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Tricks Using SAS® Add-In for Microsoft Office

Tricia Aanderud, And Data Inc., Raleigh, NC

ABSTRACT

SAS® Add-In for Microsoft Office remains a popular tool for people who are not SAS® programmers due to its easy interface with the SAS servers. In this session, you'll learn some of the many tricks that other organizations use for getting more value out of the tool.

INTRODUCTION

The SAS Add-In for Microsoft Office is sold as part of the Office Analytics and Enterprise Business Intelligence (EBI) solutions. The add-in is designed for users who are familiar with the Office applications but new to SAS. It extends the functionality of Microsoft Excel, Microsoft Word, Microsoft Outlook, and Microsoft PowerPoint by enabling users to access SAS analytics and reporting functionality without any prior programming experience.

In this paper, we will explore how a fictional customer support organization applies the add-in to solve their reporting needs. The organization has over 250 global users and nearly all are able to use reports and dashboards from the EBI and SAS Visual Analytics system to complete their work. However, a smaller portion of the organization always has special reporting needs and they seem to spend all of their time sending requests to IT. This paper provides some tips for helping these users address their needs and ideas for further extending the add-in functionality.

INTRODUCING THE SAS ADD-IN FOR MICROSOFT

SAS Add-In for Microsoft Office uses the Microsoft COM add-in technology to extend the data access, reporting, and analytic capabilities of Microsoft Office suite. Once the SAS Add-In is installed, an integrated SAS toolbar or ribbon is available in the Office environment as shown below. Users must have a metadata user ID with appropriate permissions before they can access the data. Refer to the SAS Intelligence Platform: Security and Administrators guide for more information regarding roles and permissions within SAS metadata.

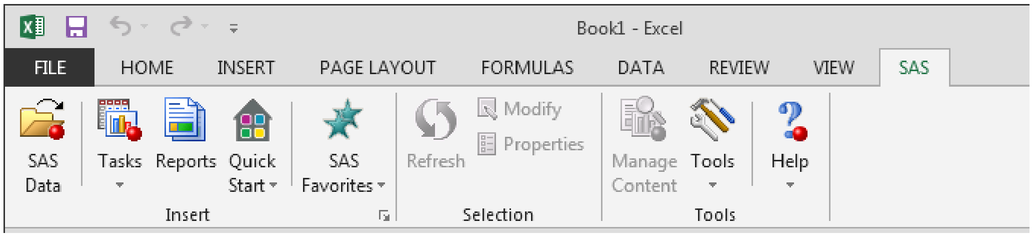


Figure 1 SAS Ribbon in MS Excel 2013

SAS TOOLS INTEGRATION WITH MS OFFICE

Each MS Office application offers the functionality in different ways. The following table describes the capabilities of each application. Excel has the most integration with the SAS metadata server and allows users the most interaction.

Task	**Microsoft Excel**	**Microsoft Outlook**	**Microsoft Word**	**Microsoft PowerPoint**
Open Web Report Studio Reports	Yes	Yes	Yes	Yes
Open OLAP Cubes	Yes	Yes & No*		
Open Information Maps	Yes			
View BI Dashboards	Yes	Yes & No*		
Run SAS Stored Processes	Yes	Yes	Yes	Yes
Access SAS Datasets	Yes		Yes**	Yes**
Update SAS Datasets	Yes			
Open SAS Visual Analytics Designer Reports	Yes	Yes	Yes	Yes
**There was a previous experimental feature in version 9.2.* ***You can build reports from them.*				

QUICK OVERVIEW OF THE ADD-IN

Many users want to access corporate databases and data warehouses but fail to realize these tables contain massive amounts of data that would cripple an Excel if opened directly. However, with the add-in the data processing is accomplished on the SAS server and the much smaller results are delivered to the Office application.

Accessing the Data and Reports

From the SAS ribbon, users, given appropriate access permissions, can access Visual Analytics reports, Web Report Studio Reports and SAS Stored Processes by clicking the Reports icon, as shown in the following figure. Any prompts for respective reports or stored processes are displayed as well.

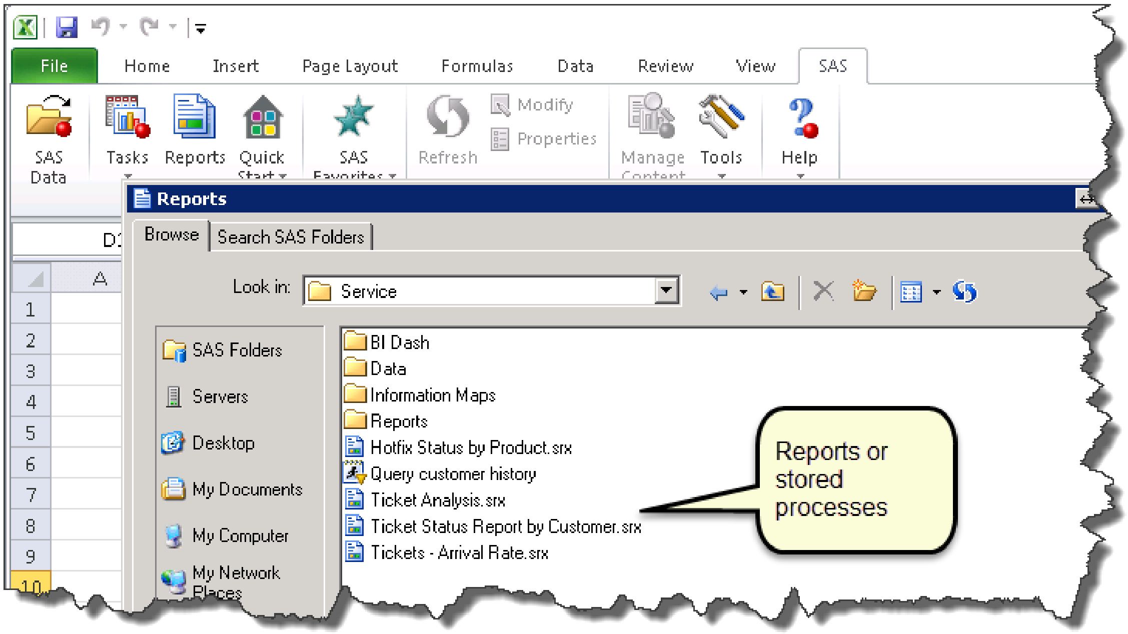


Figure 2 Accessing the Reports and Stored Processes

From the SAS ribbon, users, given appropriate access permissions, can access the SAS Server, which contains data information maps, and OLAP cubes, as shown in the following figure.

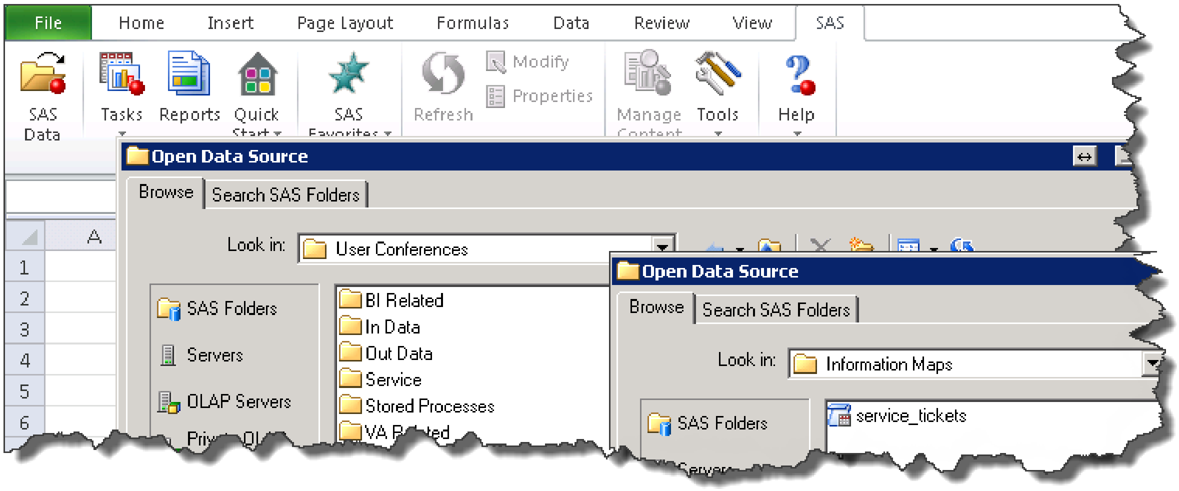


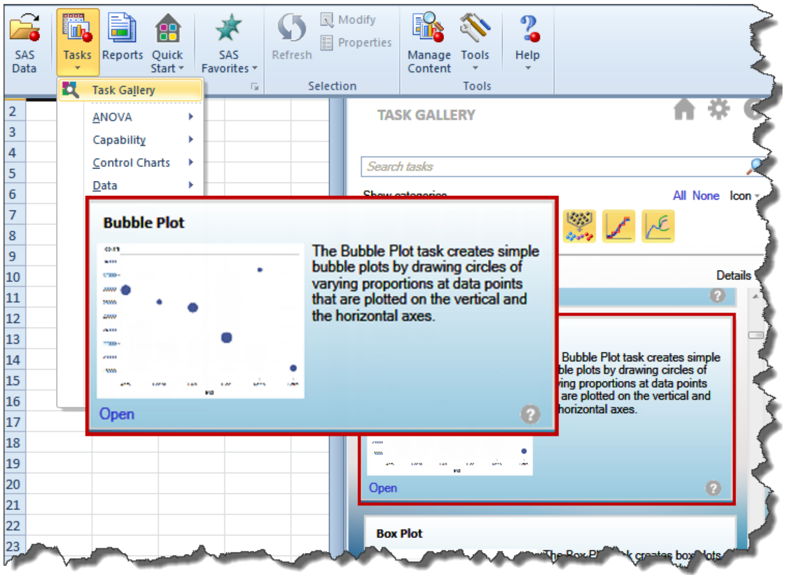
Figure 3 Accessing the SAS Server

Once users learn how to access the data, they begin to understand why the add-in so useful. However, there may be some other ways to use the tool that allow the user to be more self-sufficient.

