

DR. ALVIN'S PUBLICATIONS

# LEARNING POWER BI PART I

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HR & CALL CENTER DASHBOARD  
DR. ALVIN ANG



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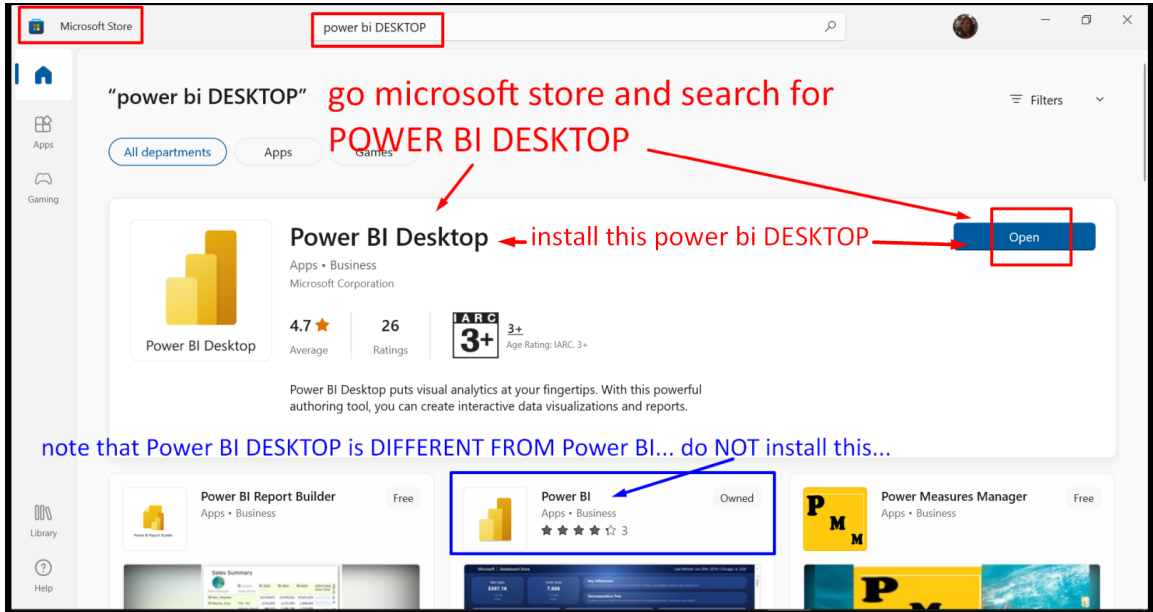


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## I. INSTALLING POWER BI

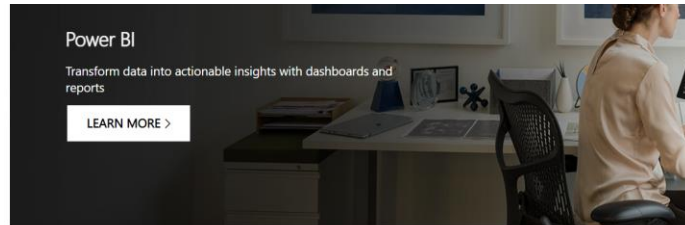
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### A. OPTION 1: FROM MICROSOFT STORE

