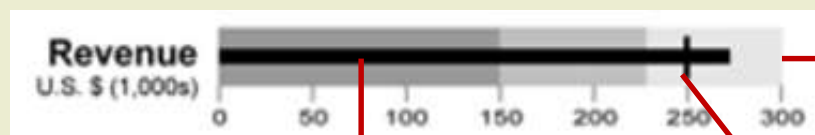
Bullet Graph

A type of linear gauge: shows actual, target & thresholds in compact space.



MSBI Tool	Available?
PPS	---
SharePoint	---
SSRS	Yes
Power View	---
Excel	Yes (*)

- Built-in to Reporting Services.
- (*) Not built-in to Excel, but can be done by an advanced user

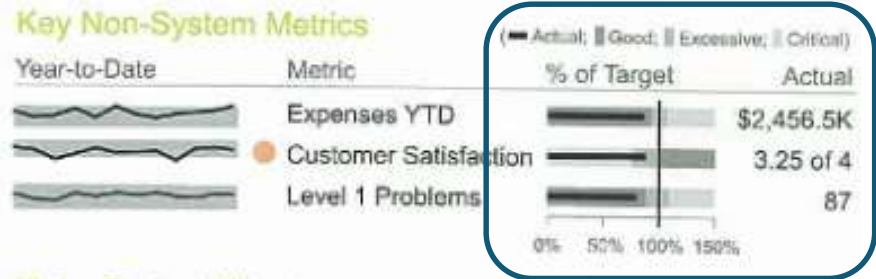
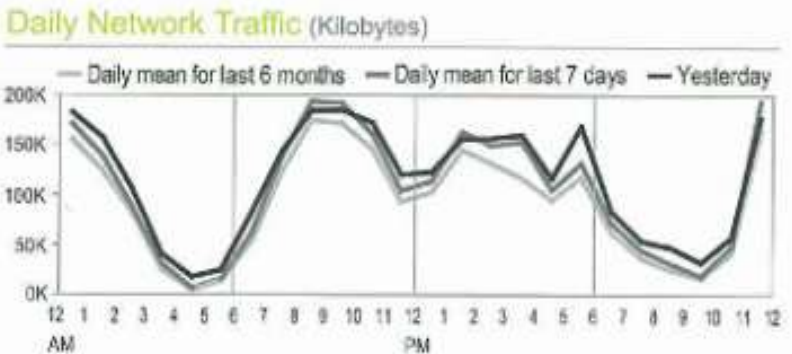


Black bar:
Performance measure
(usually **Actual**)

Tick mark:
Comparative measure
(usually **Target**)

Background colors:
Qualitative ranges like
Poor, Satisfactory, Good

Bullet Graph Example



Major Project Milestones

Project	Milestone	Due Date	Days Until/ Past Due
ERP Upgrade	Full system test	01/10/06	22
Add services data to DW	ETL coding	12/15/05	-3
Upgrade mainframe OS	Prepare plan	12/23/05	4
Disaster recovery		01/05	20
Budgeting		05	-13
Web site fa		05	17

5 Top Projects

Project	Status	Sched. Start
1 Profession	X	05/10/06
2 Upgrade M		02/15/06
3 Failover fo		06/02/06
4 Upgrade da	X	04/15/06
5 Executive dashboard		07/01/06

Bullet Graph
Shows actual, target & thresholds in a very compact space

Sparklines

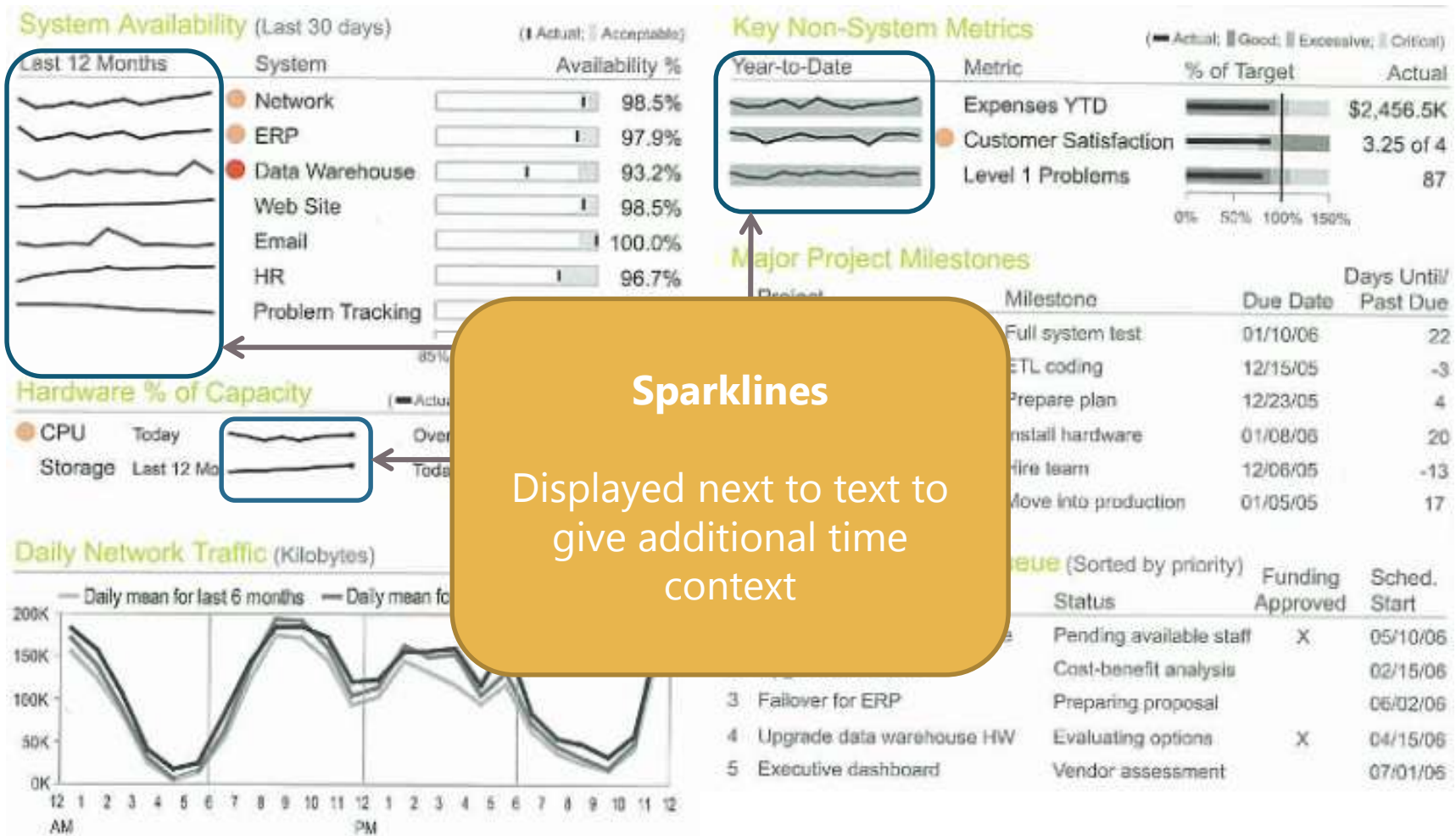
Displayed inline with text; useful for displaying trends (similar to line chart) in a very small space, to provide additional context



MSBI Tool	Available?
PPS	---
SharePoint	---
SSRS	Yes
Power View	---
Excel	Yes

Reporting Services offers the most options for sparklines (first introduced in the 2008 R2 version)

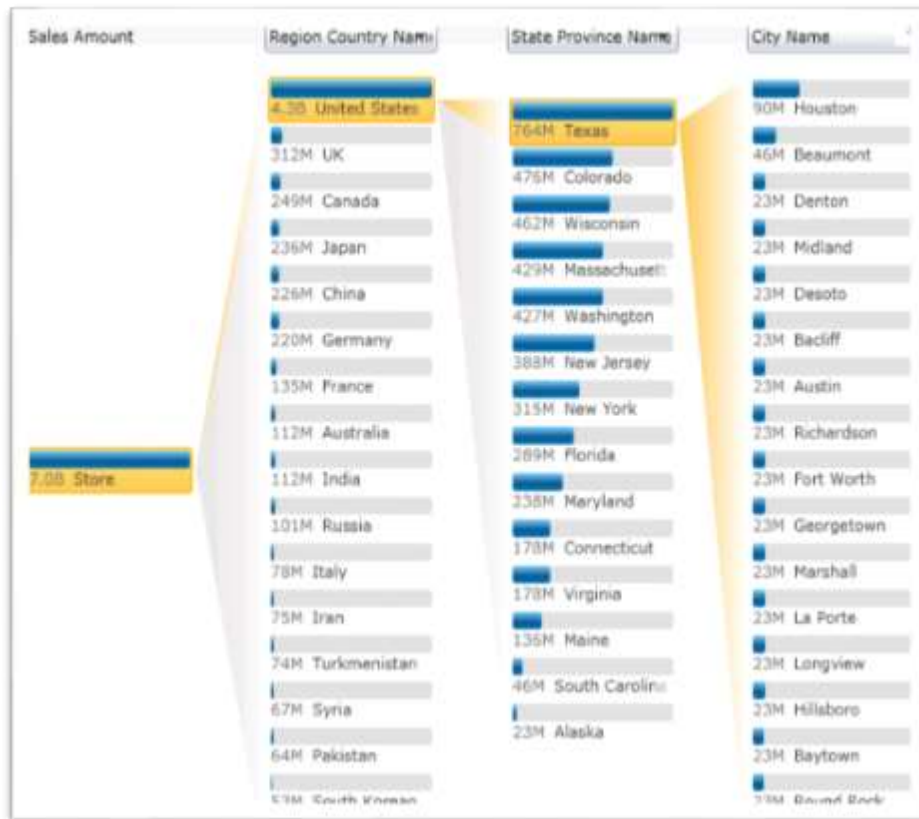
Sparklines Example



Source: Stephen Few, Information Dashboard Design

Decomposition Tree

Ability to see how individual members contribute to the total by clicking on the nodes; useful for interactive root cause analysis