Using the Basic Features

Besides being able to open prompted report or data, the SAS ribbon provides some quick start features that new users appreciate:

- Automatic Chart panel creates various charts based on the data role assignments. This helps new users get started with creating charts.
- Quick Stats panel calculates basic statistics and charts based on the input dataset. This task helps users explore the data and its values.
- Task Gallery shows sample charts that the each task can create. This helps users find the specific task they need because sometimes people have different names from charts or procedures.



The Bubble Plot task creates simple bubble plots by drawing circles of varying proportions at data points that are plotted on the vertical and the horizontal axes.

Figure 4 Task Gallery

Using the Advanced Features

The add-in provides some advanced features that developers (even aspiring ones) might find useful.

- There is an automation interface that allows the user to write scripts using Visual Basic. Tim Beese wrote an extensive paper about this topic “Tips and Techniques for Automating the SAS® Add-In for Microsoft Office with Visual Basic for Applications”, which provides examples to get you started.
- While not technically a part of the add-in, SAS does provide a way to work with the Microsoft.Net framework, which is called custom tasks. Chris Hemedinger has written a book about this topic, *Creating Custom Add-In Tasks for SAS Enterprise Guide* and has examples available at his SAS Dummy blog. Paul Homes of Metacoda created custom tasks that allow you to explore the metadata, which is useful for developers.

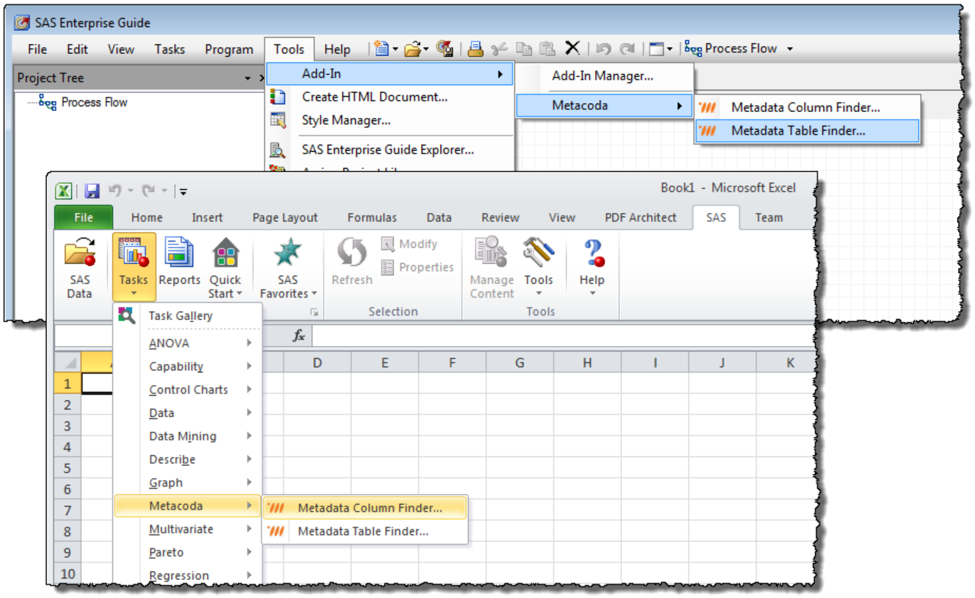


Figure 5 Examples of Custom Tasks from Metacoda

WORKING WITH USERS TO SOLVE ISSUES

After you have deployed your business intelligence tool with its fancy data and cool reports, you may think it is finally time to enjoy a beverage and catch-up on your backlog. In many ways, your journey has just begun. Even if you have the most robust reporting system available, there are users who need something different or the data has to be available for a unique purpose.

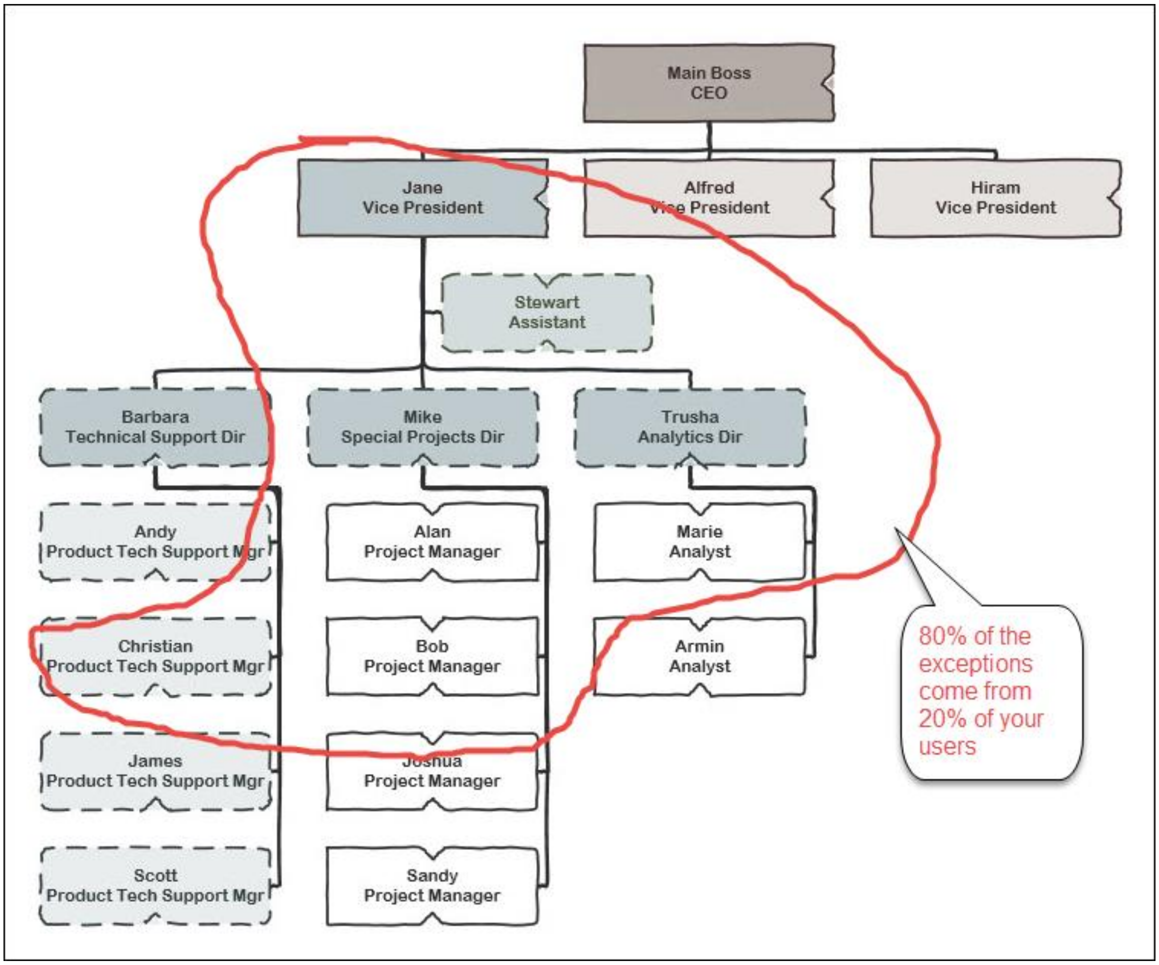


Figure 6 Example Customer Service Organization

In this paper, you are responsible for supporting the SAS system for the Customer Service department. Customer Service is responsible for supporting the company's hardware and software products in the field for more than 1,200 worldwide businesses.

The department is divided into three major areas: Technical Support, Special Projects, and Analytics. Technical Support responds to customer issues and logs the issues into Trouble Ticket database. Special Projects is a team of project managers assigned to the larger customers. This team oversees new installations, meets with larger customers to ensure satisfaction, and handles any extremely unhappy customers. The Analytics organization is responsible for creating reports, analyzing systems, and responding to customer requests from the Sales team.

Generally what seems to happen is the standard reporting and dashboards work for 80% of the team. For instance, the technical support managers and team rarely need anything different from a list of issues and performance measurements. Their reports change infrequently. When this team has a request, it is for a new dashboard.

The other departments are working with those outside the organization and their work may not follow a standard practice so they often need atypical reports or the data represented in a different way. Some of these users may not have a SAS programming background and they are more comfortable with the Microsoft Office applications.

Let's review some common scenarios the users experience and how SAS Add-In for Microsoft Office can resolve their issues.

TIP 1: SUPPORT THE SPECIAL NEEDS REPORTERS

Within the customer support organization, a Special Projects team exists. Their mission is to support high profile customers. Many of the high profile customers require reports in a particular format or with different information. The standard customer reports are not suitable because the customer reports information to a government agency or maybe the customer purchased a unique product and the data does not fit the standard reporting.

In this example, the customer required a monthly report that provided analysis of the installed equipment and supporting processes. Some metrics were standard and similar to what nearly all customers required. However, this customer required detailed analysis of product trouble areas that they could share with their global team. The project manager found that it was easier to write the information in MS Word but she was spending countless hours each month recreating data within MS Excel and then cutting and pasting the data into MS Word and MS PowerPoint. It was time consuming and painful.

SOLUTION – GET IT STRAIGHT FROM THE SOURCE

This report supported a short-term project that required information from the data warehouse. While this report was unique, the overall need for a specialized report is not. Since it is short-term and unique, it doesn't make sense to engage IT resources for these needs. So the question becomes how does the organization support requests like these without a special team of dedicated staff?

Figure 7 Examples in MS Word and MS PowerPoint

If the data is available but just needs special presentation, the project managers find the Add-In for MS Word or MS PowerPoint is better able to meet their needs. Using the add-in, the project manager would be able to create the graphs and tables once and then refresh the items with new data each month. Then she could write the analysis and create any needed supporting graphs with the Office application easily.

After creating the report in MS Word, the project manager adds graphs or tables using the SAS ribbon. For this analysis, she wants to show how trouble tickets were resolved quicker than the usual. If this was a prototype project, the company would want to ensure the customer the project was receiving their complete focus.