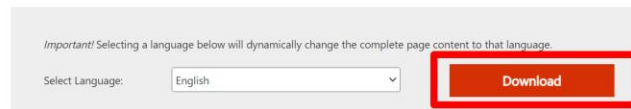


### B. OPTION 2: FROM MICROSOFT WEBSITE

<https://www.microsoft.com/en-us/download/details.aspx?id=58494>

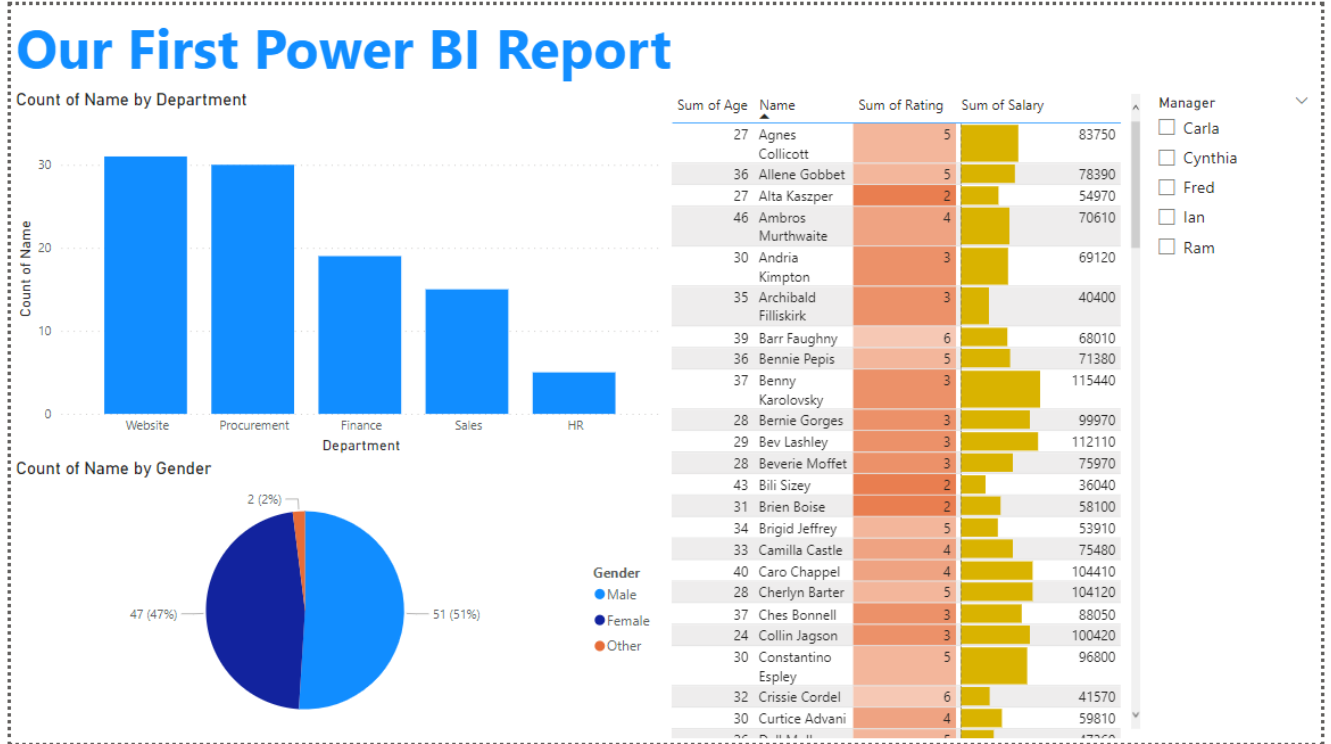


Microsoft Power BI Desktop



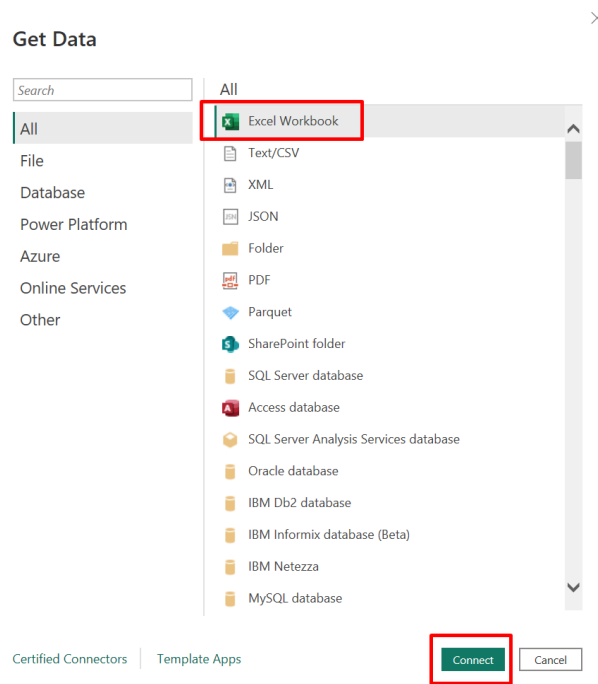
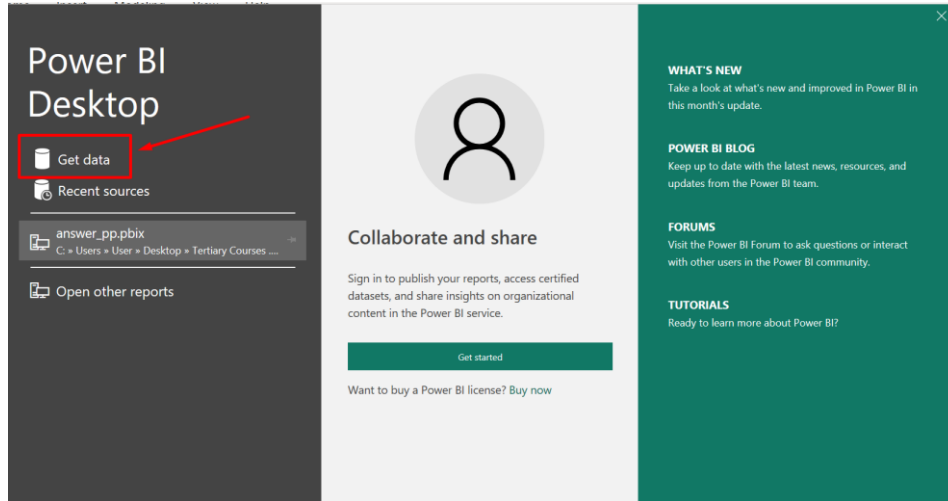
## II. HR DASHBOARD

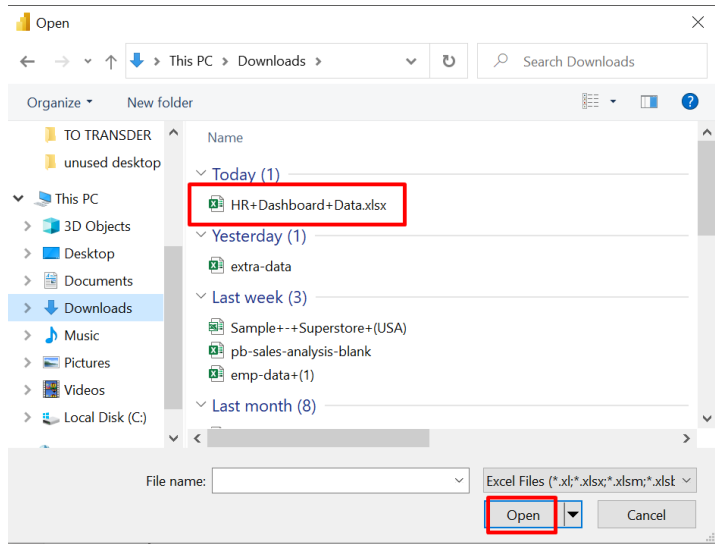
We will build this dashboard:



## A. LOADING DATA

<https://www.alvinang.sg/s/HR-Dashboard-Datxlsx.xlsx>





## Navigator

Display Options ▾

- emp-data.xlsx [2]
- Table1
- Something.com

### Table1

Preview downloaded on Saturday, December 17, 2022

Name	Gender	Department	Age	Date Joined	Sala
Barr Faughny	Female	Procurement	39	2/6/2018	
Dennison Crosswaite	Male	Website	26	9/16/2017	
Gunar Cockshoot	Male	Website	31	5/11/2017	
Wilone O'Kielt	Female	Website	43	10/29/2017	
Gigi Bohling	Male	Sales	33	1/8/2017	
Curtice Advani	Male	Finance	30	8/5/2017	
Kaine Padly	Male	Website	20	3/20/2017	
Ches Bonnell	Male	Website	37	11/22/2016	
Andria Kimpton	Male	Website	30	9/18/2016	
Brien Boise	Female	Website	31	10/12/2017	
Husein Augar	Female	Finance	30	1/12/2017	
Karlen McCaffrey	Female	Finance	34	3/20/2017	
Jan Morforth	Male	Finance	28	1/29/2016	
Dotty Strutley	Female	Website	31	5/10/2016	
Kelci Walkden	Male	Procurement	21	1/20/2018	
Marney O'Breen	Female	Finance	21	11/1/2016	
Rafaelita Blaksland	Female	Sales	38	12/30/2016	
Madelene Upcott	Male	Procurement	25	12/14/2017	
Beverie Moffet	Female	Finance	28	6/20/2016	
Oby Sorrel	Female	Finance	34	10/2/2017	
Mallorie Waber	Male	Procurement	30	10/15/2017	

