

Teaching Case

Student Guide: Super Saturday Series (S3) Dashboard in Power View

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Abstract

Dashboards allow managers to interact with data, asking “what if” questions and looking for patterns. This topic is typically mentioned in information systems courses; however, many students will not have experience with developing dashboards or using them to answer business questions. The purpose of this assignment is to provide students with hands-on experience creating a dashboard using Excel’s free Power View add-in. The exercise is based upon a real case. Students are provided anonymized registration data for participants at the Super Saturday Series (S3), an outreach event for middle and high school girls. The dashboard is designed for the S3 Directors to answer questions such as: How much money was collected? Which day and time of day was the most popular for registrations? How many participants attended each date? Which school systems had the highest number of attendees? Lowest number of attendees? Step-by-step instructions demonstrate how to add different types of visualizations, including line charts, bar charts, and tables. Students will customize their dashboard by selecting a theme and inserting an image. After completing the dashboard, students will use it to answer business questions. This assignment is suitable for undergraduate students taking a computer literacy, introductory information systems, or data analytics course. Although some basic proficiency in Excel is required, students do not need any prior experience in Power View to complete this assignment.

Keywords: Excel, Computer literacy, Data analytics, introduction to information systems

1. BACKGROUND INFORMATION

Super Saturday Series (S3, www.ggc.edu/s3) is a fun, hands-on workshop series that exposes middle and high school girls to technology and science in a friendly college setting. S3 utilizes interactive games and experiments to pique girls’ interest in technology and science. S3 also provide girls with an exciting opportunity to interact with positive, professional role models. Our community, comprised of students and volunteers, promotes learning in an engaging way in order to lay a positive science and technology foundation that attendees’ current education may lack.

Parents enroll students in S3 using an online form and enter personal information such as participant’s name, email address, grade level, gender, ethnicity, school, and desired registration date. The online system documents the date and time that parents register, and S3 staff keep track of payments made.

The S3 Directors have provided you an anonymized version of registration data for the February 21st and February 28th sessions. To assist them, you will create a dashboard within Excel using Microsoft’s Power View add-in.

2. SETUP IN EXCEL

- 1) Open Excel 2013 or 2016.

- 2) Go to File → Options → Add-Ins
- 3) In the Manage box, click COM Add-ins → Go.

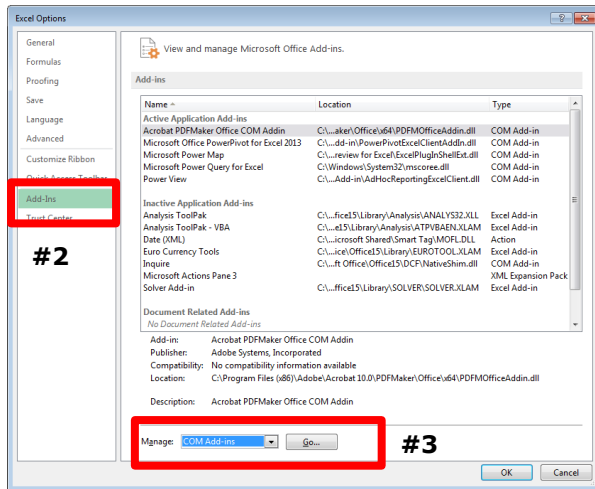


Figure 2.1 Managing Add-ins

- 4) On the screen that appears, check the boxes for
 - Microsoft Office Power Pivot in Microsoft Excel 2013/2016
 - Power View
 Then, select OK.

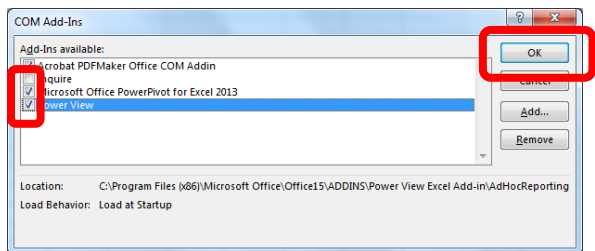


Figure 2.2 Selecting Add-ins

- 5) In Excel 2013, Power View should automatically appear on the Excel ribbon under the Insert tab after completing these steps.