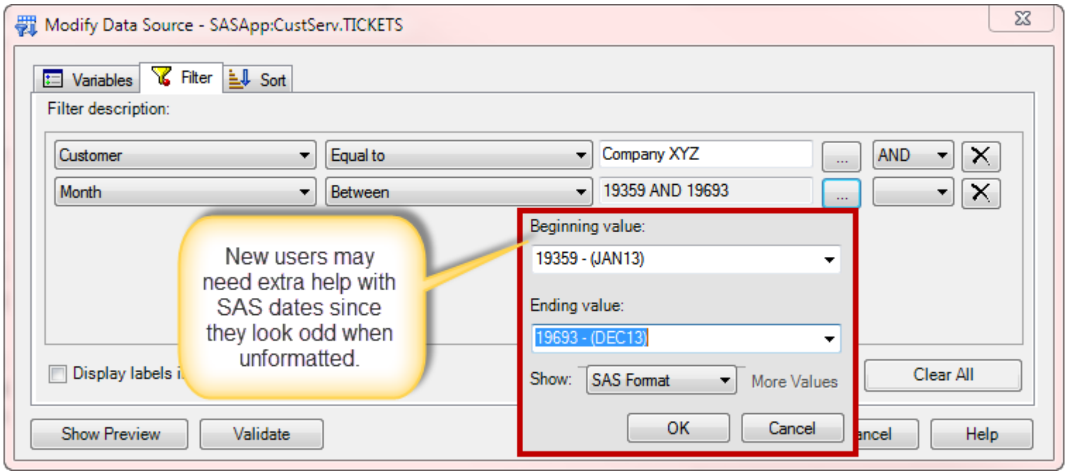
Create Charts and Graphs from Task List

Users can access data and create the charts or tables from the SAS ribbon with just a few clicks. The process is the same for MS Word and MS PowerPoint. Users can drag and drop to resize the object within the application.

To add a line graph to this report, use these steps:

1. From the SAS Ribbon, select the Tasks > Graph > Line Plot.
2. In the Choose Data window, use the Browse button to navigate to the dataset. Use the Filter & Sort button to control the data returned. This report is for the Company XYZ for the past year, so the filter would look similar to this figure.

   Tip: Always ensure it is a good query by pressing the Validate button!



Filter description:

Customer	Equal to	Company XYZ	AND
Month	Between	19359 AND 19693	

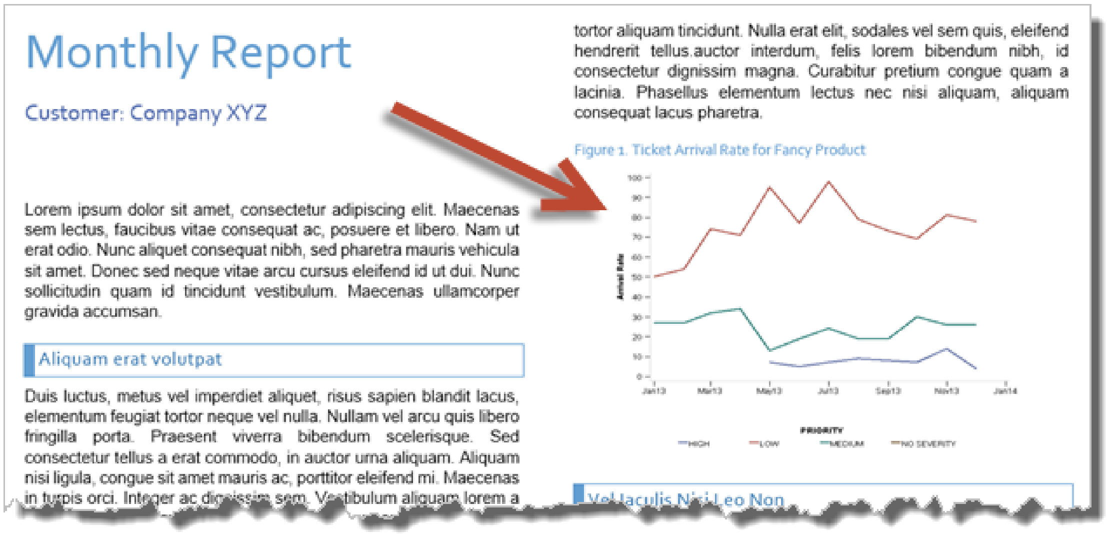
Beginning value: 19359 - (JAN13)

Ending value: 19693 - (DEC13)

Show: SAS Format

New users may need extra help with SAS dates since they look odd when unformatted.

3. After selecting the data, you can build the line chart. The task gives you control over the variables, colors, axis, legend, and titles. For quick results, just complete the Data tab and click Run. The results are returned to the application in a box. In the following example, the user reduced the graph to a single column.



Monthly Report

Customer: Company XYZ

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Maecenas sem lectus, faucibus vitae consequat ac, posuere et libero. Nam ut erat odio. Nunc aliquet consequat nibh, sed pharetra mauris vehicula sit amet. Donec sed neque vitae arcu cursus eleifend id ut dui. Nunc sollicitudin quam id tincidunt vestibulum. Maecenas ullamcorper gravida accumsan.

Aliquam erat volutpat

Duis luctus, metus vel imperdiet aliquet, risus sapien blandit lacus, elementum feugiat tortor neque vel nulla. Nullam vel arcu quis libero fringilla porta. Praesent viverra bibendum scelerisque. Sed consectetur tellus a erat commodo, in auctor urna aliquam. Aliquam nisi ligula, congue sit amet mauris ac, porttitor eleifend mi. Maecenas in turpis orci. Integer ac dignissim sem. Vestibulum aliquam lorem a

tortor aliquam tincidunt. Nulla erat elit, sodales vel sem quis, eleifend hendrerit tellus.auctor interdum, felis lorem bibendum nibh, id consectetur dignissim magna. Curabitur pretium congue quam a lacinia. Phasellus elementum lectus nec nisi aliquam, aliquam consequat lacus pharetra.

Figure 1. Ticket Arrival Rate for Fancy Product

Vel Iaculis Nisi Leo Non

Once the report is complete, it's easy to update it each month when the new data is available. With a simple click on the Refresh button, the report is updated. If the user wants to change the filter to have a different date range or even a different customer, she would click the Modify button to change the filter and update the chart.

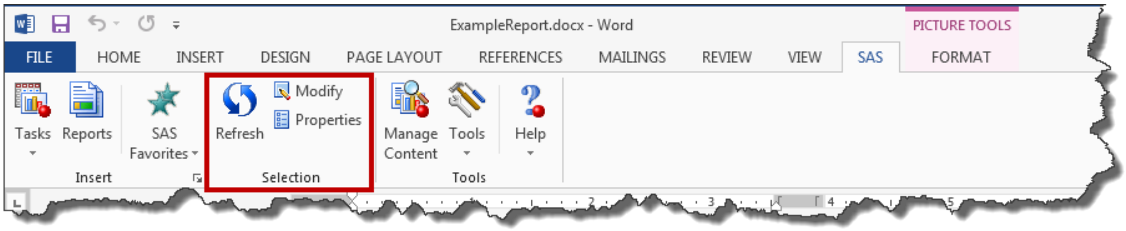


Figure 8 Refresh or modify the report from the SAS Ribbon

BEHIND THE SCENES WORK

Depending on the project, you may need to create some views within the database or some SAS datasets that contain the desired data. You may spend more time showing the end user some tricks on how to filter the data than anything else. Seasoned MS Office users will expect search behavior that is similar to that tool and may need a quick reference or a cheat sheet to assist with using the SAS filters.

TIP 2: MAINTAIN SMALLER DATASETS FROM EXCEL

This company is continually changing the organizational structure to meet customer needs. The technical support group is divided by product line and in some cases region. Managers assign a team lead to each group, who is responsible for ensuring trouble tickets are resolved in a timely manner. However, this is not an official position and sometimes team leads are assigned arbitrarily based on customer needs.

Managers want team leads to see the tickets they own. With so much churn it seems impossible to keep the reports current with the organization. It would be great if a single manager could update the situation as it changed.

CREATIVE SOLUTION-CUSTOM PROMPT DATA

Many SAS BI users do not realize that you can update SAS datasets through Excel using the add-in. For this solution, you would create a dataset on the SAS server and then allow someone in the organization to update the data as needed. The resulting dataset would be used with a stored process and a prompt to ensure the correct results were returned.

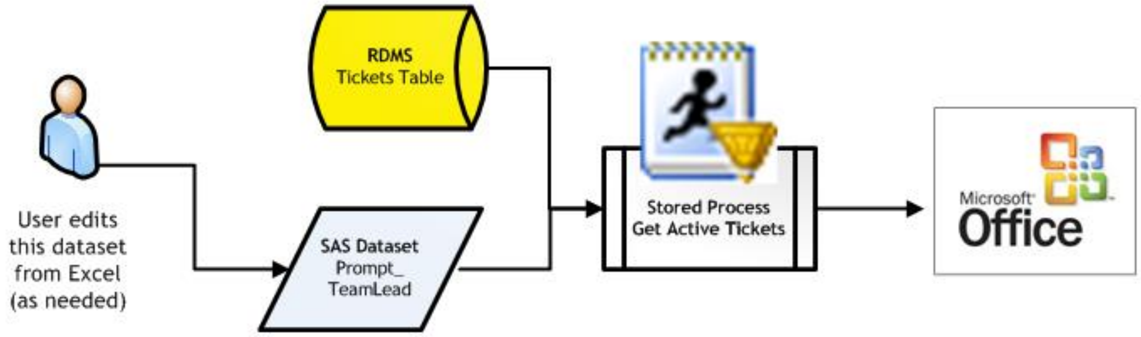
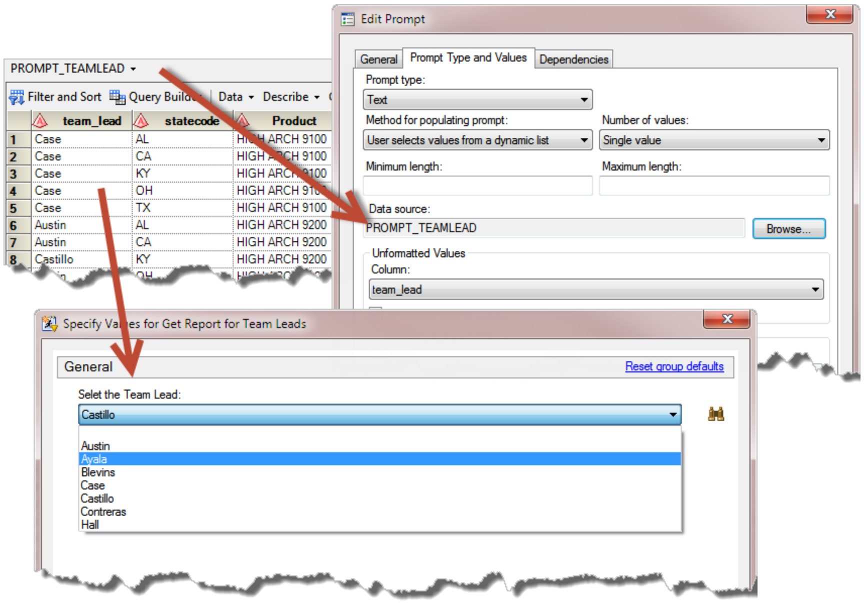