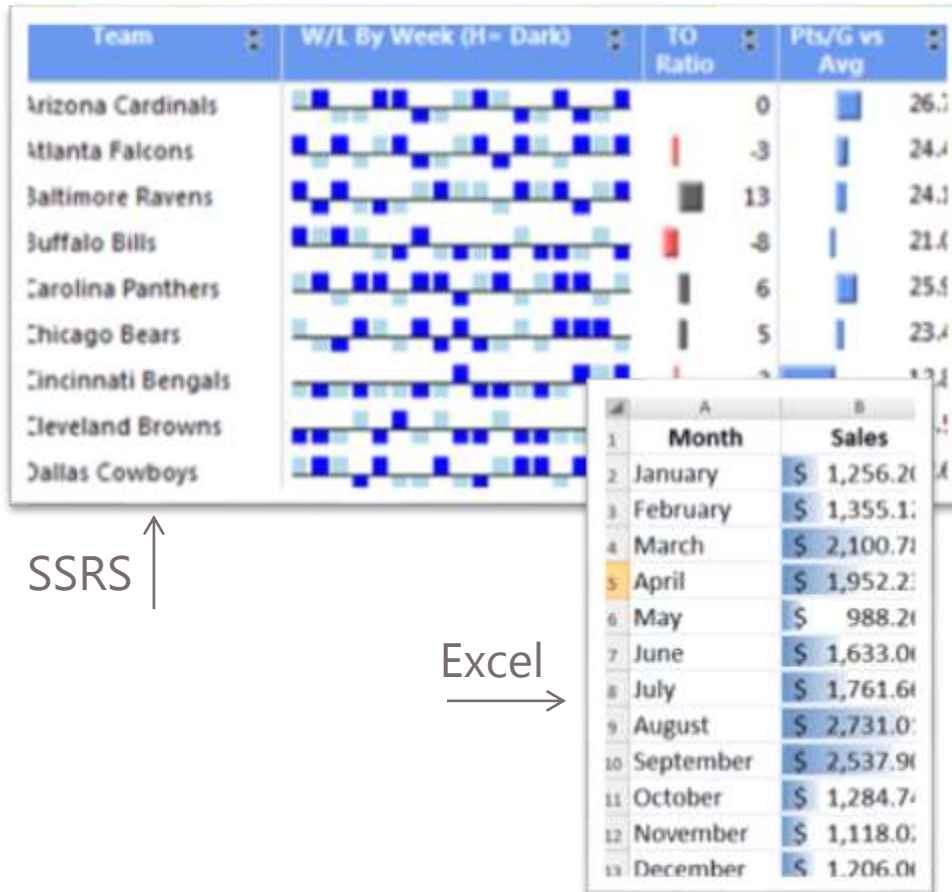


MSBI Tool	Available?
PPS	Yes
SharePoint	--
SSRS	--
Power View	--
Excel	--

- Client machine needs Silverlight
- Cannot export (i.e., to Excel or PPT)
- Can't create in Dashboard Designer
- Can't customize or modify colors
- Only works w/ a Measure or KPIs imported from SSAS cube

Data Bars

Displayed inline with text; useful for comparing values (similar to bar chart)

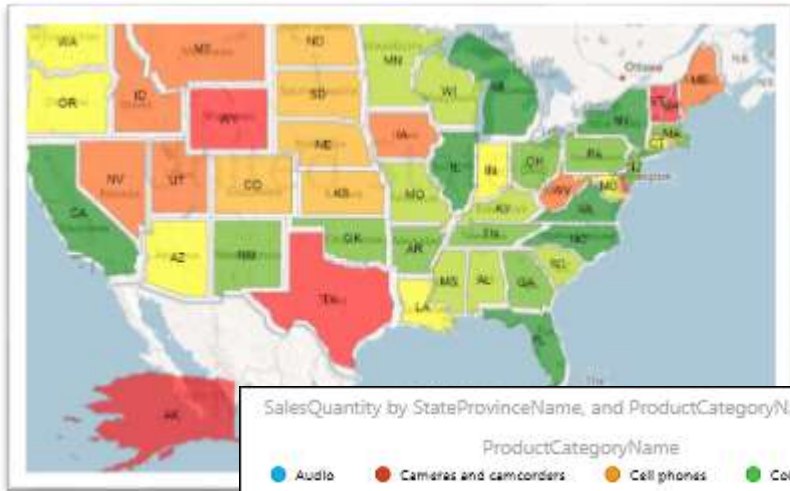


MSBI Tool	Available?
PPS	---
SharePoint	---
SSRS	Yes
Power View	---
Excel	Yes

- Reporting Services offers the most options for data bars
- Excel displays a Data Bar within the same cell as the numeric value; Reporting Services displays it separately
- If you need "Data Columns" (ex: the W/L By Week column), SSRS is the only option

Maps

Spatial representation of a geographic area & its characteristics



Power View (2013) →



MSBI Tool	Available?
PPS	---
SharePoint	---
SSRS	Yes
Power View	Yes
Excel	Yes (*)

- SSRS Maps integrate with Bing Maps, or ESRI shape files
- SSRS also offers a Color Analytical Map (similar to a heat map), and a Bubble Map

(*) Maps are introduced in Power View for Office 2013 & Power View for SharePoint 2013; integrated with Bing Maps (requires internet access)

Indicators

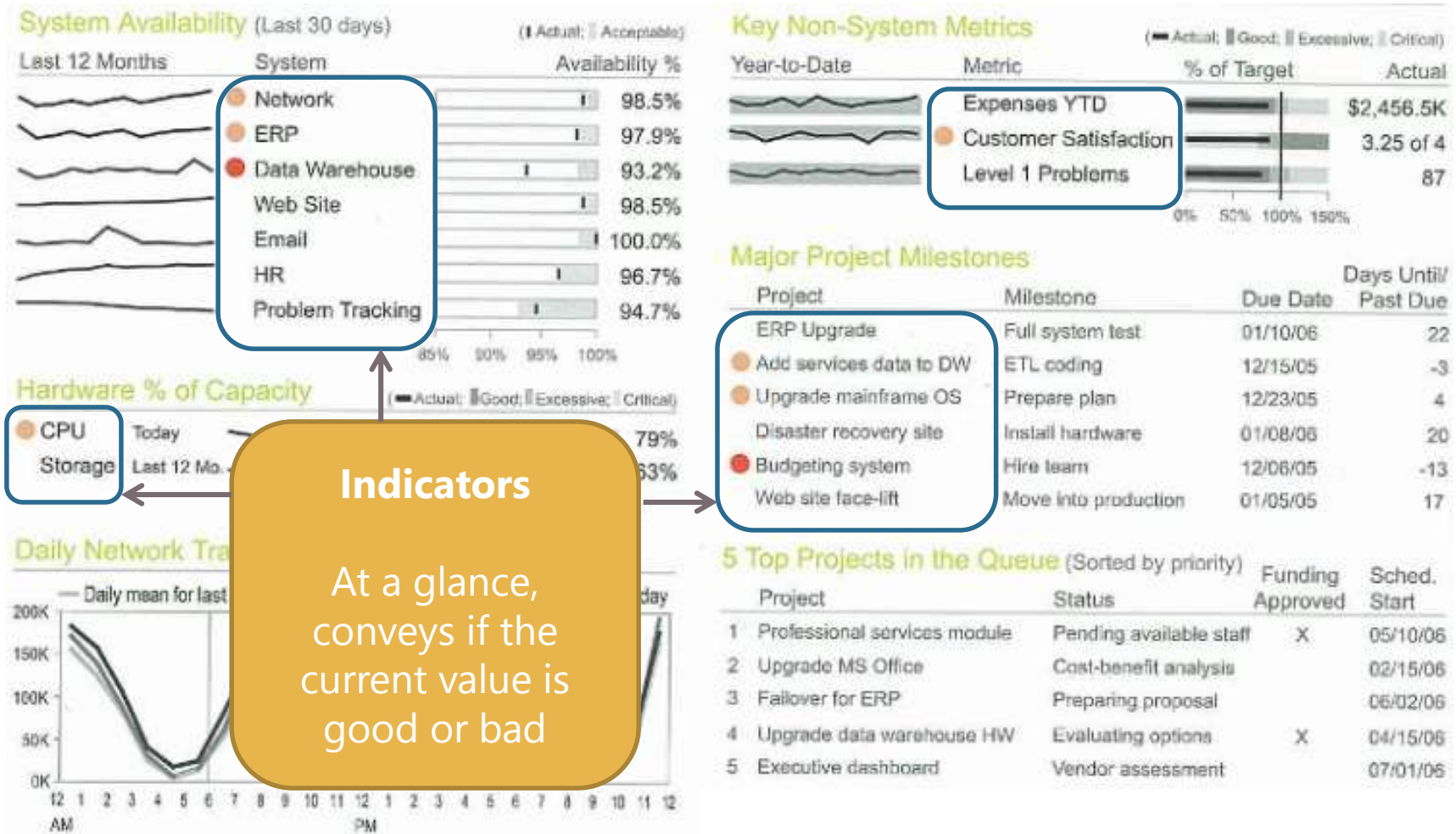
Displays the state or condition of a value, goal, or a trend.
Useful for “at a glance” analysis.