emp-data - Excel

emp-data has only 1 sheet and Table 1 refers to the whole table

	Name	Gender	Department	Age	Date Joined	Salary	Rating	Picture	Manager
2	Barr Faughny	Female	Procurement	39	2/6/2018	68010	6	https://files.chandoo.org/pbix/img/women-1.jpg	Carla
3	Dennison Crosswaite	Male	Website	26	9/16/2017	90700	3	https://files.chandoo.org/pbix/img/men-1.jpg	Ian
4	Gunar Cockshott	Male	Website	31	5/11/2017	48950	4	https://files.chandoo.org/pbix/img/men-2.jpg	Carla
5	Wilone O'Kieft	Female	Website	43	10/29/2017	114870	2	https://files.chandoo.org/pbix/img/women-2.jpg	Ian
6	Gigi Bohling	Male	Sales	33	1/8/2017	74550	3	https://files.chandoo.org/pbix/img/men-3.jpg	Ram
7	Curtice Advani	Male	Finance	30	8/5/2017	59810	4	https://files.chandoo.org/pbix/img/men-4.jpg	Fred
8	Kaine Padly	Male	Website	20	3/20/2017	107700	2	https://files.chandoo.org/pbix/img/men-5.jpg	Carla
9	Ches Bonnell	Male	Website	37	11/22/2016	88050	3	https://files.chandoo.org/pbix/img/men-6.jpg	Fred
10	Andria Kimpton	Male	Website	30	9/18/2016	69120	3	https://files.chandoo.org/pbix/img/men-7.jpg	Carla
11	Brien Boise	Female	Website	31	10/12/2017	58100	2	https://files.chandoo.org/pbix/img/women-3.jpg	Ian
12	Husein Augar	Female	Finance	30	1/12/2017	67910	3	https://files.chandoo.org/pbix/img/women-4.jpg	Cynthia
13	Karlen McCaffrey	Female	Finance	34	3/20/2017	71230	2	https://files.chandoo.org/pbix/img/women-5.jpg	Fred
14	Jan Morforth	Male	Finance	28	1/29/2016	48170	5	https://files.chandoo.org/pbix/img/men-8.jpg	Fred
15	Dotty Strutley	Female	Website	31	5/10/2016	41980	2	https://files.chandoo.org/pbix/img/women-6.jpg	Fred
16	Kelci Walkden	Male	Procurement	21	1/20/2018	57090	4	https://files.chandoo.org/pbix/img/men-9.jpg	Carla
17	Marney O'Breen	Female	Finance	21	11/1/2016	65920	2	https://files.chandoo.org/pbix/img/women-7.jpg	Cynthia
18	Rafaelita Blaksland	Female	Sales	38	12/30/2016	109160	6	https://files.chandoo.org/pbix/img/women-8.jpg	Fred
19	Madelene Upcott	Male	Procurement	25	12/14/2017	109190	4	https://files.chandoo.org/pbix/img/men-10.jpg	Ian
20	Beverie Moffet	Female	Finance	28	6/20/2016	75970	3	https://files.chandoo.org/pbix/img/women-9.jpg	Cynthia
21	Oby Sorrel	Female	Finance	34	10/2/2017	58940	4	https://files.chandoo.org/pbix/img/women-10.jpg	Ian
22	Mallorie Waber	Male	Procurement	30	10/15/2017	60570	3	https://files.chandoo.org/pbix/img/men-11.jpg	Carla

Something.com

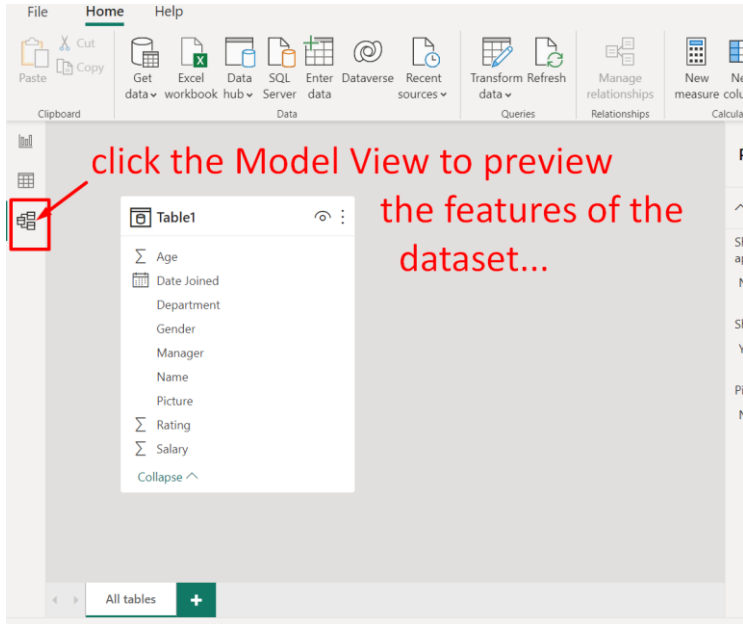
Untitled - Power BI Desktop

click the data view to preview the data...