Figure 9 One user updates a SAS dataset for everyone else

This is a simple example where the team leads are assigned based on product and state. Since we need a way to query the data we create a dataset that contains the team_lead name, state, and product name. A prompt is created that refers to the dataset and used to load the prompt values, as you can see in the following figure.



	team_lead	statecode	Product
1	Case	AL	HIGH ARCH 9100
2	Case	CA	HIGH ARCH 9100
3	Case	KY	HIGH ARCH 9100
4	Case	OH	HIGH ARCH 9100
5	Case	TX	HIGH ARCH 9100
6	Austin	AL	HIGH ARCH 9200
7	Austin	CA	HIGH ARCH 9200
8	Castillo	KY	HIGH ARCH 9200

Prompt type: Text

Method for populating prompt: User selects values from a dynamic list

Number of values: Single value

Minimum length:

Maximum length:

Data source: PROMPT_TEAMLEAD

Unformatted Values

Column: team_lead

Selet the Team Lead: Castillo

Austin
Ayala
Blevins
Case
Castillo
Contreras
Hall

Figure 10 Using the Prompt TeamLead dataset to support a prompt

Creating a Stored Process to Support the Prompt

When you build the stored process, you could either join the datasets based on the prompt or create a more elaborate method based on how the report should appear. The following figure shows a very simple example.

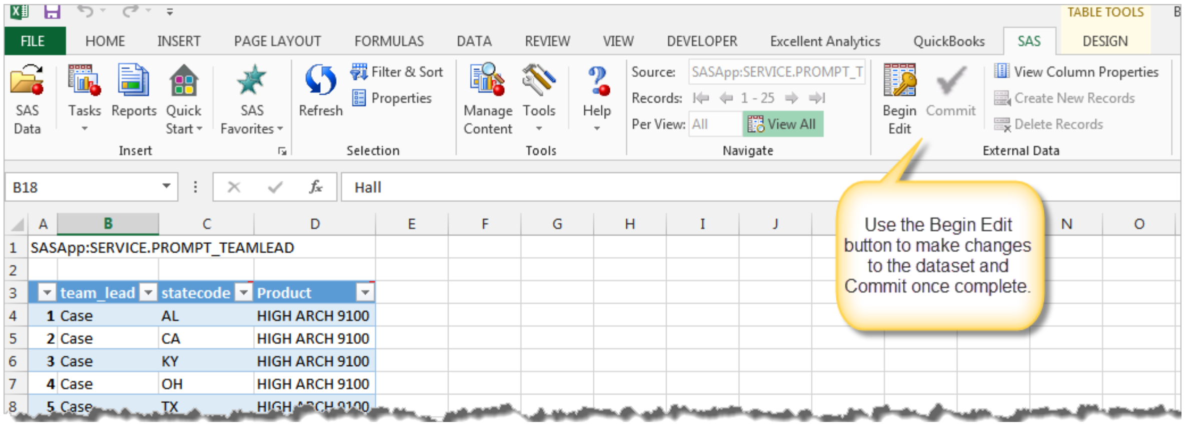
```
/* === Example Code of using the supplemental dataset ====*/

   proc sql;
     create table result as
     select * from tickets T1
             ,(select * from prompt_teamlead
                Where team_lead=”&prompt_teamlead.”)T2
      where t1.product = t2.product
           and t1.state = t2.state
           and t1.ticket_status = ”Active”
      ;
   quit;

proc print data=result; run;
```

Updating the SAS Dataset in MS Excel

When a manager wants to update the Prompt_TeamLead dataset, she would use MS Excel. Use the SAS data button to open the SAS dataset. To make changes, click the Begin Edit button and update the dataset. After the changes are made, click the Commit or End button. The dataset is updated on the server immediately.



SASApp:SERVICE.PROMPT_SERVICE

SASApp:SERVICE.PROMPT_TEAMLEAD

	team_lead	statecode	Product
1	Case	AL	HIGH ARCH 9100
2	Case	CA	HIGH ARCH 9100
3	Case	KY	HIGH ARCH 9100
4	Case	OH	HIGH ARCH 9100
5	Case	TX	HIGH ARCH 9100

Use the Begin Edit button to make changes to the dataset and Commit once complete.

Figure 11 Using MS Excel to edit SAS datasets

BEHIND THE SCENES WORK

To access the dataset directly, the user must have associated save and distribute capabilities granted to her user account through metadata roles. Your organization should consider if all users need this capability since there is nothing to stop a user from opening other datasets and making changes. Within SAS Management Console, review the roles associated with the Add-In for Microsoft Office under the Save or Distribute capability.

When using this method to support a prompt, ensure the user tests the newly added rows to ensure it works properly. Obviously if the manager updates the dataset with a team lead for a product or state that does not exist in the dataset, the stored process may not return any results. So your stored process might need to be robust enough to handle the situation.

TIP 3: TAKE A SLICE OF THE CUBE

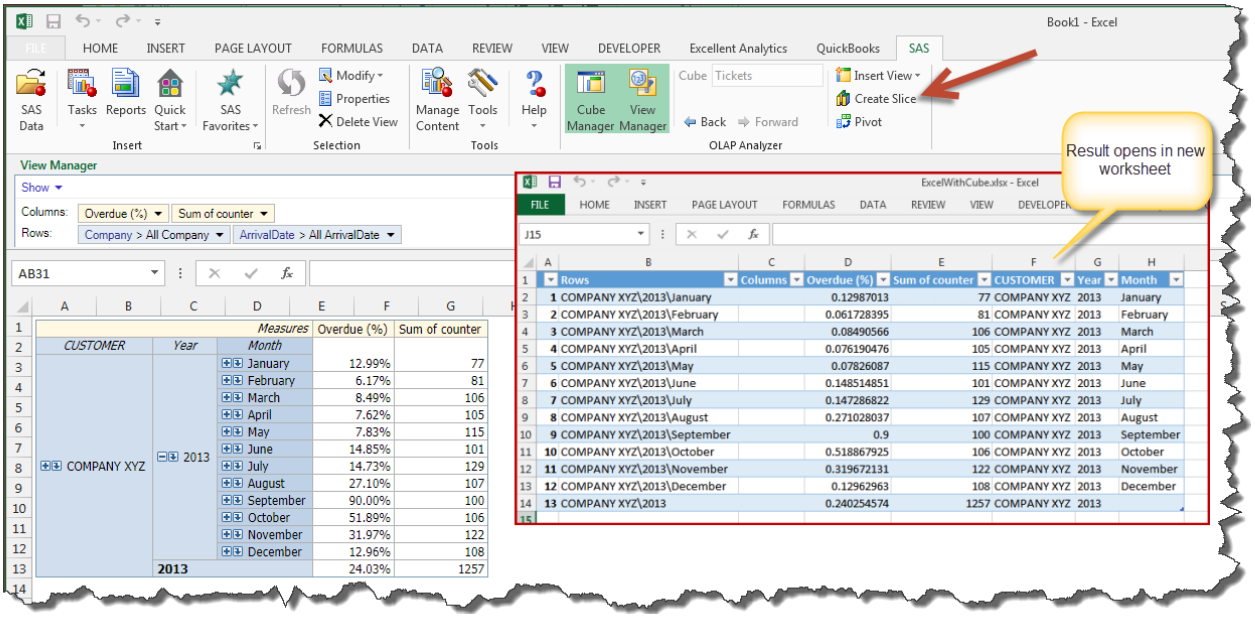
Users can open OLAP cubes in MS Excel using the SAS Add-In. Cubes have a lot of information available and can be used in a variety of reports. Users may not be aware of all the tricks that a cube can perform just from Excel. In these cases the users copy and paste information or that additional datasets are created to support the questions they have.

SOLUTION

Users need to understand some of the ways the cube can be manipulated from within MS Excel to answer the questions they have or how it can be used to create reports. One way to build a simple report is create a slice of the cube.

OLAP Cube Analyzer provides the same functionality as opening the cube with SAS Enterprise Guide. The team can easily explore data and trends. The OLAP Cube Analyzer allows you to build charts and graphs, but sometimes different charts are needed. In these cases, the user can get a slice of the cube and build any chart they please with native Excel functionality.

In this example, the user created the drill path to show the overdue tickets for the customer. Once the data the user wants to plot is showing, she selects the Create Slice button to open the data in an Excel table. From here the new worksheet can be used as desired.