	Q3		Q4	
	Actual	Target	Actual	Target
Operational Scorecard				
- Increase Revenue				
Sales Amt...	\$2,189,818	\$2,189,818	\$2,483,388	\$2,483,388
Sales Amt - % Growth PP	-11.62%	5.00%	13.41%	5.00%
Unit Sales	147,353	160,000	152,706	180,000
Unit Sales - % Growth PP	-8.17%	5.00%	3.63%	5.00%
- Stores Optimization				
Sales Per Sq Foot	\$1.61	\$1.50	\$1.73	\$1.50
Same Store Sales Growth	-8.28%	10.00%	13.11%	10.00%
- Price Optimization				
Price Elasticity	2.22	1	0.4	1
Avg Unit Price	\$14.86	\$18.00	\$16.26	\$18.00
% Markdown...	3.02%	5.00%	2.66%	5.00%
- Inventory Optimization				
Inventory Turns	4.2	6	5.1	6
% Unit Returns	2.30%	2.50%	2.60%	2.50%

MSBI Tool	Available?
PPS	Yes
SharePoint	Yes
SSRS	Yes
Power View	Yes
Excel	Yes

- SharePoint offering here is for straightforward, very simple needs only (ex: 3 states only)
- Excel has a lot of options – but it doesn’t have a green trend arrow that points down (green only points up), which would be required for a KPI where “Less is Better”

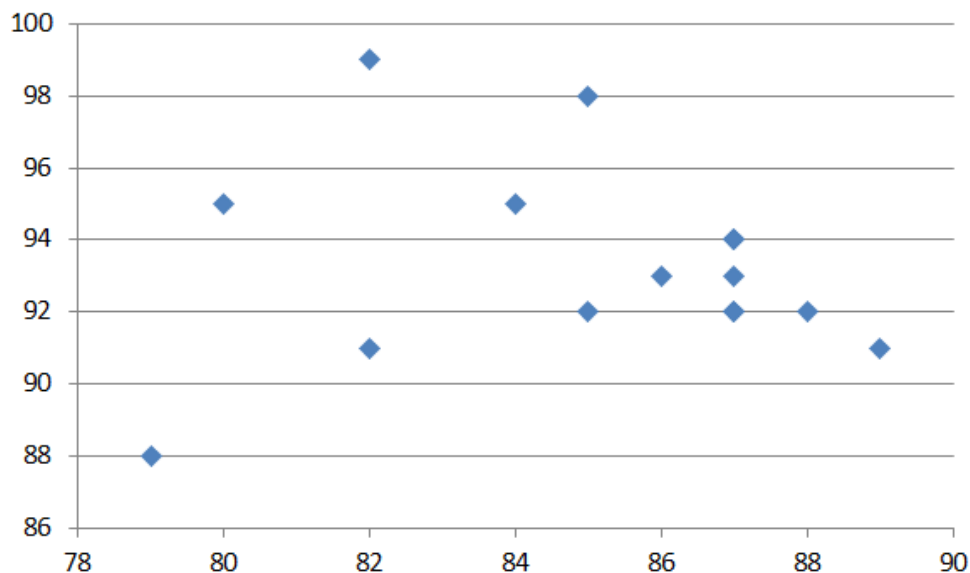
Indicators Example



Source: Stephen Few, Information Dashboard Design

Scatter Charts

Density & placement of points indicate patterns & relationships (or lack thereof) between a pair of numerical values. Suitable for very large sets of data.



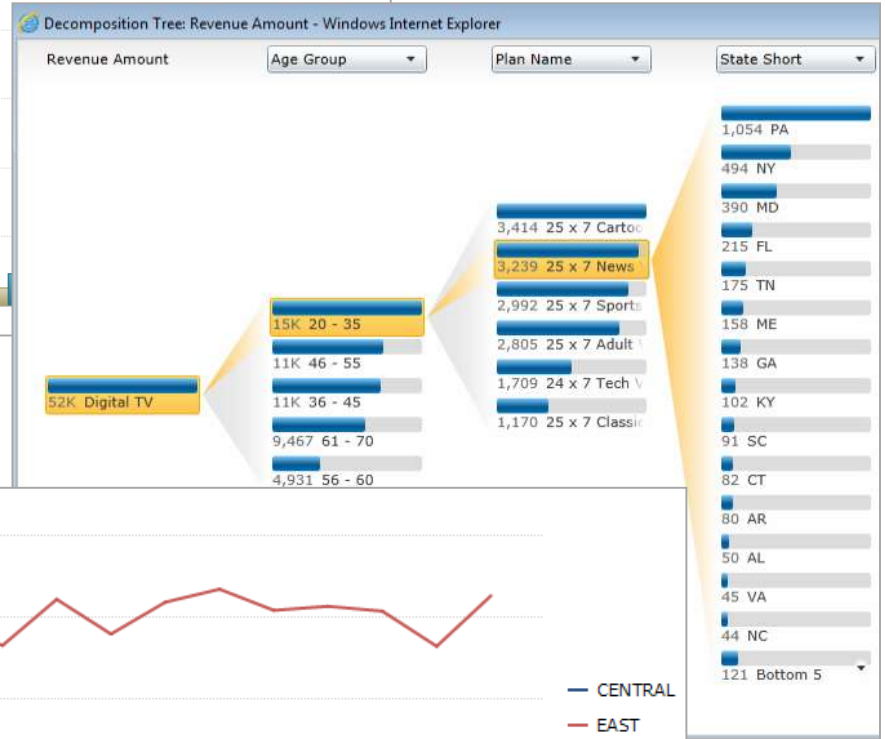
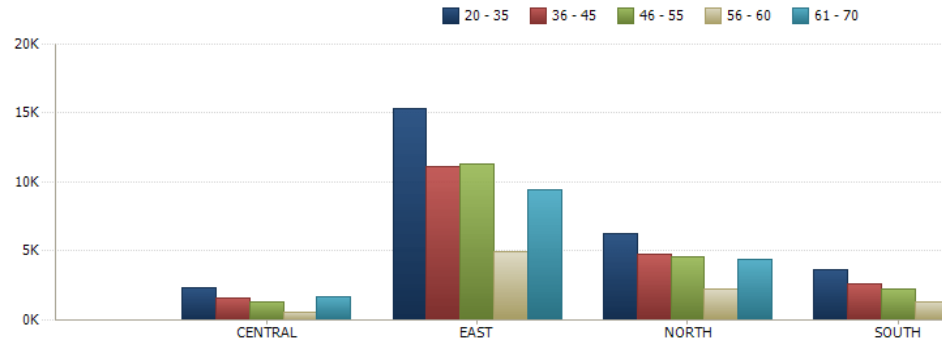
MSBI Tool	Available?
PPS	---
SharePoint	Yes
SSRS	Yes
Power View	Yes
Excel	Yes

- In Power View, a Scatter Chart turns into a Bubble Chart if a 3rd measure is added
- In Power View, a Scatter Chart can be “played” when time is on the X axis