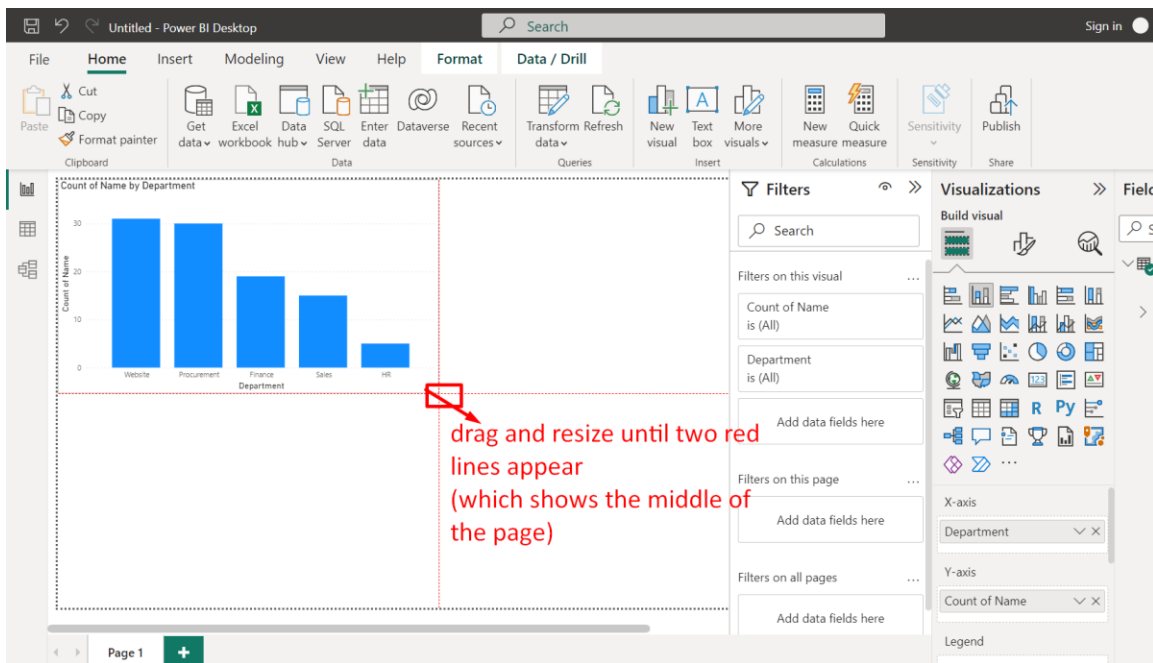
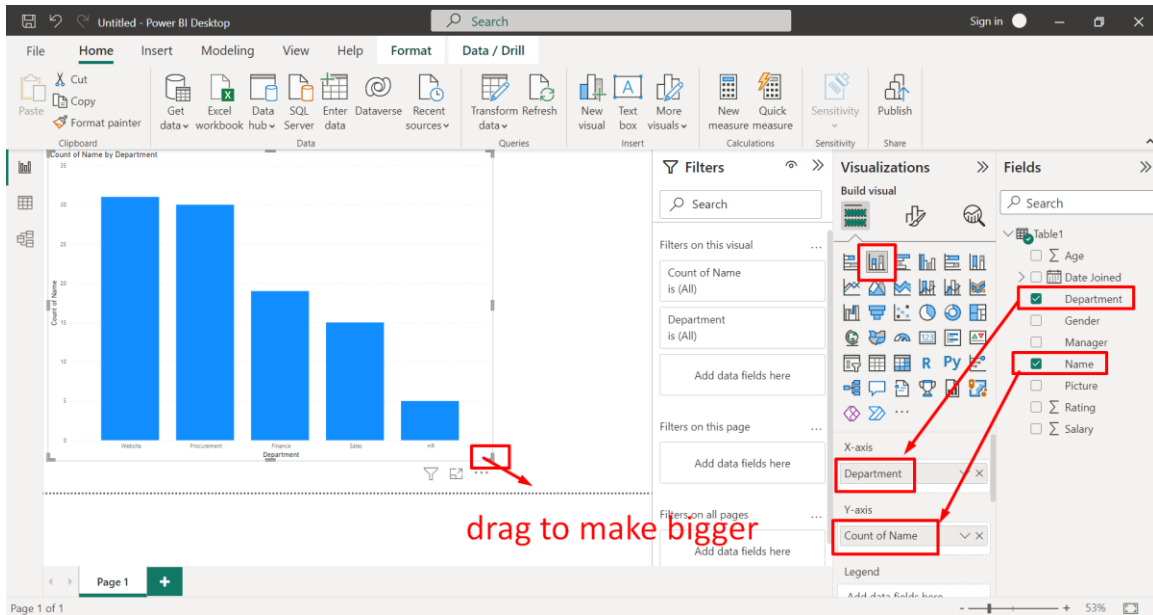
Name	Gender	Department	Age	Date Joined	Salary	Rating	Picture	Manager
Barr Faughny	Female	Procurement	39	Tuesday, February 6, 2018	68010	6	https://files.chandoo.org/pbix/img/women-1.jpg	Carla
Dennison Crosswaite	Male	Website	26	Saturday, September 16, 2017	90700	3	https://files.chandoo.org/pbix/img/men-1.jpg	Ian
Gunar Cockshott	Male	Website	31	Thursday, May 11, 2017	48950	4	https://files.chandoo.org/pbix/img/men-2.jpg	Carla
Wilone O'Kieft	Female	Website	43	Sunday, October 29, 2017	114870	2	https://files.chandoo.org/pbix/img/women-2.jpg	Ian
Gigi Bohling	Male	Sales	33	Sunday, January 8, 2017	74550	3	https://files.chandoo.org/pbix/img/men-3.jpg	Ram
Curtice Advani	Male	Finance	30	Saturday, August 5, 2017	59810	4	https://files.chandoo.org/pbix/img/men-4.jpg	Fred
Kaine Padly	Male	Website	20	Monday, March 20, 2017	107700	2	https://files.chandoo.org/pbix/img/men-5.jpg	Carla
Ches Bonnell	Male	Website	37	Tuesday, November 22, 2016	88050	3	https://files.chandoo.org/pbix/img/men-6.jpg	Fred
Andria Kimpton	Male	Website	30	Sunday, September 18, 2016	69120	3	https://files.chandoo.org/pbix/img/men-7.jpg	Carla
Brien Boise	Female	Website	31	Thursday, October 12, 2017	58100	2	https://files.chandoo.org/pbix/img/women-3.jpg	Ian
Husein Augar	Female	Finance	30	Thursday, January 12, 2017	67910	3	https://files.chandoo.org/pbix/img/women-4.jpg	Cynthia
Karlen McCaffrey	Female	Finance	34	Monday, March 20, 2017	71230	2	https://files.chandoo.org/pbix/img/women-5.jpg	Fred
Jan Morforth	Male	Finance	28	Friday, January 29, 2016	48170	5	https://files.chandoo.org/pbix/img/men-8.jpg	Fred
Dotty Strutley	Female	Website	31	Tuesday, May 10, 2016	41980	2	https://files.chandoo.org/pbix/img/women-6.jpg	Fred
Kelci Walkden	Male	Procurement	21	Saturday, January 20, 2018	57090	4	https://files.chandoo.org/pbix/img/men-9.jpg	Carla
Marney O'Breen	Female	Finance	21	Tuesday, November 1, 2016	65920	2	https://files.chandoo.org/pbix/img/women-7.jpg	Cynthia
Rafaelita Blaksland	Female	Sales	38	Friday, December 30, 2016	109160	6	https://files.chandoo.org/pbix/img/women-8.jpg	Fred
Madelene Upcott	Male	Procurement	25	Thursday, December 14, 2017	109190	4	https://files.chandoo.org/pbix/img/men-10.jpg	Ian
Beverie Moffet	Female	Finance	28	Monday, June 20, 2016	75970	3	https://files.chandoo.org/pbix/img/women-9.jpg	Cynthia
Oby Sorrel	Female	Finance	34	Monday, October 2, 2017	58940	4	https://files.chandoo.org/pbix/img/women-10.jpg	Ian
Mallorie Waber	Male	Procurement	30	Sunday, October 15, 2017	60570	3	https://files.chandoo.org/pbix/img/men-11.jpg	Carla