Book1 - Excel
FILE HOME INSERT PAGE LAYOUT FORMULAS DATA REVIEW VIEW DEVELOPER Excellent Analytics QuickBooks SAS
SAS Data
Tasks
Reports
Quick Start
SAS Favorites
Insert
Refresh
Modify
Properties
Delete View
Selection
Manage Content
Tools
Tools
Help
Cube Manager
View Manager
Cube Tickets
Back
Forward
Insert View
Create Slice
Pivot
OLAP Analyzer
Result opens in new worksheet
View Manager
Show
Columns: Overdue (%) Sum of counter
Rows: Company > All Company ArrivalDate > All ArrivalDate
AB31
ExcelWithCube.xlsx - Excel
J15

CUSTOMER	Year	Month	Overdue (%)	Sum of counter
COMPANY XYZ	2013	January	12.99%	77
		February	6.17%	81
		March	8.49%	106
		April	7.62%	105
		May	7.83%	115
		June	14.85%	101
		July	14.73%	129
		August	27.10%	107
		September	90.00%	100
		October	51.89%	106
		November	31.97%	122
		December	12.96%	108
	2013		24.03%	1257

	Rows	Columns	Overdue (%)	Sum of counter	CUSTOMER	Year	Month
1	COMPANY XYZ\2013\January		0.12987013	77	COMPANY XYZ	2013	January
2	COMPANY XYZ\2013\February		0.061728395	81	COMPANY XYZ	2013	February
3	COMPANY XYZ\2013\March		0.08490566	106	COMPANY XYZ	2013	March
4	COMPANY XYZ\2013\April		0.076190476	105	COMPANY XYZ	2013	April
5	COMPANY XYZ\2013\May		0.07826087	115	COMPANY XYZ	2013	May
6	COMPANY XYZ\2013\June		0.148514851	101	COMPANY XYZ	2013	June
7	COMPANY XYZ\2013\July		0.147286822	129	COMPANY XYZ	2013	July
8	COMPANY XYZ\2013\August		0.271028037	107	COMPANY XYZ	2013	August
9	COMPANY XYZ\2013\September		0.9	100	COMPANY XYZ	2013	September
10	COMPANY XYZ\2013\October		0.518867925	106	COMPANY XYZ	2013	October
11	COMPANY XYZ\2013\November		0.319672131	122	COMPANY XYZ	2013	November
12	COMPANY XYZ\2013\December		0.12962963	108	COMPANY XYZ	2013	December
13	COMPANY XYZ\2013		0.240254574	1257	COMPANY XYZ	2013	

Figure 12 Create a slice of the cube for other purposes

BEHIND THE SCENES WORK

This is another situation where you may need more training for the users on how to manipulate the cube. Users can also create custom filters and measures to assist with some of the metrics they may need to supply to managers or customers. Once the users understand the cube capabilities they can make better use of it in their work.

TIP 4: ALLOW SOME EASY AD-HOC REPORTING

Many times the users want similar information from the dataset but just want to see it with a slightly different filter. The project manager only wants to see information about a particular customer or a sales manager wants to know all trouble tickets open on a specific release in customer sites. One thing these users have in common that they want to analyze the data in Excel.

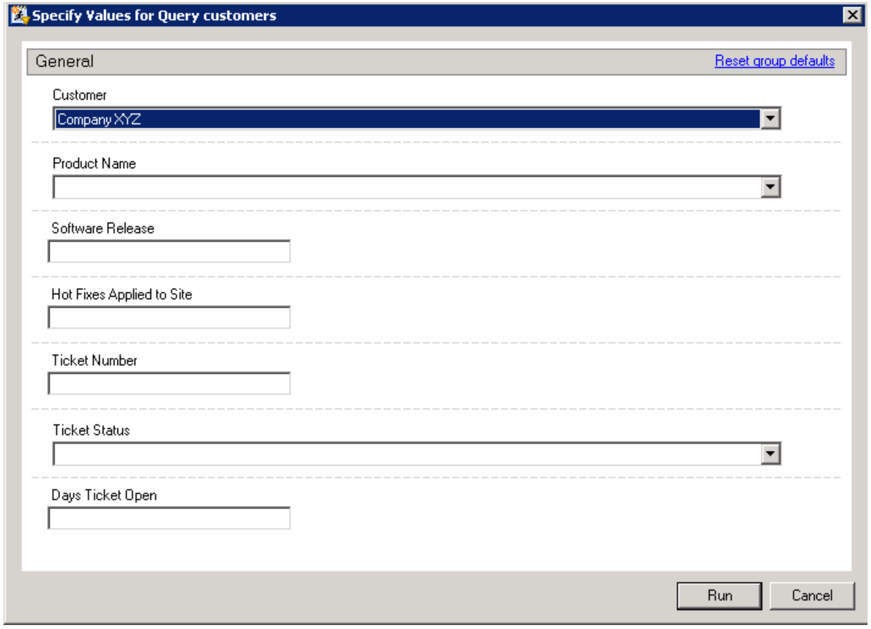
SOLUTION - WHEN THIS WORKS

If you have the information summarized elsewhere then you want to encourage the user to that path – especially if it’s 95% what they want. However, there are times when the data is not accessed that often and you can write a custom query to the database to handle it.

HOW DO YOU HANDLE IT

How about writing a single stored process that has multiple prompts that allows the user to consume the information as they desire? The beauty of this method is that you do not have to maintain multiple stored processes and multiple users can get multiple uses from a single stored process.

You might determine that all the users really want is an updated list that can access from Excel. If you examine the user requests you learn that they all want the same columns from the table they just want different filters. Here's how the prompts might look:



Specify Values for Query customers

General

Customer: Company XYZ

Product Name:

Software Release:

Hot Fixes Applied to Site:

Ticket Number:

Ticket Status:

Days Ticket Open:

Figure 13 Prompt the User

You can change the prompts to be dependent. For instance, in the above example it would probably be smarter to ask the user to select a Product Name and then allow the software release to be selected based on the chosen product.

Write a Stored Process

Write one stored process with a dynamic where statement. The where clause can be as fancy you want. In the following figure, you can see the basic logic flow for the stored process. The key is writing a dynamic where clause that builds the where clause for you. The resulting dataset is tested for returned rows and takes appropriate action.

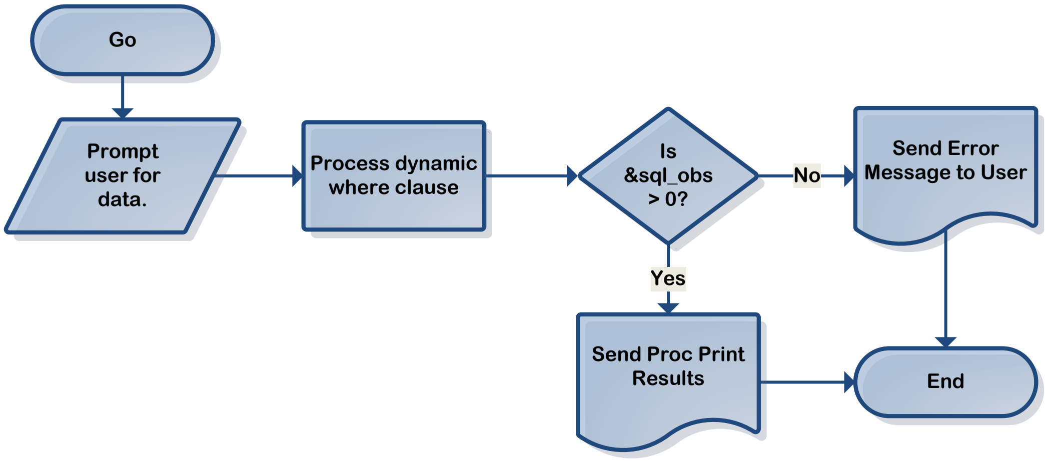


Figure 14 Dynamic where clause process flow

Here’s how the code might look. The basic idea is that you test each prompt variable to see if it’s populated and then append the value to the where clause macro variable.

EXAMPLE STORED PROCESS CODE FOR DYNAMIC WHERE CLAUSE

```
%macro BuildReport;

Title;footnote;

    %global where_stmt;
    %let where_stmt = 1;  /*Start the statement with something to resolve*/

    %if %length(&customerPrompt) > 0 %then %do;
     %let where_stmt = &where_stmt and customer = "&customerPrompt";
    %end;

    %if %length(&TicketNumberPrompt) > 0 %then %do;
     %let where_stmt = &where_stmt and ticket_num = &TicketNumberPrompt;
    %end;

    %if %length(&DaysOpenPrompt) > 0 %then %do;
     %let where_stmt = &where_stmt and DaysOpenCnt = &DaysOpenPrompt;
    %end;
```

Note: You need an IF/THEN statement for each prompt you created

```
   %put WHERE STMT IS:  &where_stmt.;

   proc sql;
    create table temp as select * from service.tickets
        where &where_stmt.;
    quit;


%if &sqlobs gt 0 %then %do;  /*Test if any values were returned*/

   /*Don’t use a titles or footnotes since it exports to Excel
     You want the values to start the first row        */

   proc print data=temp noobs;
   run;

%end;

%else %do;  /* Let the user know what happened */

   Data temp; MSG=”No values found. Try Again.”; run;
   Title “Results not Found”;
   /*You could list the prompts with choices if you wanted*/
   proc print data=temp noobs;run;

%end;

%mend;
%STPBEGIN;
   %BuildReport;
%STPEND;
```

Figure 15 Code for Dynamic Where Clause

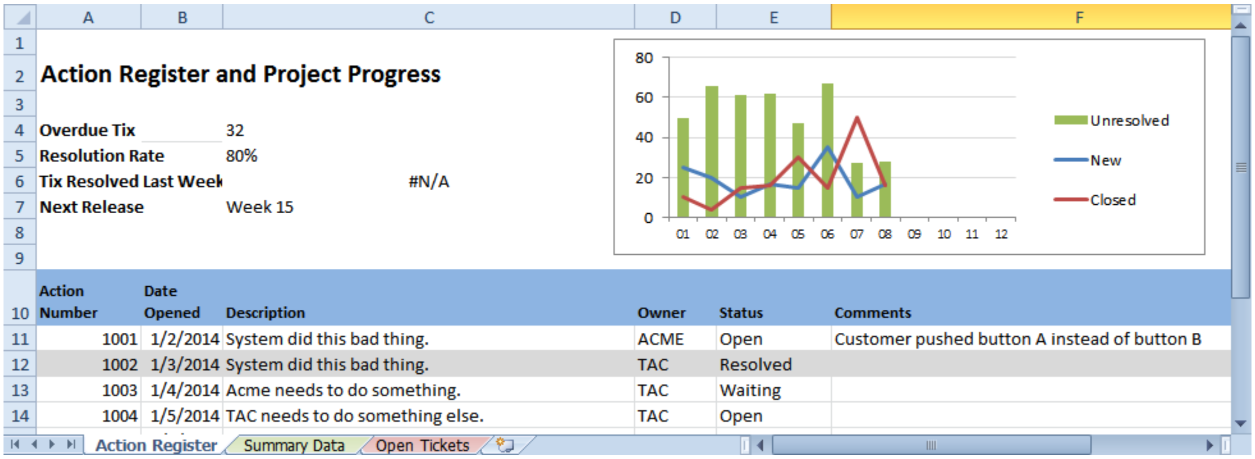
TIP 5: ALLOW SOME PROJECT DASHBOARD SUPPORT

One of the project managers in the organization works with troubled customers mostly. These customers have purchased prototype software or otherwise have a special installation, which means the projects require a lot of collaboration with the Engineering group. It is not unusual for customers become agitated at the process due to the compressed schedules and multiple field issues.