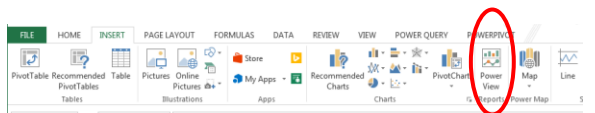


Figure 2.3 Excel Insert Tab with Power View

In Excel 2016, you should follow these instructions to customize the ribbon to make Power View appear:

<https://support.office.com/en-us/article/Turn-on-Power-View-in-Excel-2016-for-Windows-f8fc21a6-08fc-407a->

[8a91-643fa848729a?ui=en-US&rs=en-US&ad=US.](https://support.office.com/en-us/article/Turn-on-Power-View-in-Excel-2016-for-Windows-f8fc21a6-08fc-407a-)

- 6) Close Excel

3. GETTING STARTED

- 1) Download S3-Input-Data.xlsx and save to a known location.
- 2) Open the file in Excel. You should see the *Participants* worksheet which contains registration data organized as an Excel table.
 - Each row provides information about one participant in the S3 program. As you can see, there are 101 rows indicating that 101 girls registered as participants across the two dates: Feb 21 and Feb 28.
 - Personal information captured (such as name, home address, and email) has been removed.
- 3) With your cursor inside the Excel table, open Power View (Insert tab → Power View). Please be patient as it may take a minute or two to load.
- 4) When the Power View screen comes up, replace "Click here to add a title" with "S3 Registration – Feb 2015." So far, your screen should look like this:



Figure 3.1 Power View with Updated Title

- 5) Delete the default table that was provided by selecting the outside edge of the table. Then, click **Delete** button.
- 6) Save your work.

4. ETHNICITY TABLE

- 1) Create a new visualization by selecting the following two fields under *Participants* as shown in Figure 4.1:
 - Ethnic Origin
 - Amount Paid

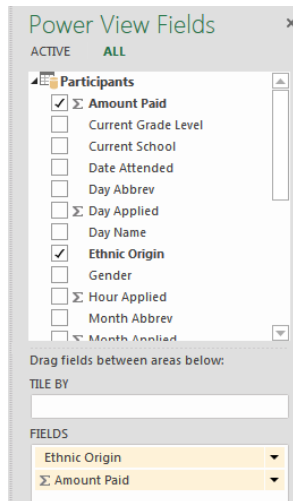


Figure 4.1 Fields for Ethnicity Table

- Change the format of the values in Amount Paid by doing the following:
 - Select one of the values under the "Amount Paid" column.
 - On the Design tab in the Number group, change the format from General to Currency.

<i>Before:</i>		<i>After:</i>	
Ethnic Origin	Amount Paid	Ethnic Origin	Amount Paid
African American/Black	880	African American/Black	\$880.00
Hispanic	140	Hispanic	\$140.00
Other	410	Other	\$410.00
Prefer not to answer	140	Prefer not to answer	\$140.00
White	360	White	\$360.00
Total	1930	Total	\$1,930.00

Figure 4.2 Impact of Format Change

- Click on the "Amount Paid" heading to sort the data. The data should appear in descending order by amount paid.
- Above the chart, insert a Text Box to use as a title: "Participants by Ethnicity". *HINT:* The Text Box is on the Power View tab in the Insert group.
- Resize the textbox as needed

Participants by Ethnicity	
Ethnic Origin	Amount Paid
African American/Black	\$880.00
Other	\$410.00
White	\$360.00
Hispanic	\$140.00
Prefer not to answer	\$140.00
Total	\$1,930.00

Figure 4.3 Final Ethnicity Table

5. COLUMN CHART

- Click on a blank part of the existing Power View canvas to indicate you want to create a new visualization.
- Select the following two fields under *Participants* as shown in Figure 5.1:
 - Short Date Attended
 - Timestamp

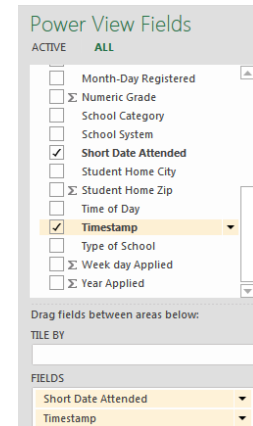


Figure 5.1 Fields for Column Chart

- The table created shows each individual timestamp. Instead, we want to show the Count of each timestamp (which represents the count of participants). To make this change:
 - Under FIELDS, click on Timestamp
 - Select "Count (Not Blank)"

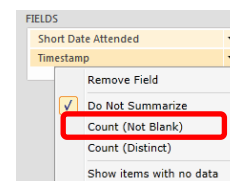


Figure 5.2 Change to Count Timestamp

- Both the field description and actual visualization should change (as shown in Figure 5.3 below).