Demo

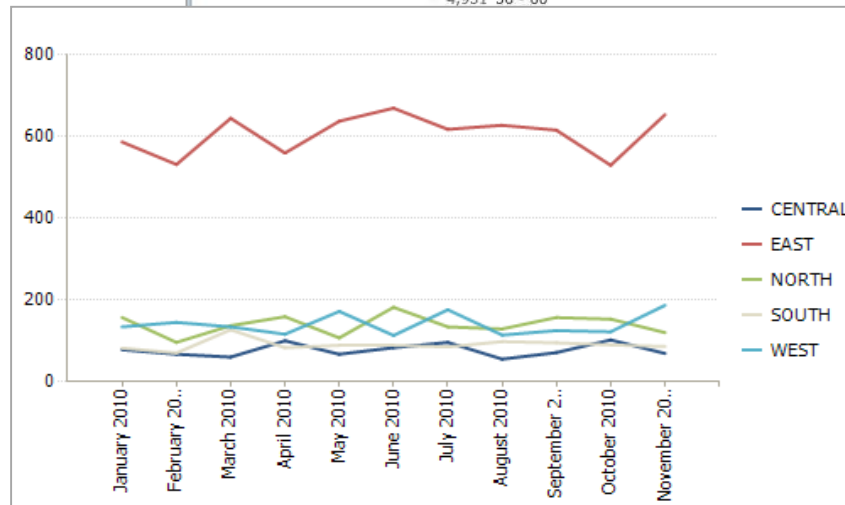
PerformancePoint Visualization

Revenue by Age Group



Revenue Scorecard

	Actual	Target	Trend
% of Customer Bills Adjusted in 2010 (RA-Rlb)	4.2%	5%	↑
% of Unbilled & Underbilled Revenue over Total Rev...	2.6%	4%	↑
Value of Unbilled & Underbilled Revenue over Total...	\$225,783	3%	↑
Ratio of Billing xDRs to Network xDRs (RA-RLe)	57.0%	-29%	↓
Network Efficiency Ratio (NER)	88.0%	-2%	↑
Average Length of Conversation (ALOC)	4.26	4%	↑
Call Completion Ratio % (CCR)	68.0%	-3%	↑
Call Failure Ratio % (CFR)	4.1%	2%	↑
Answer Seizure Ratio % (ASR)	65.0%	2%	↑



Demo

Excel Visualization

Year

2011 2010 2009

2008 2007 2006

City

Redmond Seattle

Spokane

Row Labels	Sum of Sales Amount	Average of Max Temp	Sum of Precipitation
January 2010	\$1,864,288.77	51	6.17
February 2010	\$1,496,212.22	53	3.52
March 2010	\$2,377,714.49	54	3.76
April 2010	\$1,593,378.91	57	3.49
May 2010	\$1,744,563.74	61	2.83
June 2010	\$1,891,517.94	66	2.49
July 2010	\$1,512,178.85	75	0.31
August 2010	\$1,973,744.95	75	0.64
September 2010	\$1,573,317.14	67	4.8
October 2010	\$2,279,043.12	60	5.24
November 2010	\$4,135,155.35	48	5.05
December 2010	\$2,803,837.61	48	8.69
Grand Total	\$25,244,953.09	60	46.99

Style

Compact

Coupe/Sedan

Hybrid

SUV

Truck

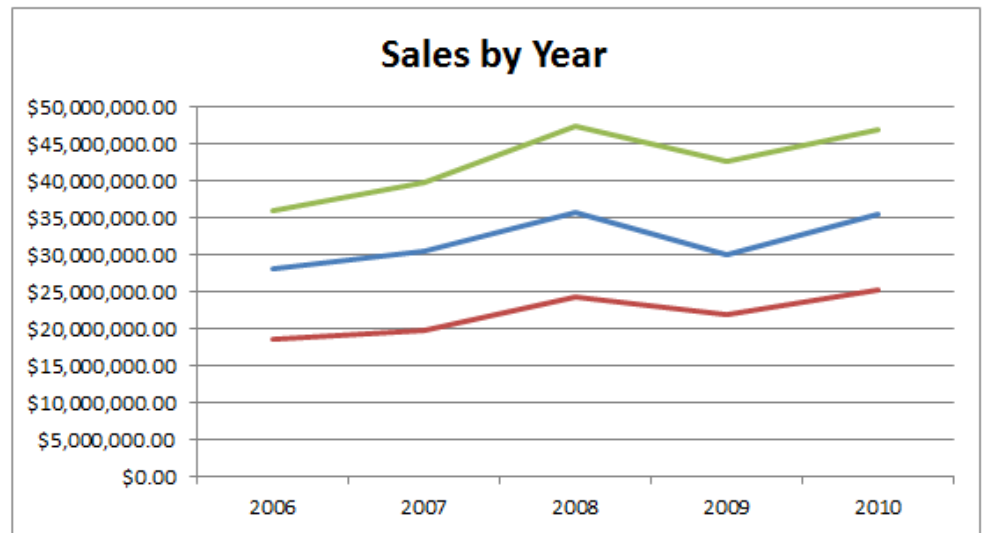
Employee Full Name

Aaron Con

Adam Barr

Aik Chen

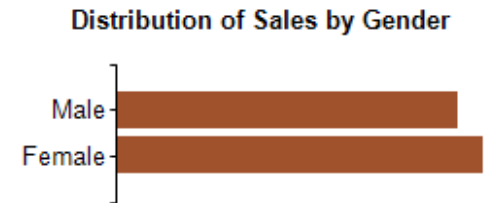
Alan Brewer



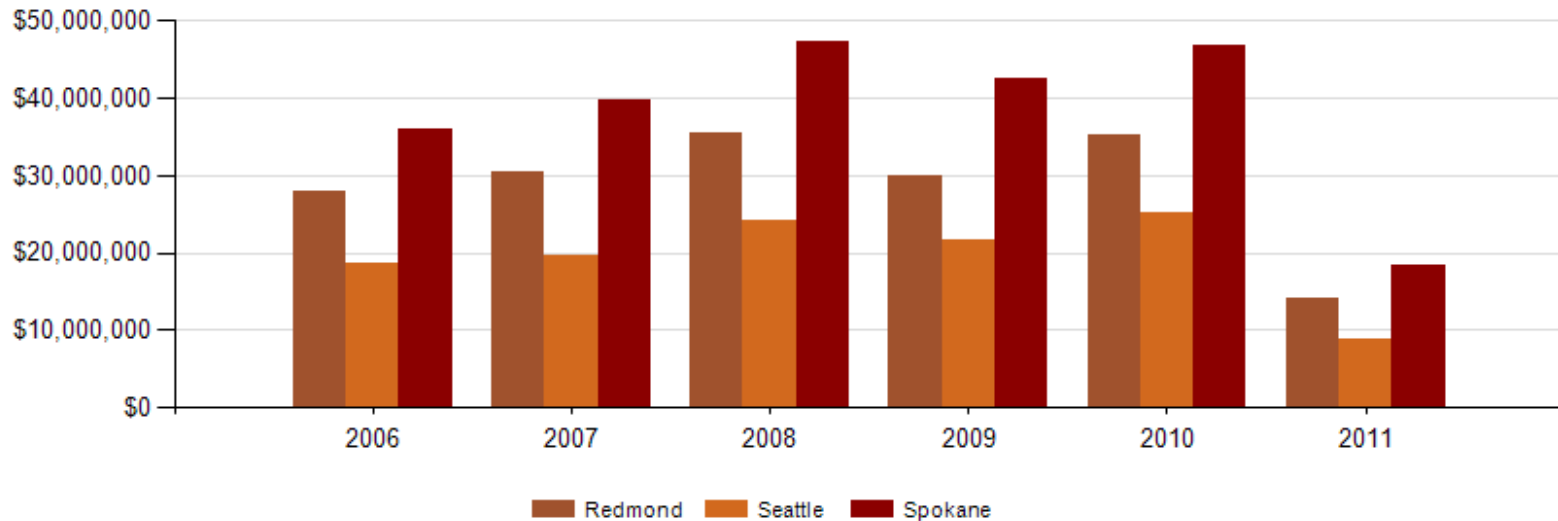
Demo

SSRS Visualization

Year	Redmond	Seattle	Spokane	Total
2006	\$27,987,178	\$18,578,238	\$35,965,660	\$82,531,077
2007	\$30,434,929	\$19,611,070	\$39,757,504	\$89,803,503
2008	\$35,531,402	\$24,215,340	\$47,254,674	\$107,001,415
2009	\$29,842,001	\$21,719,684	\$42,428,109	\$93,989,794
2010	\$35,279,002	\$25,244,953	\$46,860,437	\$107,384,392
2011	\$14,057,619	\$8,769,836	\$18,466,007	\$41,293,463