The project manager wants to remind the customer that even though the process is frustrating, the company is responding and the project is moving forward. He wants to show the ticket count and resolution rate at the top of the weekly action list that he manages from Excel and use during the video conference call.

ISSUE

Since the project manager is using Excel to handle the list of activities, this is also where he wants to display the graph. What we need to do is marry our SAS data with the Excel charts. We can accomplish this with a stored process, a dataset, and the Excel chart functions.



Action Register and Project Progress

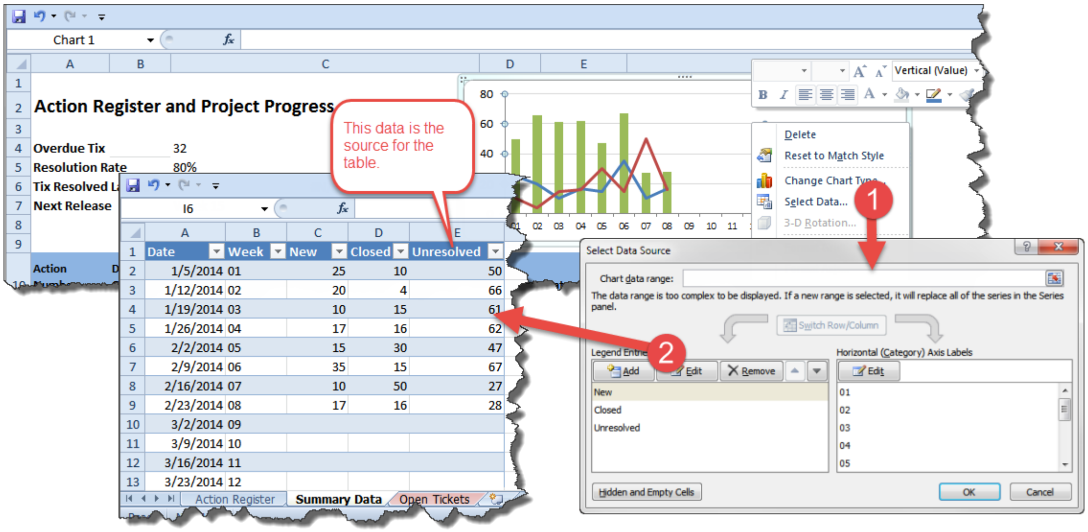
Overdue Tix	32	
Resolution Rate	80%	
Tix Resolved Last Week		#N/A
Next Release	Week 15	

Action Number	**Date Opened**	**Description**	**Owner**	**Status**	**Comments**
1001	1/2/2014	System did this bad thing.	ACME	Open	Customer pushed button A instead of button B
1002	1/3/2014	System did this bad thing.	TAC	Resolved	
1003	1/4/2014	Acme needs to do something.	TAC	Waiting	
1004	1/5/2014	TAC needs to do something else.	TAC	Open	

Figure 16 Project management action register spreadsheet

SOLUTION – USE A BACKGROUND PROCESS

After the user has created the Action Register worksheet, he can add another worksheet (such as Summary Data) that populates the first worksheet (shown in Figure 16). In the Summary Data worksheet he has added a SAS dataset or the results from a SAS stored process (such as the one created in the last topic) to have the data needed for the charts. As shown in the following figure, the chart is created from the Summary Data tab.



This data is the source for the table.

Date	Week	New	Closed	Unresolved
1/5/2014	01	25	10	50
1/12/2014	02	20	4	66
1/19/2014	03	10	15	61
1/26/2014	04	17	16	62
2/2/2014	05	15	30	47
2/9/2014	06	35	15	67
2/16/2014	07	10	50	27
2/23/2014	08	17	16	28
3/2/2014	09			
3/9/2014	10			
3/16/2014	11			
3/23/2014	12			

Select Data Source

Chart data range:

The data range is too complex to be displayed. If a new range is selected, it will replace all of the series in the Series panel.

Legend Entries: New, Closed, Unresolved

Horizontal (Category) Axis Labels: 01, 02, 03, 04, 05

Figure 17 Create the Excel chart from SAS Data

Each week, he could update the stored process or SAS dataset, which in turn would update the Action Register report. The workflow is shown in the following figure.

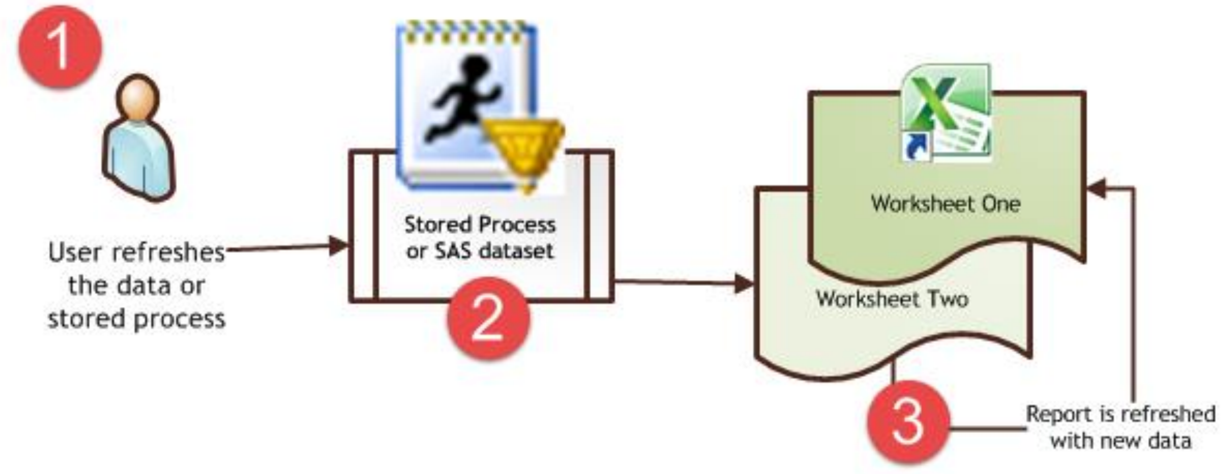

1
User refreshes the data or stored process
Stored Process or SAS dataset
2
Worksheet One
Worksheet Two
3
Report is refreshed with new data

Figure 18 Update Process

BEHIND THE SCENES

It's less work when a dataset or stored processes exists to support these tasks. However if that is not the case then you might need to create a stored process to assist with special needs. One stored process that can support many *one-offs* makes it easier for everyone.

TIP 6: BRING YOUR OWN DATA

One of the data analysts receives spreadsheets with various data from the sales team about the customers. For instance, sometimes the data is about system performance and sometimes the customer has been tracking events. As you can imagine, the data contains a variety of columns because it originates from different people for diverse situations. At times, the data is incomplete, perhaps it doesn't contain useful information for analysis or it's missing values or something similar.

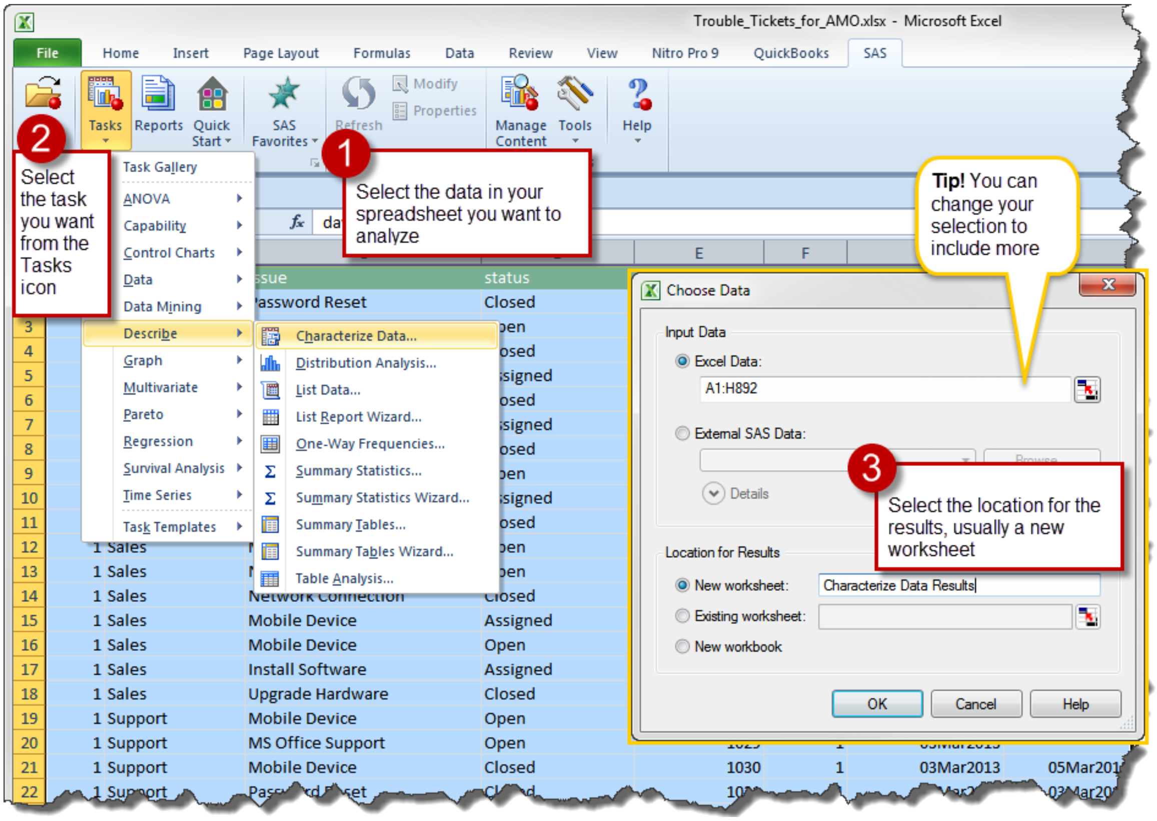
The data analyst wants to review the data before loading it into SAS Enterprise Guide so she can give feedback to the sales representative quickly.