Table: Table1 (100 rows)





## B. BAR CHART: NUMBER OF STAFF BY DEPARTMENT

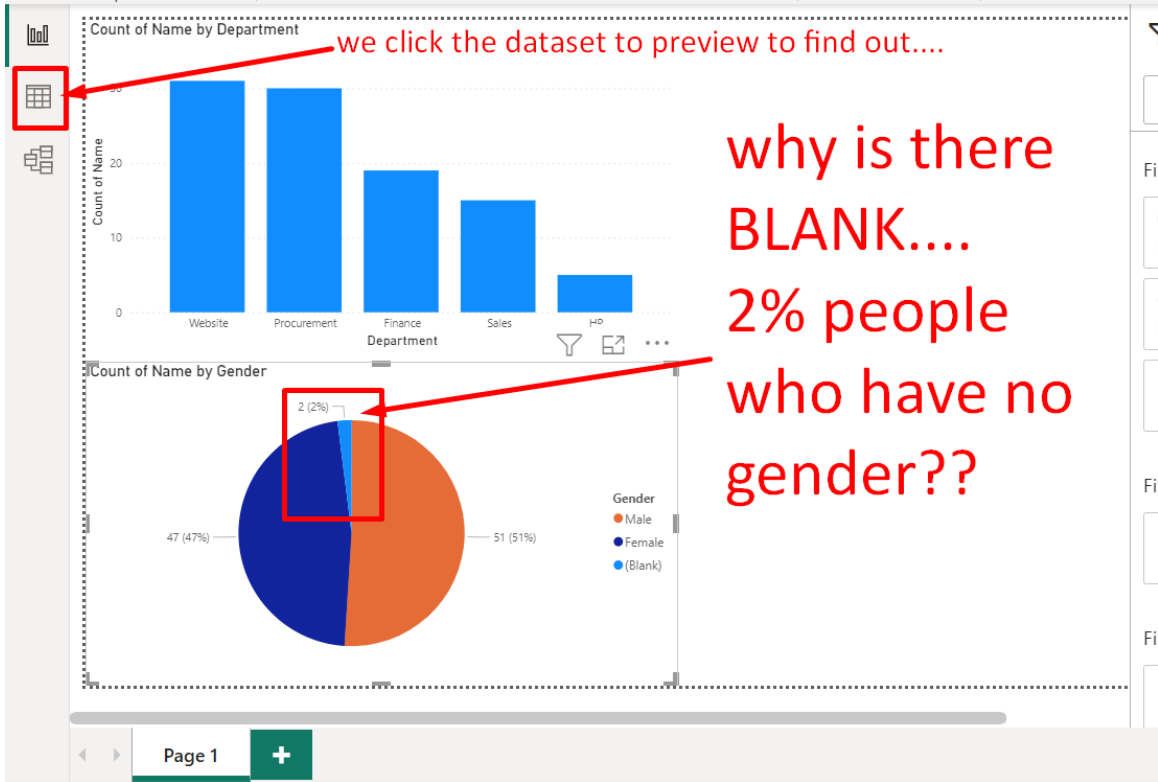


### C. PIE CHART: PROPORTION OF MALE VS FEMALE

The screenshot shows the Power BI Desktop interface. On the left, there are two visualizations: a bar chart titled 'Count of Name by Department' and a pie chart titled 'Count of Name by Gender'. The pie chart shows 47 (47%) for Male and 51 (51%) for Female. On the right, the 'Visualizations' pane shows a pie chart icon selected. The 'Fields' pane shows 'Gender' and 'Name' selected. Red annotations with arrows point to the pie chart icon in the Visualizations pane and the 'Gender' and 'Name' fields in the Fields pane. Another red arrow points to the white space between the two charts.

make sure that u click anywhere at the white space to ensure u don't select any charts...

then choose this...