Sales by Dealership Location



Demo

Power View Visualization

BILL ONLY



Other
Type of Source
No
Preferred

EDI



Electronic
Type of Source
Yes
Preferred

FAX



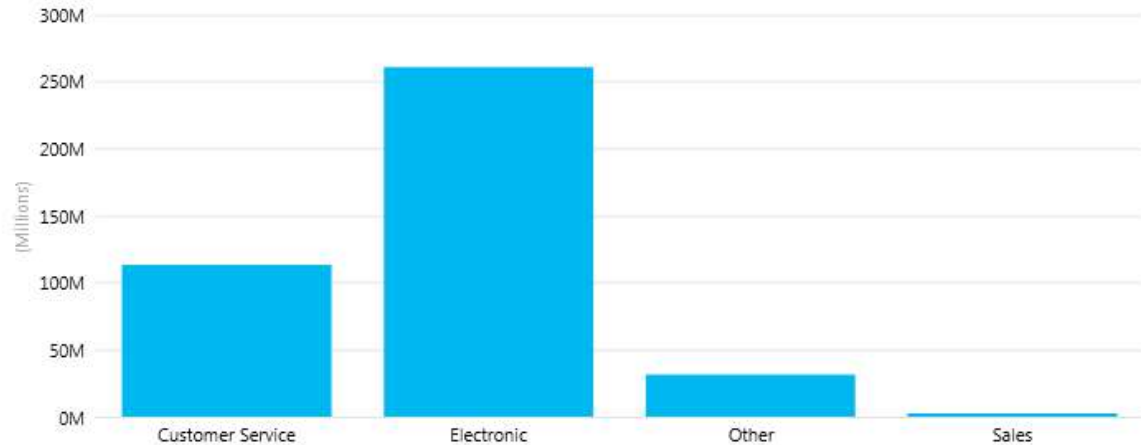
Electronic
Type of Source
No
Preferred

INET/EMAIL

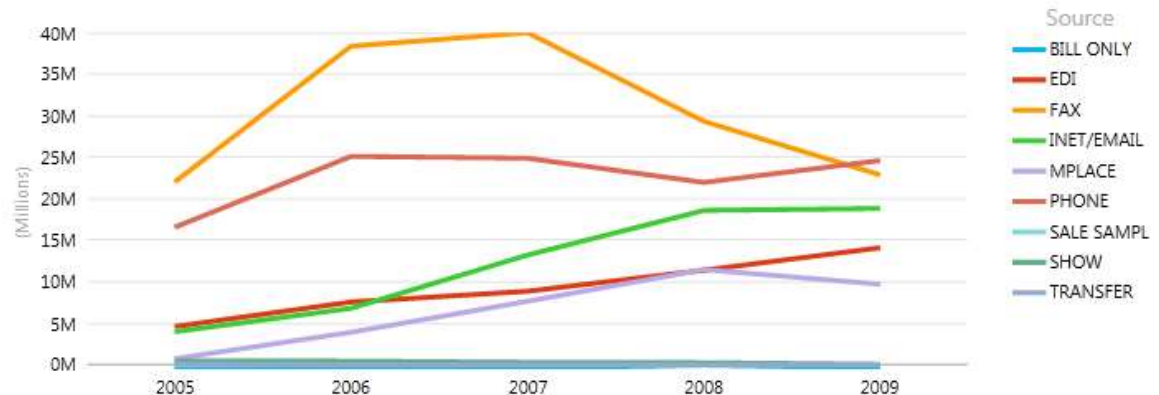


Electronic
Type of Source
No
Preferred

Sales Invoiced by Type of Source



Sales Invoiced by Year, and Source



INTERACTIVITY

Drill Down

Reveal more detail via a click operation on a parent row. Display remains on the same page. Different tools implement extremely differently.

MSBI Tool	Available?
PPS	Yes
SharePoint	---
SSRS	Yes
Power View	Yes
Excel	Yes

Performance Point

SSRS

- Item A	\$ 100.00
9/1/2011	\$ 82.50
9/2/2011	\$ 17.50
+ Item B	\$ 150.00
+ Item C	\$ 200.00
	<u>\$ 450.00</u>

- PerformancePoint is particularly strong in this area (if source is SSAS). Not available with custom MDX.
- SSRS displays drill down (+/-) by using a parent/child hierarchy, or by using "Visibility" and "Toggle" properties.
- Excel displays drill down (+/-) on pivot table rows or columns.
- Drill up/down introduced in Power View for Excel 2013 & Power View for SharePoint 2013.

Drillthrough

Reveal a more detailed report via a click operation. Also referred to as "Show Details."

The diagram illustrates two types of drillthrough operations:

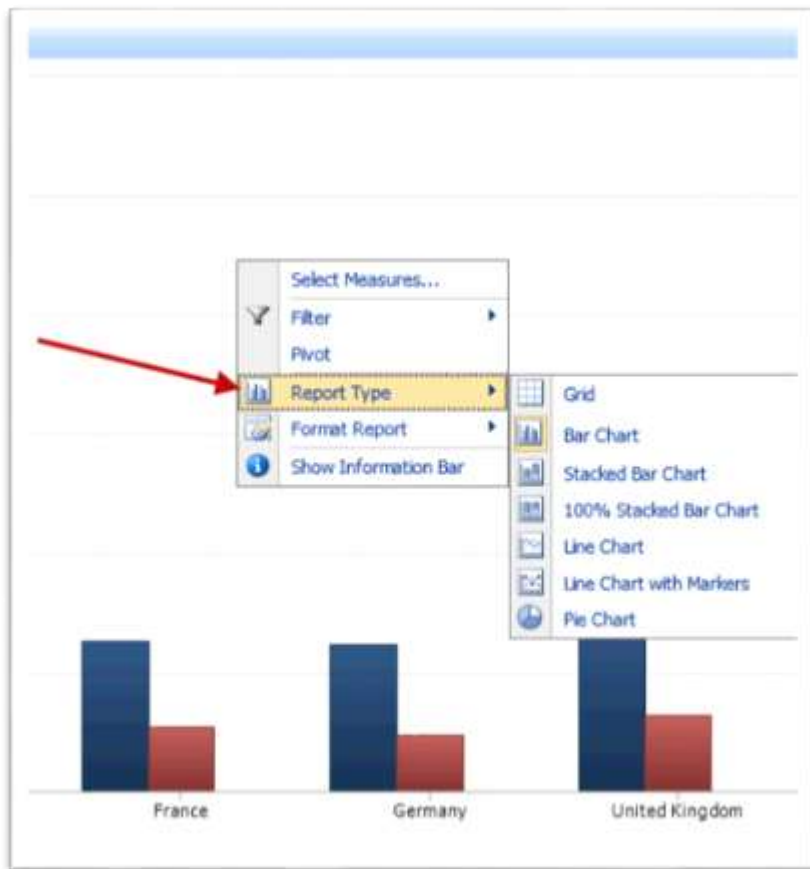
- SSRS Drillthrough:** A 'Summary Report' table with columns 'Item' and 'Amount' is shown. An arrow labeled 'SSRS' points to a 'Detail Report' table that provides a breakdown for 'Item A', showing 'Line 1' (9/1/2011, \$ 82.50) and 'Line 2' (9/2/2011, \$ 17.50) totaling \$ 100.00.
- Excel Drillthrough:** A pivot table titled 'Top 10 Books' is shown. The table has columns for 'Title', 'Author', and 'Sum of Volume'. A context menu is open over the 'Sum of Volume' column, with the 'Show Details' option highlighted.

MSBI Tool	Available?
PPS	Yes
SharePoint	Limited
SSRS	Yes
Power View	---
Excel	Limited

- SSAS Drillthrough actions may be utilized within an Excel pivot table ("Show Details") but not within a pivot chart.
- In Excel Services (online), not all interactivity is not supported. Need to open the workbook.
- SSRS drillthrough: using a "Go to Report" action, or "Go to URL."

Dynamic Change of Display

Quickly change the type of chart being rendered.



MSBI Tool	Available?
PPS	Yes
SharePoint	---
SSRS	*
Power View	Yes
Excel	Yes

- In PerformancePoint, changing from a chart to a grid is a great way to quickly provide the user with the underlying data
- Power View can quickly “switch visualization” but only in Design Mode
- *SSRS could do this through hidden regions & parameter prompts

Dynamic Use of Space

Change what's being rendered within the dashboard based on what's selected by the user; great way to show companion charts or KPI Details

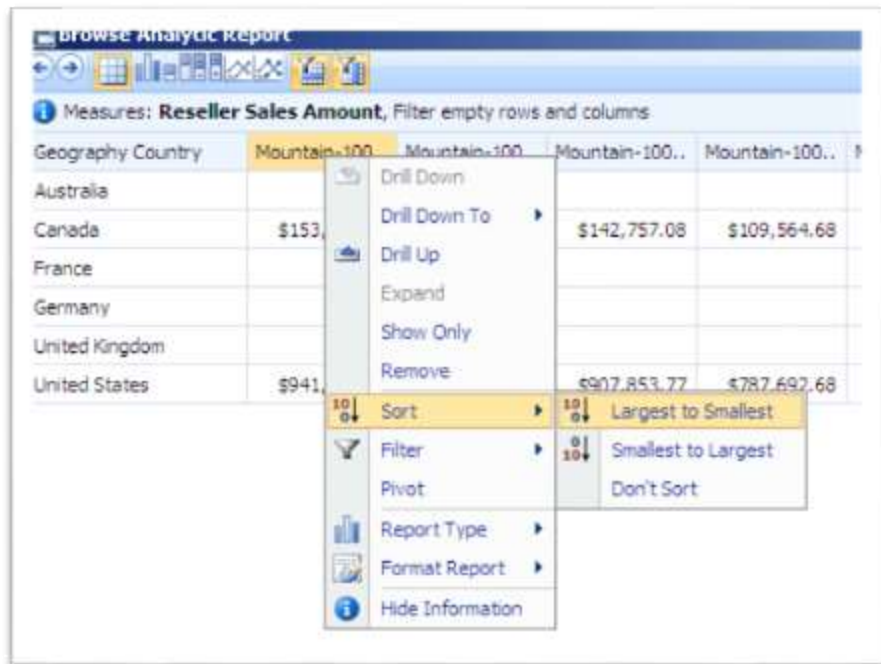


MSBI Tool	Available?
PPS	Yes
SharePoint	---
SSRS	---
Power View	---
Excel	---

A great way to dynamically display KPI Details, or another type of visualization (like a bar chart or a line chart) depending on which measure is selected

Interactive Sorting

Dynamically change how data is sorted



MSBI Tool	Available?
PPS	Yes
SharePoint	---
SSRS	Yes
Power View	Yes
Excel	Yes

- Automatically available to all charts in PerformancePoint.
- In SSRS, this is defined on a column-by-column basis by the report developer.
- In Excel, this is delivered using standard pivot table functionality (column headings).

