Visualizing Your Data Using Dashboards

Introduction/Course Description

Introduction
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This is an intermediate level course designed to educate users on the components of dashboards in Multiview and demonstrate how to build an Accounts Payable dashboard.

Objectives:
By the end of this course you should be able to:
  • Source data for dashboards.
  • Understand the widgets available for use in dashboards.
  • Understand the difference between a value, argument, series, dimension, and measure.
  • Build a basic Accounts Payable dashboard.

Building Block of Dashboards

Data Sources
Data used in dashboards is sourced from previously built reports. There are two types of reports that can be used as data sources: 1) Analytics and 2) Pivots. For today’s hands-on demo, in an effort to save on time, we will be using previously built pivot reports, however users can build pivot reports at their leisure to use in their own dashboards.

Saving Your Dashboard
When building a dashboard report, be sure to save your report often as it does not autosave. When saving your report, you MUST use the save button in the dashboard ribbon (see green rectangle below); not the button in the Multiview toolbar as that one does not work on dashboard specific items. It’s also important to save your work before adding new data sources.
Types of Widgets Available

- **Pivot**: displays a cross-tabular report that presents multi-dimensional data in an easy-to-read format.
- **Grid**: displays data in a row/column format.
- **Chart**: visually displays the data via a bar, point/line, area, range, bubble, or financial chart.
- **Pies**: displays a series of pies or donuts that represent the contribution of each value to a total.
- **Gauges**: displays a series of gauges. Each gauge can communicate two values - one with a needle and the other with a marker on the scale.
- **Cards**: displays a series of cards. Each card illustrates the difference between two values. This difference can be expressed as an absolute value, an absolute variation, or a percentage variation.
- **Choropleth Map**: allows you to colorize the required areas in proportion to the provided values on a map.
- **Range Filter**: allows you to apply filtering to other dashboard items. This item displays a chart with selection thumbs that allow you to filter out values displayed along the argument axis.
- **Text Box**: display rich text within a dashboard.
- **Geo Point Map**: allows you to place callouts, bubbles or pies on the map using geographical coordinates.
- **Group**: arranges dashboard items and allows you to manage interaction between dashboard items within and outside the group.
- **Scatter Chart**: allows the ability to plot datapoints on an X/Y axis to visualize correlation.
- **Treemap**: DO NOT USE! Currently a bug; if you click on Treemap, you'll immediately lose your work and will have to restart Multiview.
• Filter Elements: represent a special type of dashboard item that allows you to apply filtering to other dashboard items.
• Images: allows you to add images to a dashboard.
• Tab Container: allows you to split the dashboard layout into several pages. You can switch tabs in UI or in code and use a timer for visual effects. Common filter controls for large elements in a dashboard can be located on a separate tab page.

Widget Data Sections
Each dashboard widget has a specific set of data sections, such as Values, Arguments and Series in the chart, Columns and Sparklines in the grid, and Values, Columns and Rows in the pivot grid. Each data section corresponds to a particular dashboard item area or element.

• Value: data item on the Y-axis
• Argument: data item on the X-axis
• Series: A grouping of data points on the X-Axis
• Dimension: a data item whose values are not intended to be summarized.
• Measure: a data item whose values are summarized before they are used in the dashboard.

Create a Basic Dashboard Report
Business Case
You are an analyst at your company and the CEO wants to see a daily snapshot of key Accounts Payable data. You know all the data is available in the queries, but those are better for deeper analysis. You must put together a dashboard which refreshes daily and shows the needed information.

Steps to Build an Accounts Payable Dashboard
1. Logging into Multiview
   a. Log into Multiview using the information provided at your workstation.
   b. Click Log in to Desktop.
   c. Click on the Multiview menu then click My Reports.
2. Adding pivot reports to My Reports. In order to maximize our time during this course, pivots were previously created and saved for the users.
   a. Click Report Design then click Add Report From Library.
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b. Navigate to IMUG AP Dashboard in the panel on the left.
c. Click Voucher Payments for IMUG Dashboard then click ok.
d. Repeat for Open AP Vouchers for IMUG Dashboard, Open AP for IMUG Dashboard, and Cash for IMUG Dashboard reports.

3. Creating a new Dashboard Report
   a. Click Report Design then click New Report...
b. When the *New ViewPoint Report* dialogue box pops up, **click** the *Dashboard* radio button then **click next**.

c. You’ll see a list of previously built reports. Be sure “New Report From Scratch” is selected then **click next**.

d. Give your report a name in the *Report Name* field. A quick name would be “Yourname IMUG AP Dashboard.”

e. **Click next** then **click finish**.

f. You’ll see a blank Dashboard Editor.
4. Adding data sources to your pivot report.
   a. Click Edit Data Sources in the Multiview Menu.
   b. Click Add Data Source.
   c. Search for previous pivot reports we added to My Reports.
      i. Type Cash for IMUG Dashboard in the Report Name filter row and click on the report.
      ii. Click ok.
      iii. Repeat for Voucher Payments for IMUG Dashboard, AP Vouchers for IMUG Dashboard, and Open AP for IMUG Dashboard.
      iv. You should now have 4 pivot reports in the Edit Data Sources popup box.