Name	Gender	Department	Age	Date Joined	Salary	Rating	Picture	Manager
Janene Hairsine	Female	Procurement	28	Monday, April 17, 2017	104770	4	https://files.chandoo.org/pbix/img/women-14.jpg	Carla
Niall Selesnick	Female	Website	29	Monday, January 11, 2016	34980	2	https://files.chandoo.org/pbix/img/women-15.jpg	Fred
Ebonee Roxburgh	Male	Procurement	30	Monday, November 20, 2017	67950	4	https://files.chandoo.org/pbix/img/men-13.jpg	Fred
Zach Polon	Male	Procurement	26	Friday, February 3, 2017	53540	4	https://files.chandoo.org/pbix/img/men-14.jpg	Ian
Orton Livick	Male	Procurement	21	Thursday, March 31, 2016	37920	3	https://files.chandoo.org/pbix/img/men-15.jpg	Cynthia
Gray Seamon	Female	Sales	36	Tuesday, April 26, 2017	78940	4	https://files.chandoo.org/pbix/img/women-16.jpg	Fred
Benny Karolovsky	Finance	Finance	37	Wednesday, May 11, 2016	115140	3	https://files.chandoo.org/pbix/img/1.jpg	Cynthia
Dyna Doucette	Male	Procurement	31	Tuesday, December 12, 2017	103830	2	https://files.chandoo.org/pbix/img/men-16.jpg	Ian
Erin Androsik	Male	Procurement	33	Monday, November 20, 2017	48530	5	https://files.chandoo.org/pbix/img/men-17.jpg	Carla
Madge McCloughen	Website	Website	32	Thursday, February 1, 2018	91310	1	https://files.chandoo.org/pbix/img/1.jpg	Cynthia
Esmaria Denecamp	Male	Finance	27	Thursday, July 6, 2017	48980	5	https://files.chandoo.org/pbix/img/men-18.jpg	Ian
Hogan Iles	Female	Procurement	30	Monday, April 16, 2018	114180	1	https://files.chandoo.org/pbix/img/women-17.jpg	Fred
Valentia Etteridge	Female	HR	37	Sunday, March 12, 2017	118100	3	https://files.chandoo.org/pbix/img/women-18.jpg	Fred
Archibald Filliskirk	Male	Procurement	35	Friday, December 15, 2017	40400	3	https://files.chandoo.org/pbix/img/men-19.jpg	Fred
Lindy Guillet	Male	Sales	22	Tuesday, March 7, 2017	112780	3	https://files.chandoo.org/pbix/img/men-20.jpg	Carla
Dell Molloy	Male	Procurement	26	Friday, July 29, 2016	47360	5	https://files.chandoo.org/pbix/img/men-21.jpg	Ram
Ewart Laphorn	Female	HR	27	Monday, April 18, 2016	119110	2	https://files.chandoo.org/pbix/img/women-19.jpg	Carla
Vic Radolf	Female	Website	24	Friday, May 13, 2016	62780	4	https://files.chandoo.org/pbix/img/women-20.jpg	Ram
Virginia McConville	Female	Procurement	22	Saturday, March 11, 2017	76900	3	https://files.chandoo.org/pbix/img/women-21.jpg	Fred
Kaye Crocroft	Male	Finance	24	Tuesday, February 28, 2017	52610	5	https://files.chandoo.org/pbix/img/men-22.jpg	Fred
Mollie Hanway	Male	Website	20	Saturday, June 18, 2016	112650	4	https://files.chandoo.org/pbix/img/men-23.jpg	Fred

Table: Table1 (100 rows) Columns: Gender (3 distinct values)

scroll down and we see that there are BLANKS....

## D. TRYING POWER QUERY

Home Help Table tools Column tools

Transform data Refresh

Untitled - Power Query Editor

a new software POWER QUERY pops up

Name	Gender	Department	Age	Date Joined	Salary
Janene Hairsine	Female	Procurement	28	Monday, August 14, 2017	53540
Niall Selesnick	Female	Website	29	Monday, January 2, 2017	114180
Ebonee Roxburgh	Male	Procurement	30	Monday, November 13, 2017	112780
Zach Polon	Male	Procurement	26	Friday, February 3, 2017	47360
Orton Livick	Male	Procurement	21	Thursday, March 31, 2016	37920
Gray Seamon	Female	Sales	36	Tuesday, April 25, 2017	78540
Benny Karolovsky	Finance	Finance	37	Wednesday, May 11, 2016	115440
Dyna Doucette	Male	Procurement	31	Tuesday, December 12, 2017	103550
Erin Androsik	Male	Procurement	33	Monday, November 20, 2017	48530
Madge McCloughen	Website	Website	32	Thursday, February 1, 2018	91310
Esmaria Denecamp	Male	Finance	27	Thursday, July 6, 2017	48980
Hogan Iles	Female	Procurement	30	Monday, April 16, 2018	114180
Valentia Etteridge	Female	HR	37	Sunday, March 12, 2017	118100
Archibald Filliskirk	Male	Procurement	35	Friday, December 15, 2017	40400
Lindy Gullet	Male	Sales	22	Tuesday, March 7, 2017	112780
Dell Molloy	Male	Procurement	26	Friday, July 29, 2016	47360
Ewart Laphorn	Female	HR	27	Monday, April 18, 2016	119110
Vic Radolf	Female	Website	24	Friday, May 13, 2016	62780
Virginia McConville	Female	Procurement	22	Saturday, March 11, 2017	76900
Kaye Crocrot	Male	Finance	24	Tuesday, February 28, 2017	52610
Mollie Hanway	Male	Website	20	Saturday, June 18, 2016	112650

Table: Table1 (100 rows) Column: Gender (3 distinct values)

File Home Transform Add Column View Tools Help

Close & Apply New Recent Sources Enter Data Data source settings Parameters Refresh Advanced Editor

Choose Remove Keep Remove Split Group Data Type: Text Merge Queries Text Analytics Append Queries Vision Combine Files Azure Machine Learning Combine AI Insights

Queries [1]

Table1

Source

a step by step changes are seen here

the first step was to connect to the data source which has

- 1 sheet named "Something.com"
- 1 Table1

5 COLUMNS, 3 ROWS Column profiling based on top 1000 rows PREVIEW DOWNLOADED ON SATURDAY, DECEMBER 17, 2022

Query Settings

PROPERTIES  
Name: Table1

APPLIED STEPS  
Source  
Navigation  
Changed Type

second step is to connect to the Table1 (which was selected by us as the Table to Load)