SOLUTION – TAKE A QUICK LOOK

Many users think they can only use data from the SAS server with the SAS tasks, however, the SAS task can also use data from Excel spreadsheet. There are more than 80 tasks available.

For this example, the data analyst wanted to characterize the data so she could learn about its contents. Here's the process:

1. Select the data you want to analyze in the spreadsheet.
2. Select the task from the Task Icon. In this case, the user selected Describe>Characterize Data. This tasks provides a lot of summary statistics about each variable so you can understand it better.
3. Select where the results should be located. A new worksheet seems like a logical choice but you can place the results in the same worksheet or a completely new spreadsheet if you want.



2 Select the task you want from the Tasks icon

1 Select the data in your spreadsheet you want to analyze

Tip! You can change your selection to include more

3 Select the location for the results, usually a new worksheet

Choose Data

Input Data

● Excel Data: A1:H892

○ External SAS Data:

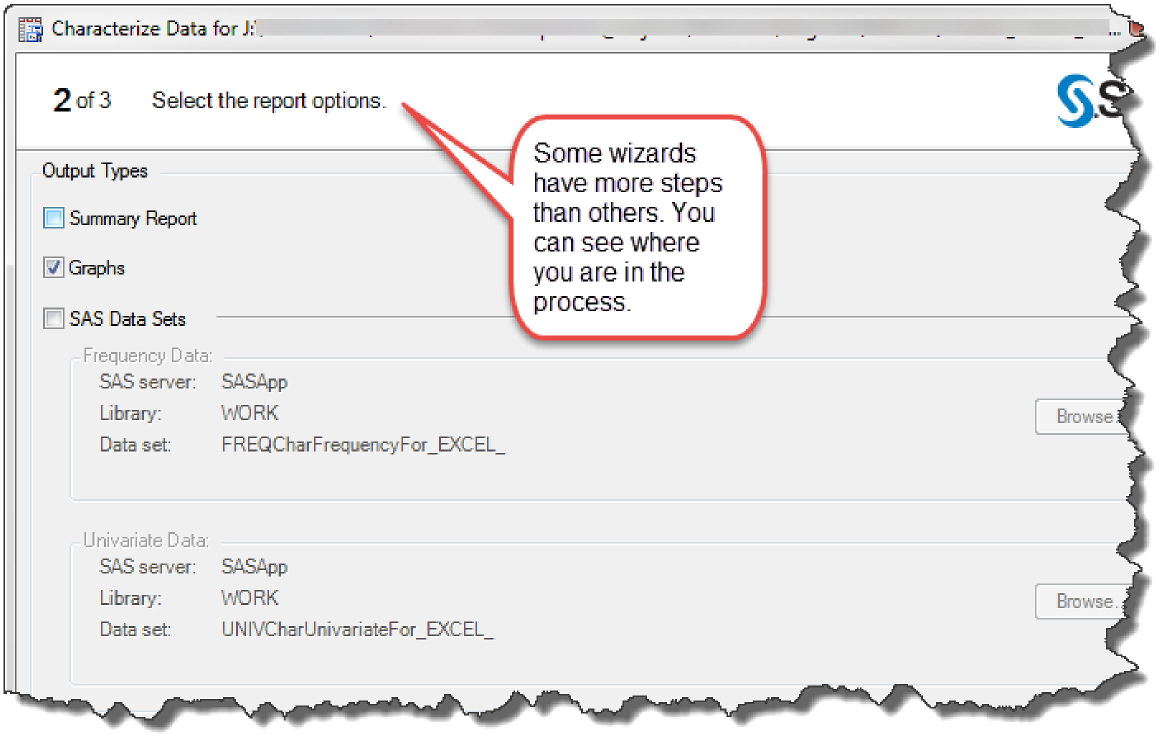
Location for Results

● New worksheet: Characterize Data Results

○ Existing worksheet:

○ New workbook

4. Each task requires different information and but the user is lead through the steps (or interview process) so she can select the variables, the desired output, and other choices.



Characterize Data for J:\

2 of 3 Select the report options.

Some wizards have more steps than others. You can see where you are in the process.

Output Types

□ Summary Report

☑ Graphs

□ SAS Data Sets

Frequency Data:

SAS server: SASApp

Library: WORK

Data set: FREQCharFrequencyFor_EXCEL_

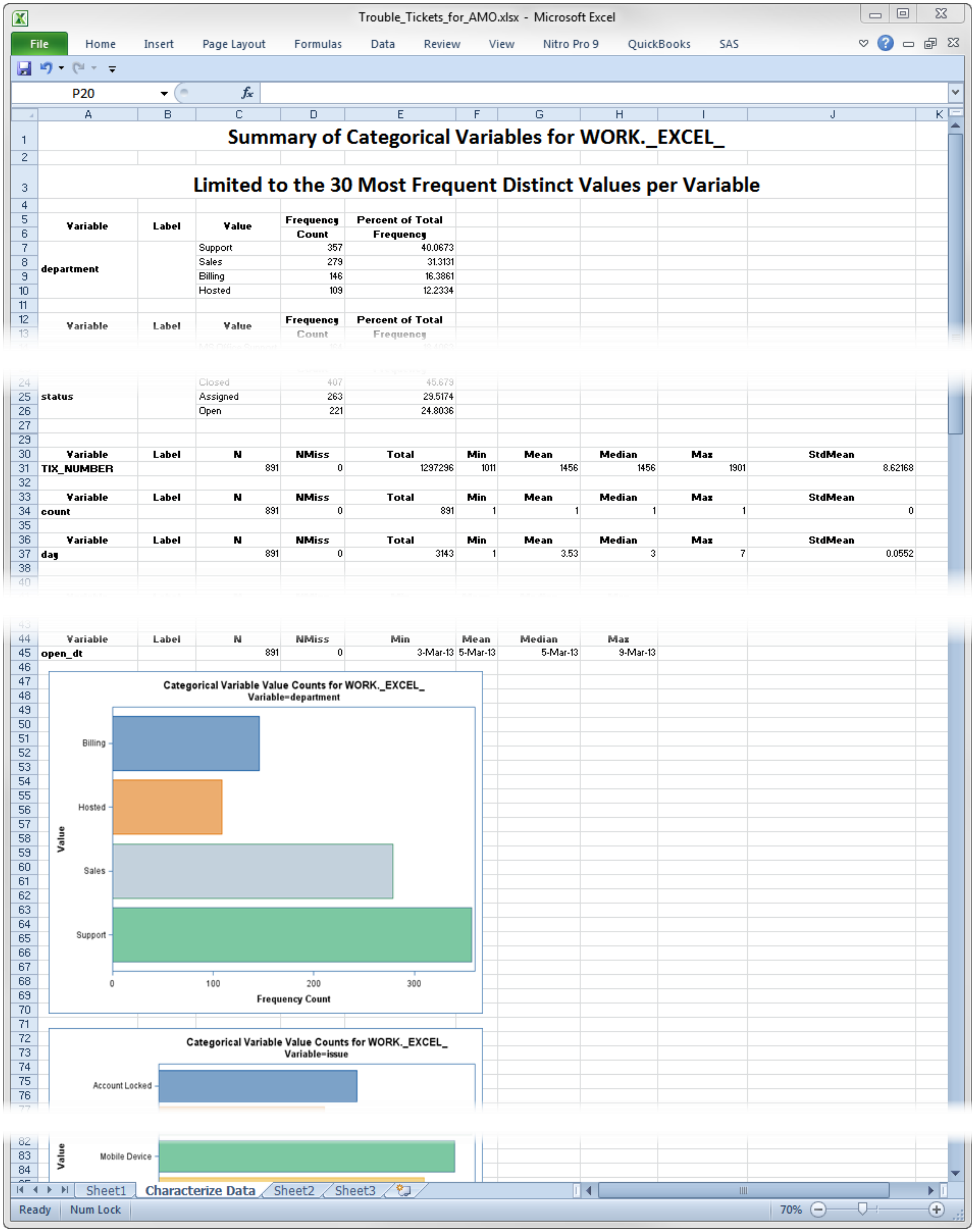
Univariate Data:

SAS server: SASApp

Library: WORK

Data set: UNIVCharUnivariateFor_EXCEL_

5. After completing the steps, click Finish to generate the results. The results are placed where indicated.



Summary of Categorical Variables for WORK._EXCEL_

Limited to the 30 Most Frequent Distinct Values per Variable

Variable	Label	Value	Frequency Count	Percent of Total Frequency
department		Support	357	40.0673
		Sales	279	31.3131
		Billing	146	16.3861
		Hosted	109	12.2334

Variable	Label	Value	Frequency Count	Percent of Total Frequency
		Closed	407	45.679
status		Assigned	263	29.5174
		Open	221	24.8036

Variable	Label	N	NMiss	Total	Min	Mean	Median	Max	StdMean
TIX_NUMBER		891	0	1297296	1011	1456	1456	1901	8.62168

Variable	Label	N	NMiss	Total	Min	Mean	Median	Max	StdMean
count		891	0	891	1	1	1	1	0

Variable	Label	N	NMiss	Total	Min	Mean	Median	Max	StdMean
day		891	0	3143	1	3.53	3	7	0.0552

Variable	Label	N	NMiss	Min	Mean	Median	Max
open_dt		891	0	3-Mar-13	5-Mar-13	5-Mar-13	9-Mar-13

TIP 7: USE THE INBOX

Some users seem to live in their Inbox. The Radicati Group noted that email is still the go-to communication form for business users and they expect it to continue growing by 5% over the next 4 years (Sara Radicati, 2013). When you think of users who send a lot of email – executives, managers and salespeople come to mind first. These users are often a hub for others in the organization and often distribute information between groups. However, these users may be less frequent users but you want to encourage them to access the reports and tools without a lot of effort.