5. Add a pie chart showing open AP by Company and Currency.
   a. Click Pies in the ribbon to insert a pie chart.
   b. In the left-hand pane, change the data source to be Open AP Vouchers for IMUG Dashboard.
   c. Click Invoice Amount and drag that data item to Value.
   d. Click Company ID and drag that data item to Argument.
   e. Click Currency ID and drag that data item to Series.
   You should now see that you have 2 pie charts. 1 is for US dollars and the other is for CDN. Each pie chart is segregated into amounts by company. In order for us to keep our graph’s widgets straight, it is important to name them as we go along. To rename our widget:
   f. Right Click anywhere in the pie chart widget and click Edit Names in the popup.
   g. In the Dashboard Item Name field, type “Open AP by Company and Currency.”
   h. Click ok.
   i. Click save.
6. Add a bar graph showing current AP Aging
   a. **Click chart** in the ribbon.
   b. Ensure the data source for this chart is still *Open AP Vouchers for IMUG Dashboard*.
   c. This graph will require a calculated field to produce the buckets. The formula to use is:

   $$\text{Iif(DateDiffDay([Due Date], Today()) < 0, '0', DateDiffDay([Due Date], Today()) < 15, '0-15', DateDiffDay([Due Date], Today()) < 30, '16-30', DateDiffDay([Due Date], Today()) < 45, '31-45', DateDiffDay([Due Date], Today()) < 60, '46-60', 'Over 60')$$

   This formula needs modified a bit for our IMUG data but will work nicely for real world data.
   To expedite entering this formula, it has been placed on the desktop to easily copy and paste into the dashboard.
   d. **Copy** the AP aging formula.
   e. In your dashboard report, **right click** on any of the data items in the left hand panel.
   f. **Click Add Calculated Field**
   g. **Paste** the formula in the expression editor then **click ok**.
   i. If you want to rename the new calculated field, **right click** on the *calculated field* then **click rename**.
   ii. Feel free to rename this field to something recognizable such as “Aging Buckets.”
h. From the left hand panel, **Drag Invoice Amount to Value**.

i. **Drag Aging Buckets** (the calculated field) to **Argument**.

j. You can change the name of the graph by **right clicking** in the chart then **clicking Edit Names**.

   i. **Suggested Name:** “AP Aging by Due Date.”

   This graph is showing the total amount of open AP. If you want to see this broken down by company, feel free to drag **Company ID** into the **Series** area.

7. **Display a list of open invoices by Vendor, Invoice Date, and Amount**
a. **Click grid** in the ribbon.

b. Ensure the data source for this chart is still “Open AP Vouchers for IMUG Dashboard.”

c. **Drag Pay to Vendor** from the panel on the left to **New Column**.
   i. **Repeat** for **Invoice Date** and **Invoice Amount**.

d. **Click** on the **LOV** to the right of **Invoice Date** in the **data items**.

e. In the dropdown, **click Day-Month-Year**. This will change the grouping in the grid from years to individual days.

f. **You can change the name of the grid by right clicking in the grid then clicking Edit Names**.
   i. **Suggested Name**: “Open Vouchers” then **click ok**.

g. **You can sort the columns of the grid by clicking on each column header**.

8. **Add gauges for Open AP and Open Cash**
   a. **Click group** in the ribbon.
   b. **Click gauges** in the ribbon.
      i. **Drag** the newly created box into **group 1**.
   c. **Click gauges** in the ribbon.
      i. **Drag** the newly created box into **group 1**.

There should now be 2 boxes within **group 1**.
d. Click on gauges 1 and change the Data Source to Cash for IMUG Dashboard.
e. Drag closing balance to actual.
f. To create a target, right click on a value in the panel on the left then click Add Calculated Field.
g. Type 500000000 (500 million) then click ok.
h. Right click on the calculated field and click rename.
   i. Suggested name: “Cash Target” then click ok.
i. Drag cash target to target.
j. Click the LOV to the right of Cash Target then click average.
k. You can change the name of the gauge by right clicking in the gauge then clicking Edit Names.
   i. Suggested Name: “Cash Balance” then click ok.
   ii. You can also take this opportunity to edit the name of the value.
l. Click on Gauges 2 and change the Data Source to Open AP for IMUG Dashboard.
m. Drag closing balance to actual.
   Notice in the gauge that the amount is negative. This is due to AP being a liability account which generally has a credit balance. In order to make this amount positive for reporting purposes, we’ll need to create a calculated field to reverse the value.