ABC 123	Name	ABC 123	Gender	ABC 123	Department	ABC 123	Age	ABC 123	Date Joined
1	Barr Faughny		Female		Procurement		39		2/6/20
2	Dennison Crosswaite		Male		Website		26		9/16/20
3	Gunar Cockshoot		Male		Website		31		5/11/20
4	Wilone O'Kieft		Female		Website		43		10/29/20
5	Gigi Bohling		Male		Sales		33		1/8/20
6	Curtice Advani		Male		Finance		30		8/5/20
7	Kaine Pady		Male		Website		20		3/20/20
8	Ches Bonnell		Male		Website		37		11/22/20
9	Andria Kimpton		Male		Website		30		9/18/20
10	Brien Boise		Female		Website		31		10/12/20
11	Husein Augar		Female		Finance		30		1/12/20
12	Karlen McCaffrey		Female		Finance		34		3/20/20
13	Jan Morforth		Male		Finance		28		1/29/20
14	Dotty Strutley		Female		Website		31		5/10/20

Query Settings

PROPERTIES  
Name: Table1

APPLIED STEPS  
Source  
Navigation  
Changed Type

the 3rd step is to edit all column types to the appropriate ones (the first 3 steps are done automatically)

ABC 123	Name	ABC 123	Gender	ABC 123	Department	ABC 123	Age	ABC 123	Date Joined
1	Barr Faughny		Female		Procurement		39		2/6/20
2	Dennison Crosswaite		Male		Website		26		9/16/20
3	Gunar Cockshoot		Male		Website		31		5/11/20
4	Wilone O'Kieft		Female		Website		43		10/29/20
5	Gigi Bohling		Male		Sales		33		1/8/20
6	Curtice Advani		Male		Finance		30		8/5/20
7	Kaine Pady		Male		Website		20		3/20/20
8	Ches Bonnell		Male		Website		37		11/22/20
9	Andria Kimpton		Male		Website		30		9/18/20
10	Brien Boise		Female		Website		31		10/12/20
11	Husein Augar		Female		Finance		30		1/12/20
12	Karlen McCaffrey		Female		Finance		34		3/20/20
13	Jan Morforth		Male		Finance		28		1/29/20
14	Dotty Strutley		Female		Website		31		5/10/20
15	Kelci Walkden		Male		Procurement		21		1/20/20
16	Marney O'Brien		Female		Finance		21		11/1/20
17	Rafaelita Blakslan		Female		Sales		38		12/30/20
18	Madelene Upcott		Male		Procurement		25		12/14/20
19	Beverie Moffet		Female		Finance		28		6/20/20
20	Oby Sorrel		Female		Finance		34		10/2/20
21	Mallorie Waber		Male		Procurement		30		10/15/20

fx = Table.TransformColumnTypes(Table1\_Table,{{"Name", type text}, {"Gender", type text}, {"Depart

	Name	Gender	Department	Age	Date Join
1	Barr Faughny			39	
2	Dennison Crosswaite			26	
3	Gunar Cockshoot			31	
4	Wilone O'Kielt			43	
5	Gigi Bohling			33	
6	Curtice Advani			30	
7	Kaine Padly	Male	Website	20	
8	Ches Bonnell	Male	Website	37	
9	Andria Kimpton	Male	Website	30	
10	Brien Boise	Female	Website	31	
11	Husein Augar	Female	Finance	30	
12	Karlen McCaffrey	Female	Finance	34	

Gender  
98 (98%) Valid | 0 (0%) Error | 2 (2%) Empty  
Remove Empty

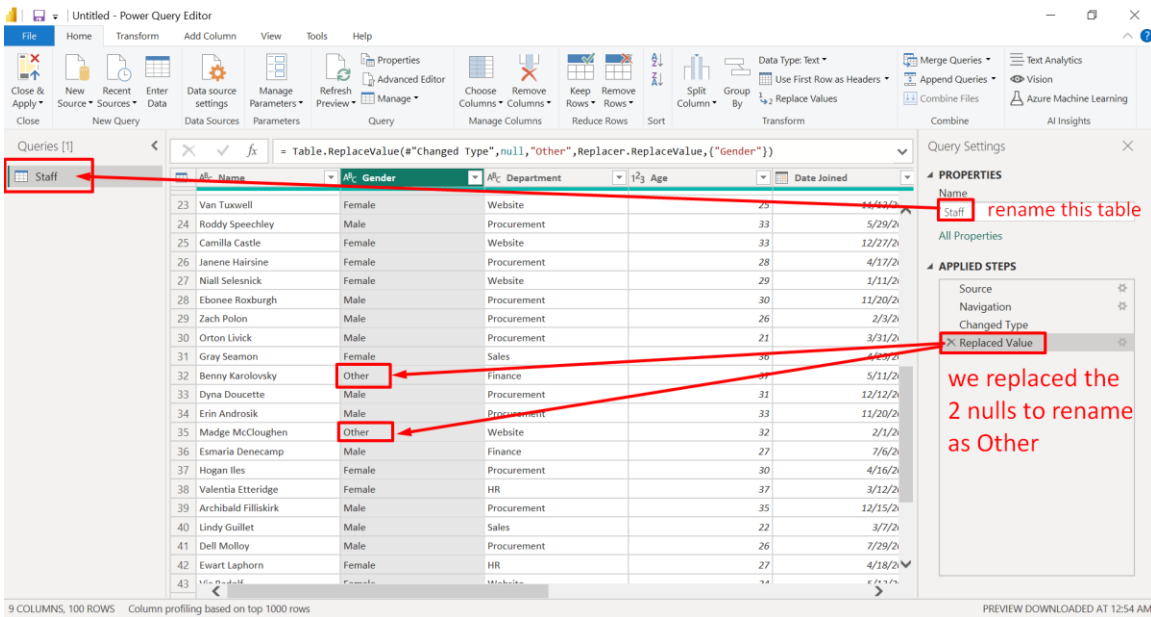
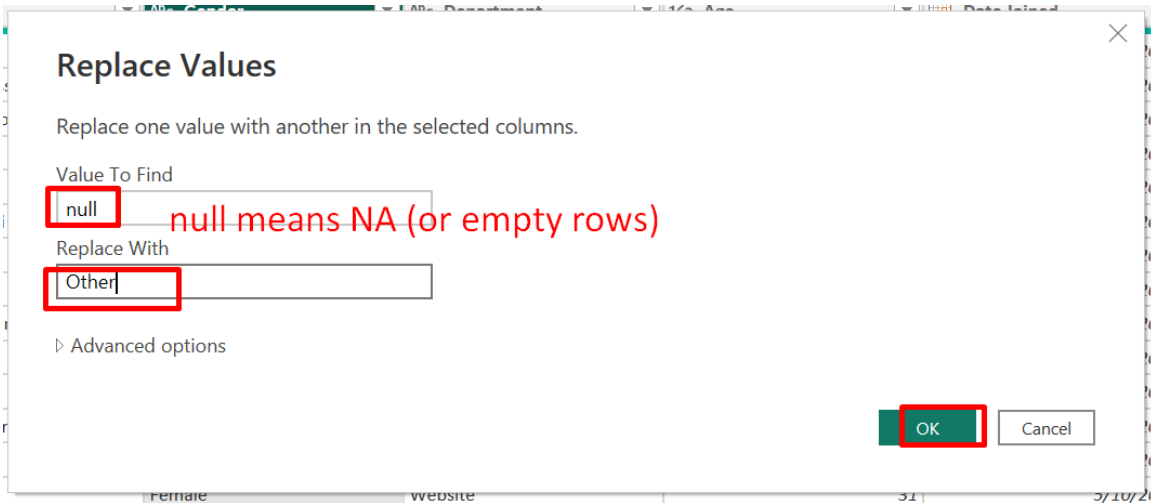
u can see the red here which shows NA rows....