Participants by Ethnicity	
Short Date Attended	Count of Timestamp
2/21/2017	40
2/28/2017	61
Total	101

Figure 5.3 Attendance Count by Date

- Switch this visualization to a Stacked Column Chart. *HINT:* Design tab → Column Chart → Stacked Column Chart
- Remove the title from this visualization *HINT:* Layout tab → Title → None

- 7) Show Data Labels
- HINT:* Layout tab → Data Labels → Show
- 8) Resize as desired

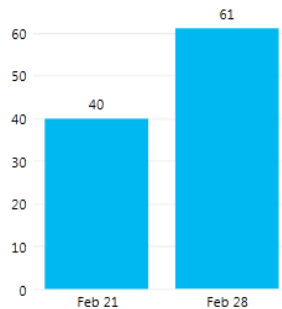


Figure 5.4 Final Column Chart

6. BAR CHART

- 1) Click on a blank part of the Power View canvas to indicate you want to create a new visualization.
- 2) Select the following two fields under *Participants*
 - Day Abbrev
 - Time of Day
 - Timestamp

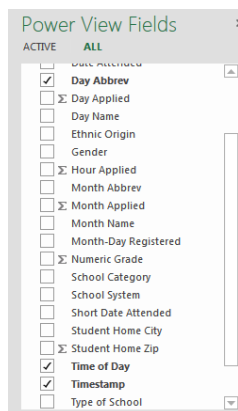


Figure 6.1 Fields for Bar Chart

- 3) As before, change Timestamp to Count of Timestamp

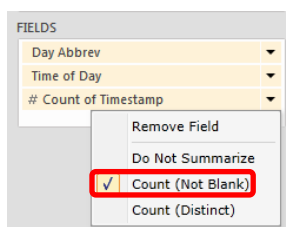


Figure 6.2 Change to Count of Timestamp

- 4) Switch this visualization to a Stacked Bar Chart
- 5) Remove the title from this visualization
- 6) Show Legend at Right
- 7) Show Data Labels
- 8) Insert a Text Box to use as a title: "What days and times have most registrations?"
Feel free to resize and move the visualization on the canvas

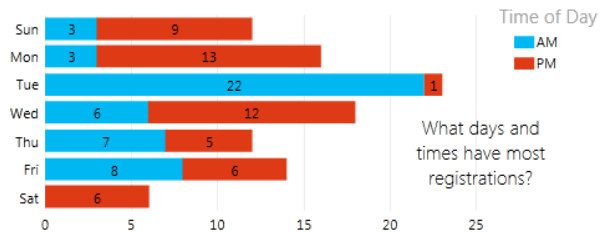


Figure 6.3 Final Bar Chart

7. MATRIX TABLE

- 1) Create a new visualization using the following fields
 - a. School Category
 - b. School System
 - c. Timestamp
- 2) Change Timestamp → Count of Timestamp
- 3) Switch the visualization to Table → Matrix
- 4) Resize and move so there is enough room for the data about School systems and Count of Timestamp to appear on the dashboard

8. LINE CHART

- 1) Create a new visualization using the following fields
 - a. Month-Day Registered
 - b. Timestamp
- 2) Change Timestamp → Count of Timestamp
- 3) Switch the visualization to Line Chart
- 4) Remove the title
- 5) Insert text that can be used as a title: "Apps per Day"

9. FINISHING TOUCHES

- 1) Arrange all the visualizations within the Dashboard. *It will be a little crowded, but you can always use the "pop out" accelerator to see a particular visualization full screen.*
- 2) Insert picture of your school logo onto the dashboard [*HINT:* Power View tab → Picture]
- 3) Change the theme of the dashboard [*HINT:* Power View tab → Themes]

- 4) Change the background to something of your choice [*HINT*: Power View tab → Background] When done, check your work. Save your file. Then, submit
 - 5) Rename the worksheet from "Power View 1" to "S3 Dashboard"
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