Change Measures

Dynamically change the measure which is being displayed

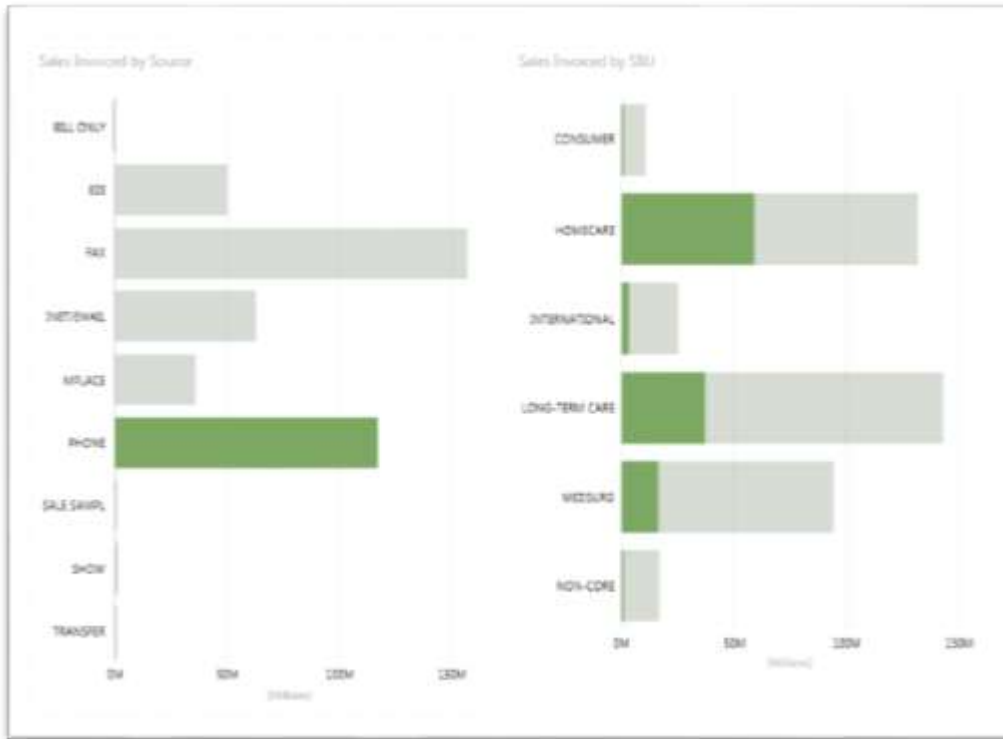


MSBI Tool	Available?
PPS	Yes
SharePoint	---
SSRS	*
Power View	Yes
Excel	Yes

- Automatically available to all charts in PerformancePoint.
- In PerformancePoint, if another measure is selected, a 2nd chart is displayed side by side with the first chart.
- * In SSRS, this is defined manually by using parameter choices.
- In Excel, this is delivered using standard pivot table functionality.
- Power View can do this – but only in Design Mode.

Highlighting & Cross-Filtering

Control all other visualizations by clicking on one element. Not a filter. Rather, it “greys out” the non-related values.

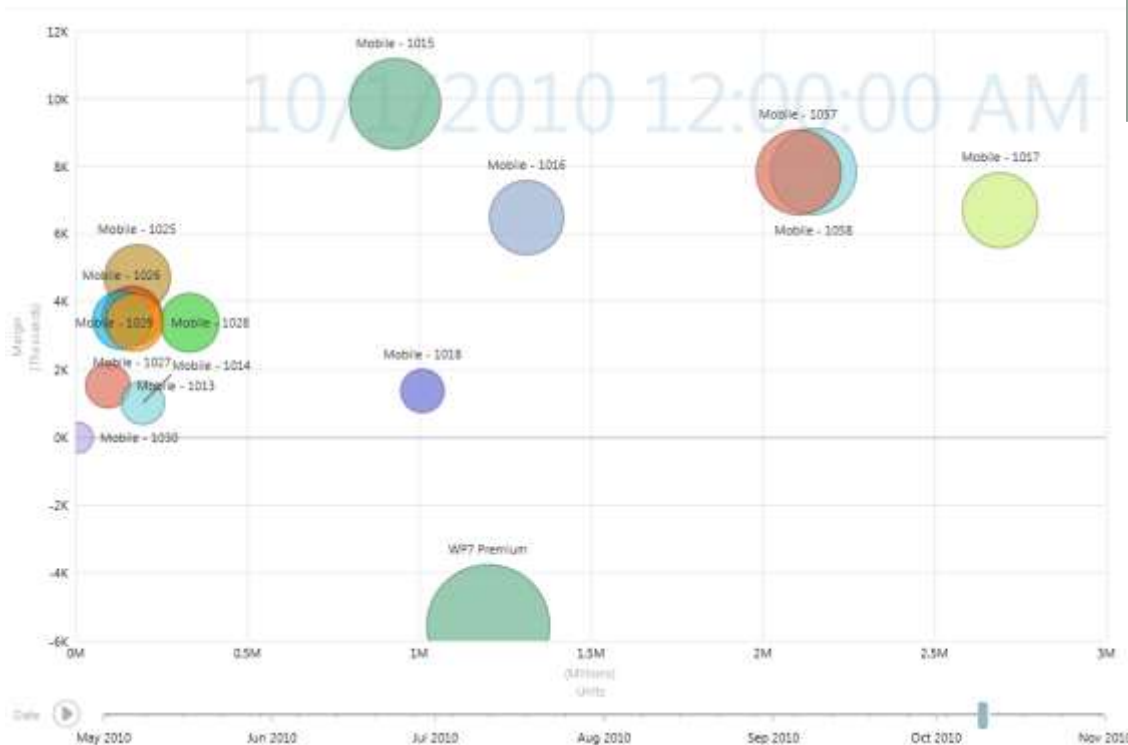


MSBI Tool	Available?
PPS	---
SharePoint	---
SSRS	---
Power View	Yes
Excel	---

Play Axis

A slider along the Play Axis which “plays” or “moves” the data points along the axis (usually time). When played, the bubbles travel, grow & shrink to show how the values changed over time.

Product Mix

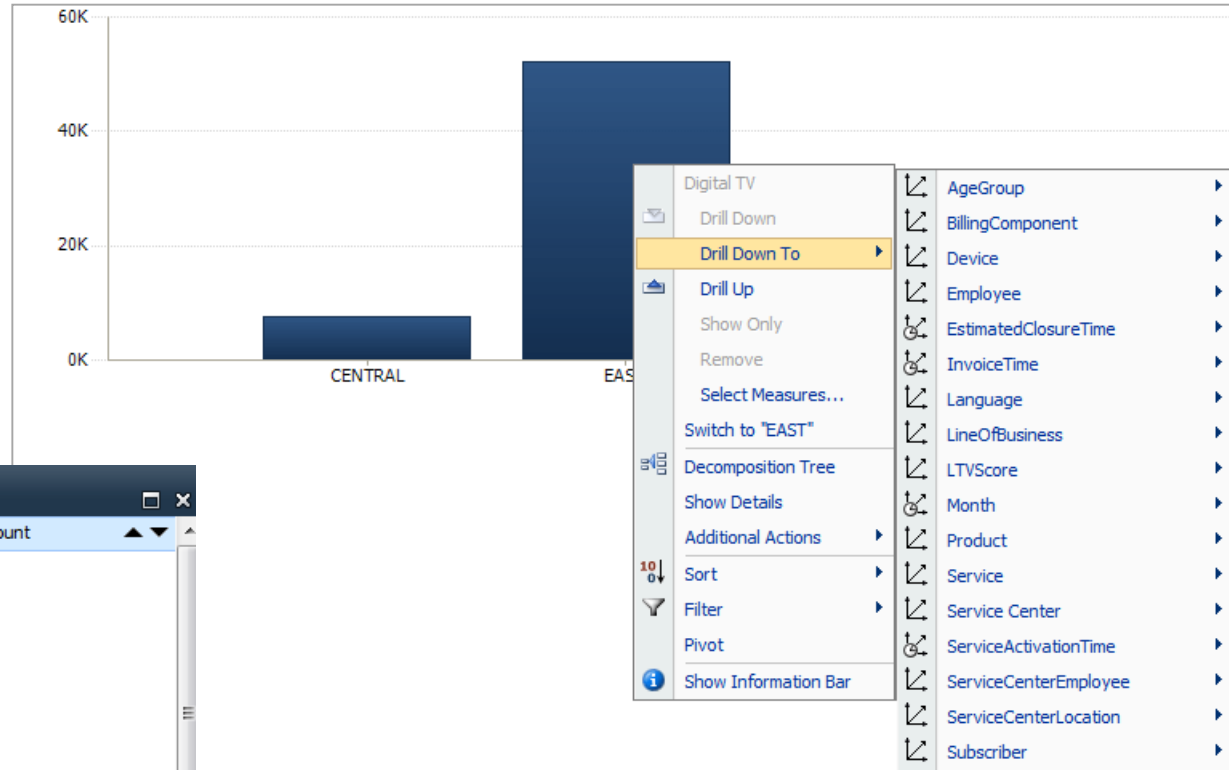


MSBI Tool	Available?
PPS	---
SharePoint	---
SSRS	---
Power View	Yes
Excel	---

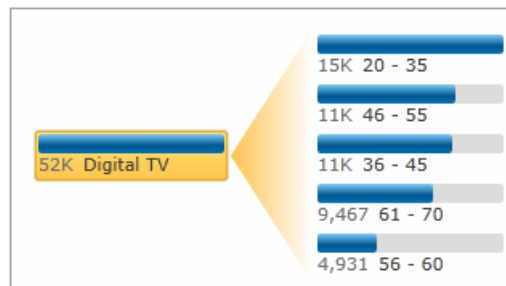
The Play Axis is implemented by adding a date/time field to scatter & bubble charts