n. Right click on a value in the panel on the left then click Add Calculated Field.
   i. Enter [Closing Balance]*-1 then click ok.
o. Right click on the calculated field and click rename.
   i. Suggested name: “Open AP” then click ok.
p. To create a target, right click on a value in the panel on the left then click Add Calculated Field.

q. Type 450000000 (45 million).
r. Click ok.
s. Right click on the calculated field and click rename.
   i. Suggested name: “AP Target” then click ok.
t. Drag ap target to target.
u. Click the LOV to the right of AP Target then click average.
   The gauge is below the target but the difference is showing red. We need to show it as green to represent that this is good. In order to do this:
v. Click on gauges 2 and then click on the gear to the right of Open AP in the data items.
w. Change the value in result indication to less is good then click ok.
x. You can change the name of the gauge by **right clicking** in the gauge then **clicking Edit Names**.

   i. Suggested Name: “Open AP.”

   ii. You can also take this opportunity to edit the name of the **value**.

y. You can change the look of the gauges to half gauges by clicking on the gauge, then clicking on the **design** tab of **Gauges Tools** in the ribbon.

z. The title of the group, “Group 1”, is not beneficial so we can remove it by right clicking on **Group 1** and **clicking on show caption** from the dropdown. This will allow us to have more screen space for the gauges.
9. Create a line graph showing the average number of days vouchers were paid late.
   a. **Click chart** in the ribbon.
   b. In the panel on the left, **choose** the *Voucher Payments for IMUG Dashboard* data source.
   c. We need to add a calculated field to calculate the average number of days late the invoices were paid.
   d. **Right click** on a value in the panel on the left then **click** *Add Calculated Field*.
   e. Paste the formula or type: `DateDiffDay([Due Date], [Check Date])` into the expression editor then **click ok**.
   f. **Right click** on the calculated field and **click** *rename*.
      i. Suggested name: “Average Days Late” then **click ok**.
   g. **Drag** *Average Days Late* to value.
   h. **Click** on the LOV beside *Average Days Late* then **click** *average*.
   i. **Drag** *check date* from the panel on the left to argument.
   j. **Click** on the LOV beside *Check Date* then **click** *Month-Year*.
   k. A line graph is a better way to visualize this data. To change the bar graph to a line graph
      **click** on the *bar icon* to the right of *Average Days Late* and then choose a line graph
      you’d like to use.
   l. You can change the name of the graph by **right clicking** in the graph then **clicking** *Edit Names*.
      i. Suggested Name: “Average Days Paid Late” then **click ok**.
   m. This would probably be a good time to save your dashboard!

10. Add cards for the top 5 vendors with open invoices.
    Cards can be used to compare actual to target amounts, but in this example, we are going to use them to show the top 5 vendors with open invoices.
a. **Click cards** in the ribbon.

b. **Ensure** the data source being used for the cards is *Open AP Vouchers for IMUG Dashboard*.

c. **Drag Invoice Amount to Actual**.

d. **Drag Pay to Vendor to Series**.

e. To limit the cards to our top 5, **select** the **LOV** to the right of Pay to Vendor.

f. In the popup **select Top N**.

g. **Check** the **enabled** box.

h. **Click ok**.

i. You can rename the cards by **right clicking** on the cards and **click Edit Names**.

   i. Suggest Name: “Top 5 Open Vendors.”

j. **Click ok**.

11. **Renaming your dashboard**

   a. You can rename your dashboard by **clicking Title** in the ribbon.
12. Rearranging your dashboard
   a. You can rearrange your dashboard by grabbing a widget and moving it until you see a blue rectangle then releasing your mouse.
13. Setting your dashboard to refresh and push it to recipients.
   a. **Click save.**
   b. **Close Dashboard Report Editor tab.**
   c. **In my reports, right click** on your dashboard report.
   d. **In the popup click Edit Report Settings.**
   e. **Change the Refresh Type to Once a Day**
   f. **Change the Refresh Time of Day to 6:00:00 AM.**
   g. **Click ok.**
h. To push the report to users, you’ll need to add the report to the library. Right click on your report hover over report design and click Add Report to Library.

i. Click next.

j. Click next.

k. Pick a folder to put the report. We are going to choose IMUG AP Dashboard then click next.
1. Select the security for this report. If you want it in the library for users to retrieve, select everyone. If you want to force it to certain users’ My Reports, then select secured by user Id, click the box for Mandatory Report, the select the users you want to push the report to. **IMPORTANT** BE SURE TO INCLUDE YOUR OWN USER IN THE LIST OF USERS!

m. Click Next.

n. Click Finish.