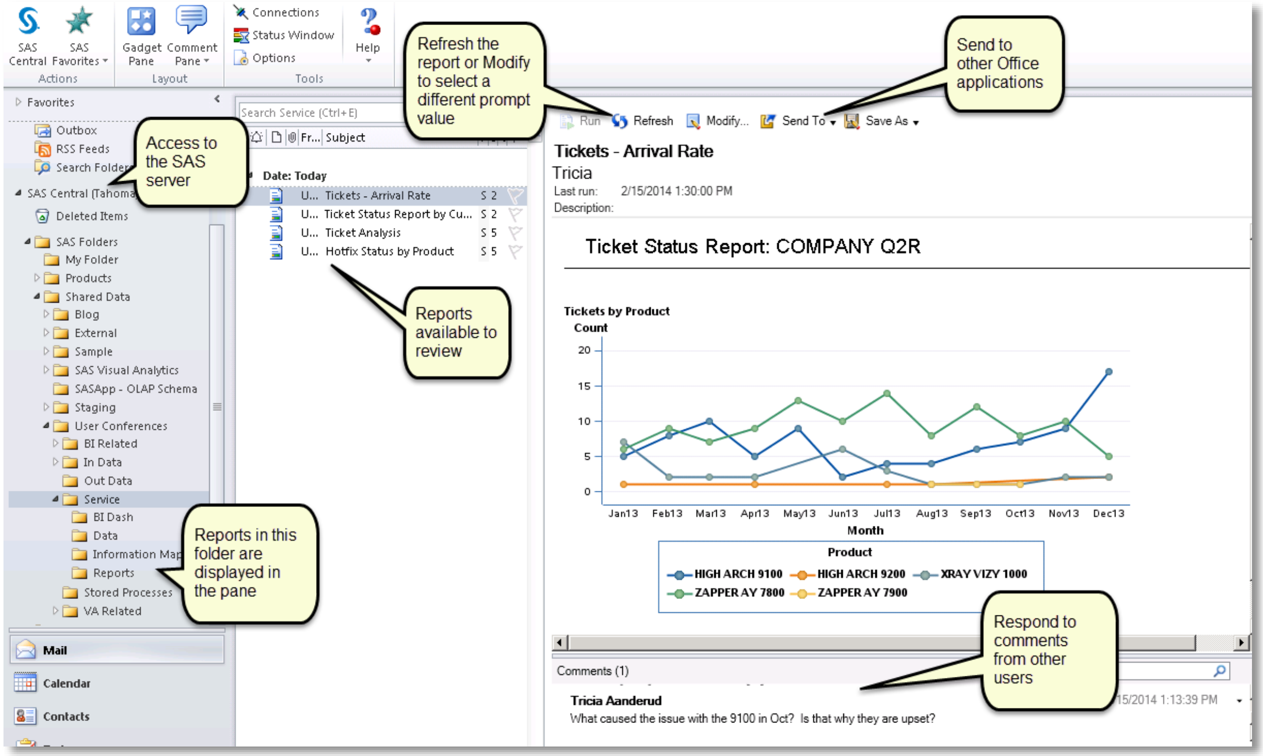
Also these users may complain that it’s too much effort to login and search through so much information for the few items they want to monitor and request that reports are emailed to them each morning.

SOLUTION – BRING THE REPORTS TO THEM

It makes sense that any functionality added to Microsoft Outlook that makes the reports and dashboards more easily accessible would be desirable to this user population. Since you want to encourage user adoption and usage, teach these users how to use Outlook to gather, monitor, and distribute information. The Add-In for Outlook allows users to view and share content through SAS Central.

SAS Central Provides Access to Reports

From the SAS Central folder, users can see all the SAS Visual Analytics, Web Report Studio and Stored Processes available. The user can generate the reports and then refresh the information as needed. This might be useful for a salesperson to generate a report that he can email to the customer after a meeting or for a manager who wants to review information.



Refresh the report or Modify to select a different prompt value

Send to other Office applications

Access to the SAS server

Reports available to review

Reports in this folder are displayed in the pane

Respond to comments from other users

Tickets - Arrival Rate

Tricia

Last run: 2/15/2014 1:30:00 PM

Description:

Ticket Status Report: COMPANY Q2R

Comments (1)

Tricia Aanderud

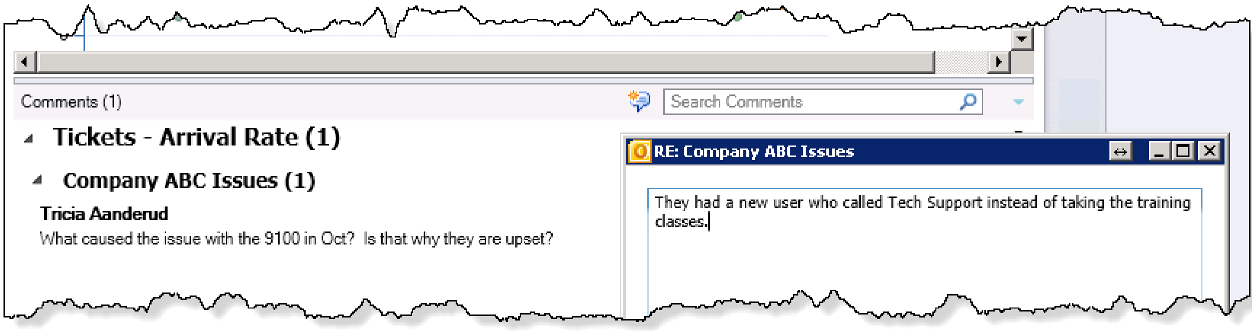
What caused the issue with the 9100 in Oct? Is that why they are upset?

Figure 19 Using SAS Central

SHARING COMMENTS

Along with viewing and refreshing reports, the users can share the report with other Office applications or even forward the report to other users. Another nice feature is the availability share comments about the reports. Instead of having emails that may be hidden from other users or easily deleted, the comments can be stored along with the report.

The Comment pane is beneath each report and users with access can ask or respond to questions. This is especially useful for cross department discussions and helpful to review during meetings. The comments are also stored with Web Report Studio.



Tricia Aanderud

What caused the issue with the 9100 in Oct? Is that why they are upset?

They had a new user who called Tech Support instead of taking the training classes.

Figure 20 Leaving comments on reports

BEHIND THE SCENES

This solution is based on the metadata contents and user permissions. Once the user has permission to review the metadata, the add-in shows what is registered and allows access. As the reports are updated, the new information is available. There is little for a support person to do.

For more details about using the add-in with Outlook, refer to the user documentation or the "A New Outlook into Your Business" by Anand Chitale and Mike Barnhart.

REFERENCES

- Beese, Tim. (2011). *Tips and Techniques for Automating the SAS® Add-In for Microsoft Office with Visual Basic for Applications*. Proceedings of SAS Global Forum 2011. Available at http://support.sas.com/resources/papers/proceedings11/012-2011.pdf
- Chitale, A and Barnhart, M. (2012). "A New Outlook into Your Business" Proceedings of the SAS Global Forum 2012. Available at http://support.sas.com/resources/papers/proceedings12/024-2012.pdf
- Radicati, Sara PhD. (2013). *Email Statistics Report, 2013-2017.* Palo Alto, CA: The Radicati Group, Inc. Available at http://www.radicati.com/wp/wp-content/uploads/2013/04/Email-Statistics-Report-2013-2017-Executive-Summary.pdf.

RECOMMENDED READING

SAS User Documentation

- Administering the SAS Add-In for Microsoft Office in the SAS 9.4 Intelligence Platform: Desktop Application Administration Guide.
- SAS Intelligence Platform: Security and Administrators
- SAS Add-In 6.1 for Microsoft Office: Getting Started in Microsoft Excel, Microsoft Word, and Microsoft PowerPoint.

Related Books

- Aanderud, P and Hall, A (2012).Building Business Intelligence Using SAS: Content Development Examples, Cary, NC: SAS Press. Available at: http://support.sas.com/pubscat/bookdetails.jsp?catid=1&pc=64393

- Aanderud, P and Hall, A (2012).The 50 Keys to Creating SAS Stored Processes, Raleigh, NC: Siamese Publishing. Available at: http://www.amazon.com/The-Keys-Learning-Stored-Processes/dp/0615588727
- Hemedinger, C. (2013). Creating Custom Add-In Tasks for SAS Enterprise Guide. Cary, NC: SAS Press. Available at: http://support.sas.com/documentation/onlinedoc/guide/customtasks/index.htm

Related Sites/Blogs

- BI Notes for SAS Users (http://www.bi-notes.com)
- Real BI for Real Users (http://blogs.sas.com/content/bi/)
- Metacoda (http://metacoda.com)
- SAS Dummy (http://blogs.sas.com/content/sasdummy/)

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CONTACT INFORMATION

Your comments and questions are valued and encouraged. Contact the author at:

Tricia Aanderud
And Data Inc
tricia.aanderud@and-data.com