Demo

PerformancePoint Interactivity



The 'Select Measures' dialog box is open, showing a list of measure groups under '(All Measure Groups)'. The 'Revenue Amount' measure group is selected. The list includes various measures such as 'No Of Days In Contract - Churned', 'OpenTroubleTickets', 'Revenue Amount', and 'Subscriber Count'. The 'Revenue Amount' measure is checked.



Demo Excel Interactivity

Row Labels	Sum of Sales Amount	Sum of Margin
+ 2006	\$82,531,076.88	\$4,509,575.28
+ 2007	\$89,803,502.66	\$4,344,905.06
+ 2008	\$107,001,415.16	\$4,699,558.76
+ 2009	\$93,989,794.00	\$4,811,360.40
- 2010	\$107,384,391.61	\$5,816,483.61
- Q1 2010	\$23,651,597.44	\$1,251,262.64
- January 2010	\$7,412,012.76	\$392,872.76
1/4/2010	\$1,888,992.50	\$101,174.90
1/11/2010	\$1,672,822.72	\$91,103.52
1/18/2010	\$1,884,380.90	\$91,825.30
1/25/2010	\$1,965,816.64	\$108,769.04
+ February 2010	\$7,116,911.07	\$371,231.87
+ March 2010	\$9,122,673.61	\$487,158.01
+ Q2 2010	\$23,037,665.87	\$1,269,794.27
+ Q3 2010	\$22,581,509.51	\$1,252,836.71
+ Q4 2010	\$38,113,618.79	\$2,042,589.99
+ 2011	\$41,293,462.58	\$2,344,802.58
Grand Total	\$522,003,642.89	\$26,526,685.69

PowerPivot Field List

Search

- Auto Sales
 - Margin
 - Sales Amount
- + Customers
- + Dates
- + Dealerships
- + Employees
- + Products
- + Promotions
- + Weather

Slicers Vertical

Slicers Horizontal

Report Filter

Column Labels

Σ Values

Row Labels

Σ Values

Calendar Hierarchy

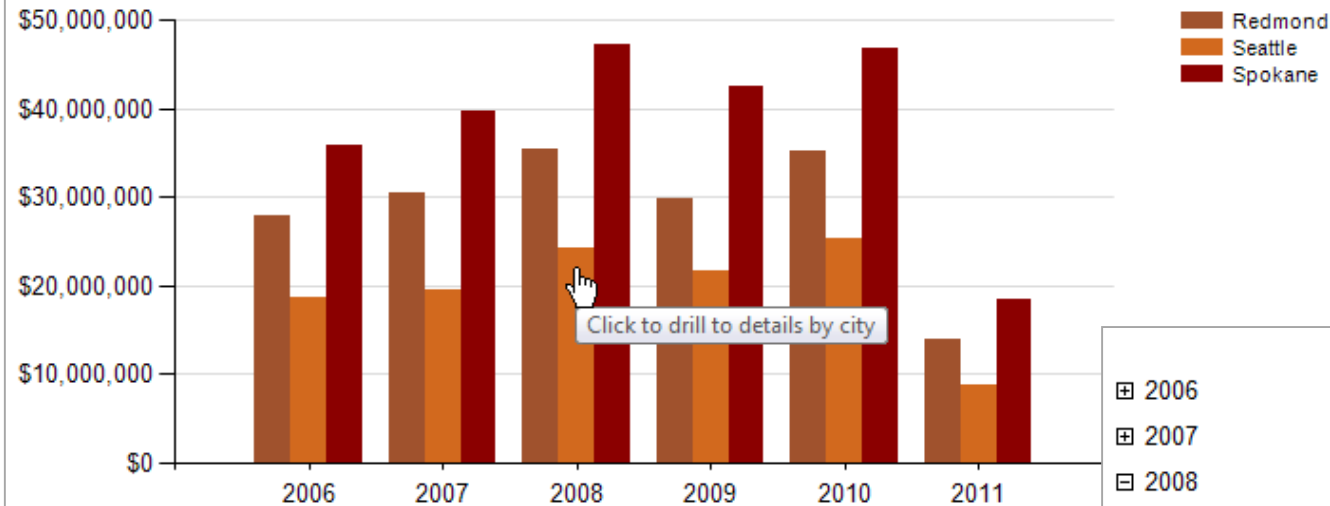
Sum of Sales Amount

Sum of Margin

Demo

SSRS Interactivity

Sales by Dealership Location



	Sales Amount	Margin
☒ 2006	\$18,578,238	\$998,115
☒ 2007	\$19,611,070	\$943,644
☒ 2008	\$24,215,340	\$1,064,322
☐ Q1 2008	\$6,319,302	\$268,306
January 2008	\$1,705,733	\$79,569
February 2008	\$1,853,593	\$77,091
March 2008	\$2,759,976	\$111,646
☒ Q2 2008	\$5,817,452	\$251,618
☒ Q3 2008	\$6,352,389	\$265,007
☒ Q4 2008	\$5,726,196	\$279,392
☒ 2009	\$21,719,684	\$1,097,930
☒ 2010	\$25,244,953	\$1,382,959
☒ 2011	\$8,769,836	\$507,988

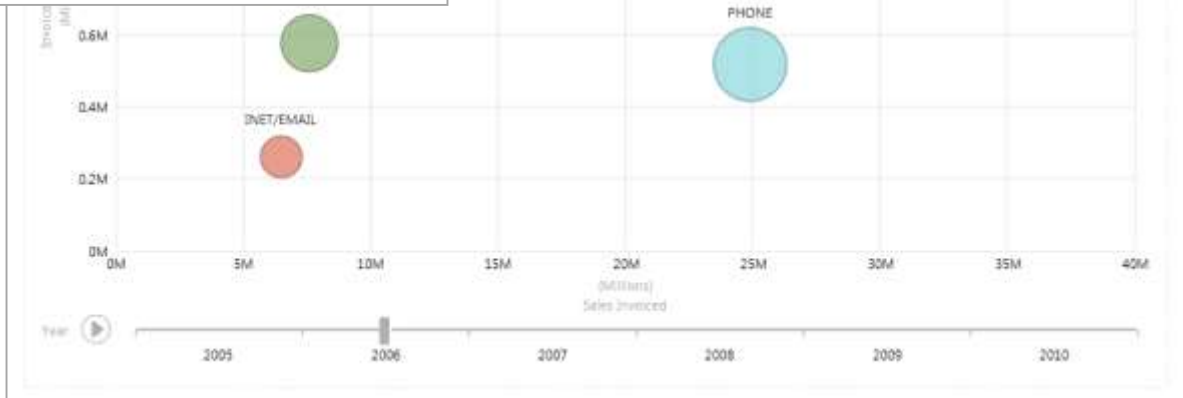
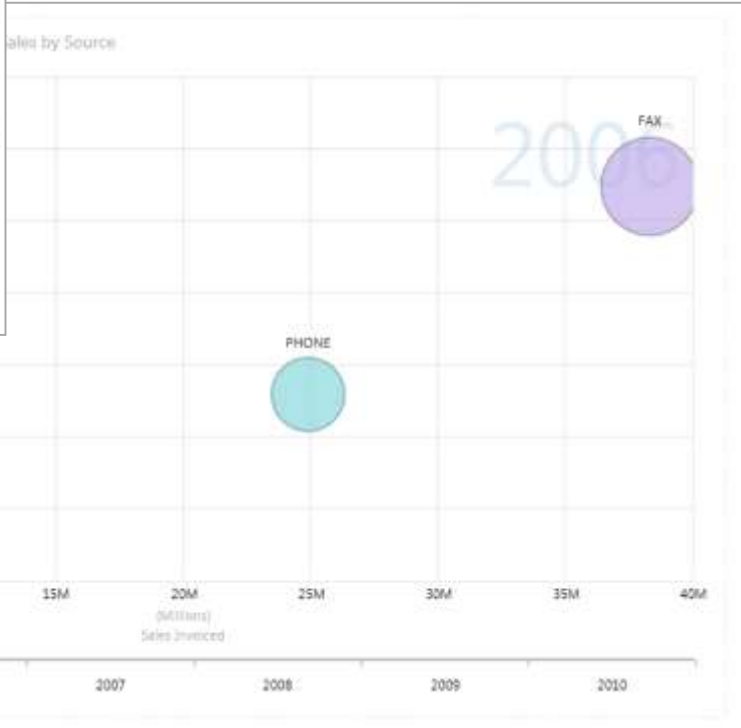
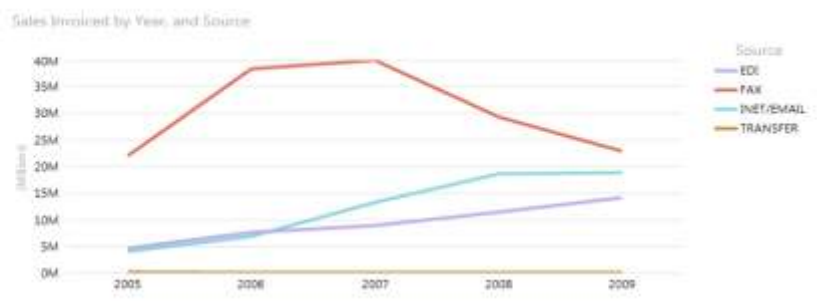
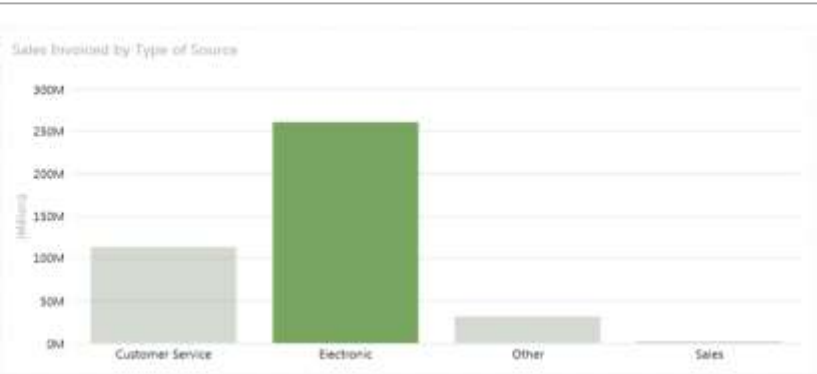
Demo Power View Interactivity

EDI
Electronic Type of Source: Yes

FAX
Electronic Type of Source: No

INET/EMAIL
Electronic Type of Source: No

TRANSFER
Electronic Type of Source: Yes



DATA SOURCES

Data Sources

Data Sources listed are “direct” paths – there are additional indirect paths (ex: via BCS or BISM)

Source	PPS	SPS Chart	SPS Indicator	SSRS	Power View	Power Pivot
SQL Server	Yes	--- Via BCS	---	Yes	---	Yes
SQL Azure	---	---	---	Yes	---	Yes
SQL Parallel DW	---	---	---	Yes	---	Yes
SharePoint List	Yes	Yes	Yes	Yes	---	Yes Atom feed
Excel Services	Yes To a non-anonymous library only	Yes	Yes	---	---	---
Excel Workbook	Yes Imported – no connection	---	---	---	---	Yes

Data Sources

Source	PPS	SPS Chart	SPS Indicator	SSRS	Power View	Power Pivot
Oracle	---	---	---	Yes	---	Yes
Teradata	---	---	---	Yes	---	Yes
DB2	---	---	---	Yes Feature pack	---	Yes
Sybase	---	---	---	---	---	Yes
Informix	---	---	---	---	---	Yes
OLE DB (*)	---	---	---	Yes	---	Yes
ODBC	---	---	---	Yes	---	Yes
Access	---	---	---	---	---	Yes

Data Sources

BI Semantic Model (BISM):

Source	PPS	SPS Chart	SPS Indicator	SSRS	Power View	Power Pivot
Analysis Services Multidimensional	Yes	---	Yes	Yes	Coming soon	Yes
Analysis Services Tabular	Yes	---	Yes	Yes	Yes	Yes
PowerPivot	Yes PowerPivot for SharePoint	---	---	Yes PowerPivot for SharePoint	Yes PowerPivot for SharePoint or Excel 2013	Yes

Other Multidimensional:

Source	PPS	SPS Chart	SPS Indicator	SSRS	Power View	Power Pivot
Hyperion Essbase	---	---	---	Yes	---	---
SAP BI NetWeaver	---	---	---	Yes	---	---

Data Sources

Other:

Source	PPS	SPS Chart	SPS Indicator	SSRS	Power View	Power Pivot
Business Connectivity Services (BCS)	---	Yes	---	---	---	---
Web parts capable of sending data	---	Yes	---	---	---	---
Fixed Values	Yes KPIs only	---	Yes	---	---	---
XML	---	---	---	Yes	---	---
Custom	Yes Via SDK	---	---	Yes	---	---






Data Sources

Other:

Source	PPS	SPS Chart	SPS Indicator	SSRS	Power View	Power Pivot
SSRS Report Model	---	---	---	Yes	---	---
Reporting Services Report (Atom Feed)	---	---	---	---	---	Yes
Data Feeds	---	---	---	---	---	Yes Atom only
Azure Data Market	---	---	---	---	---	Yes
Delimited Text	---	---	---	---	---	Yes

FORMATTING, EXPORTING AND PRINTING

Formatting Flexibility

MSBI Tool		Flexibility with Appearance, Sizing, & Layout
PPS		Themes introduced in PPS 2013
SharePoint		Some flexibility
SSRS		Significant control using properties & expressions Can extend to VB.NET code if needed
Power View		Themes introduced in Power View 2013
Excel		Significant control using standard Excel functionality Exception: pivot tables (workaround: convert pivot table to formulas to "break" the formatting restrictions)

With a tool like Reporting Services: you'll build many more dashboard components manually (as contrasted to a tool like PerformancePoint), but in exchange you get significant control over its appearance.


Exporting

MSBI Tool	Excel	Word	PDF	CSV	XML	Atom Feed	Web	TIFF	Power Point
PPS	Yes Except Decomp Tree	---	---	---	---	---	---	---	Yes Except Decomp Tree
SharePoint	---	---	---	---	---	---	---	---	---
SSRS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	---
Power View	---	---	---	---	---	---	---	---	Yes SharePoint Not Excel 2013
Excel	n/a	---	Yes	Yes	Yes	---	Yes	---	---

This list isn't exhaustive for Excel

Exporting is only available within the Excel client (not Excel Services)

Printing

MSBI Tool	Printing Capability
PPS	Browser
SharePoint	Browser
SSRS	<p>Yes. Separate properties in the report definition control physical page size versus the interactive page size</p>  <p>Requires an ActiveX control to use the client print control (Can be suppressed with ReportServer properties)</p>
Power View	Printing of the current view
Excel	<p>Excel Services: Browser (alternative: open in Excel if permitted by security)</p> <p>Desktop version: File menu</p>

SHAREPOINT AND SILVERLIGHT

SharePoint Requirements

MSBI Tool	Dependency on SharePoint
PPS	Yes
SharePoint	Yes
SSRS	Yes - SharePoint Mode No - Native Mode (Report Manager) No - Report Server Web Service No - Report Viewer Controls
Power View	Yes - Power View for SharePoint (2010 or 2013) No - Power View for Office 2013
Excel	Yes - Excel Services Yes - PowerPivot for SharePoint No - Excel No - PowerPivot for Excel

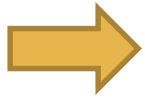
Silverlight Requirements

MSBI Tool	Dependency on Silverlight
PPS	No With one Exception: Decomposition Tree requires Silverlight
SharePoint	No
SSRS	No
Power View	Yes Applicable to both Power View for SharePoint as well as Power View for Excel 2013
Excel	No

Note: The dependency on Silverlight impacts mobile options available

CONCLUSION

Factors to Consider...



#1
driver

Requirements:

- Visualization options
- Drill down
- Drill through
- Conditional display
- Data Sources
- Printing
- Exporting
- Formatting
- Tooltips
- Parameters, filters & slicers
- ...etc.





















Technology:

- Edition of software
- Version of software
- Software dependencies
- Staff skillsets & preferences

Other:

- User population
- User perceptions
- Security
- Customization
- Reusability
- Extensibility
- ...etc.

Where to Start?

MSBI Tool	Visualization Options	Interactivity	Data Sources	Formatting Control	Printing & Exporting
Performance Point (PPS)					
Reporting Services (SSRS)					
Power View					
Excel					



Limited



Somewhat limited



Good number of options



Many options

Further Reading

[How to Choose the Right Business Intelligence Technology to Suit Your Style](#)

[Comparing different SharePoint business intelligence tools and applications](#)

[Comparing Analysis Services and PowerPivot](#)

[PerformancePoint Services and PowerPivot for Excel \(whitepaper\)](#)

[SharePoint Insights: Product Capabilities](#)

Thanks for attending!

Dashboards...How To Choose MSBI Tool



Slides at
sqlchick.com
(Presentations page)

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