mouseover here and this will pop up... u see 2 empty... 2% empty...

Gender	Age	Date Join
Female	39	
Male	26	
Male	31	
Female	43	
Male	33	
Male	30	
Male	20	
Male	37	
Male	30	
Female	31	
Female	30	
Female	34	
Male	28	

right click anywhere in the green bar....

Replace Values...





Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Properties Manage Choose Columns Remove Columns Keep Rows Remove Rows Sort Split Column

Close the Query Editor window and apply any pending changes.

= Table.ReplaceValue("#Changed Type",null,"Other",Replacer.ReplaceValue,{"G

Staff	A <sup>B</sup> C Name	A <sup>B</sup> C Gender	A <sup>B</sup> C Department	1 <sup>2</sup> 3 Age
23	Van Tuxwell	Female	Website	
24	Roddy Speechley	Male	Procurement	
25	Camilla Castle	Female	Website	
26	Janene Hairsine	Female	Procurement	
27	Niall Selesnick	Female	Website	
28	Ebonee Roxburgh	Male	Procurement	
29	Zach Polon	Male	Procurement	
30	Orton Livick	Male	Procurement	
31	Gray Seamon	Female	Sales	
32	Benny Karolovsky	Other	Finance	
33	Dyna Ducette	Male	Procurement	

click this and watch the changes pushed back to Power BI...

Monday, Apr 16, 2018 Edit parameters 4 https://files.chandoo.org/pbix/img/women-14.jpg Carla

Load you will see a load screen making the changes...

Staff  
100 rows loaded.

Cancel

Thursday, July 6, 2017 48980 5 https://files.chandoo.org/pbix/img/men-18.jpg lan

Monday, April 16, 2018 114180 1 https://files.chandoo.org/pbix/img/women-17.jpg Fred

Count of Name by Department

Department	Count
Website	30
Procurement	28
Finance Department	18
Sales	12
HR	5

Count of Name by Gender

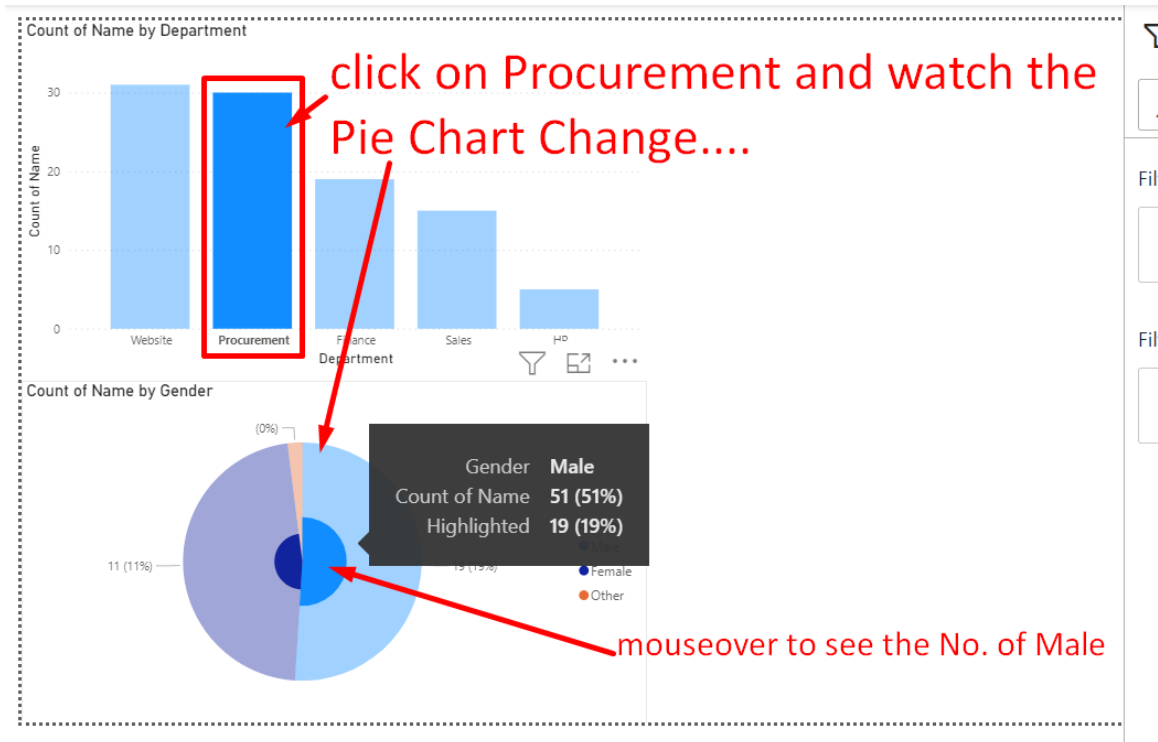
Gender	Count	Percentage
Male	47	47%
Female	2	2%
Other	51	51%

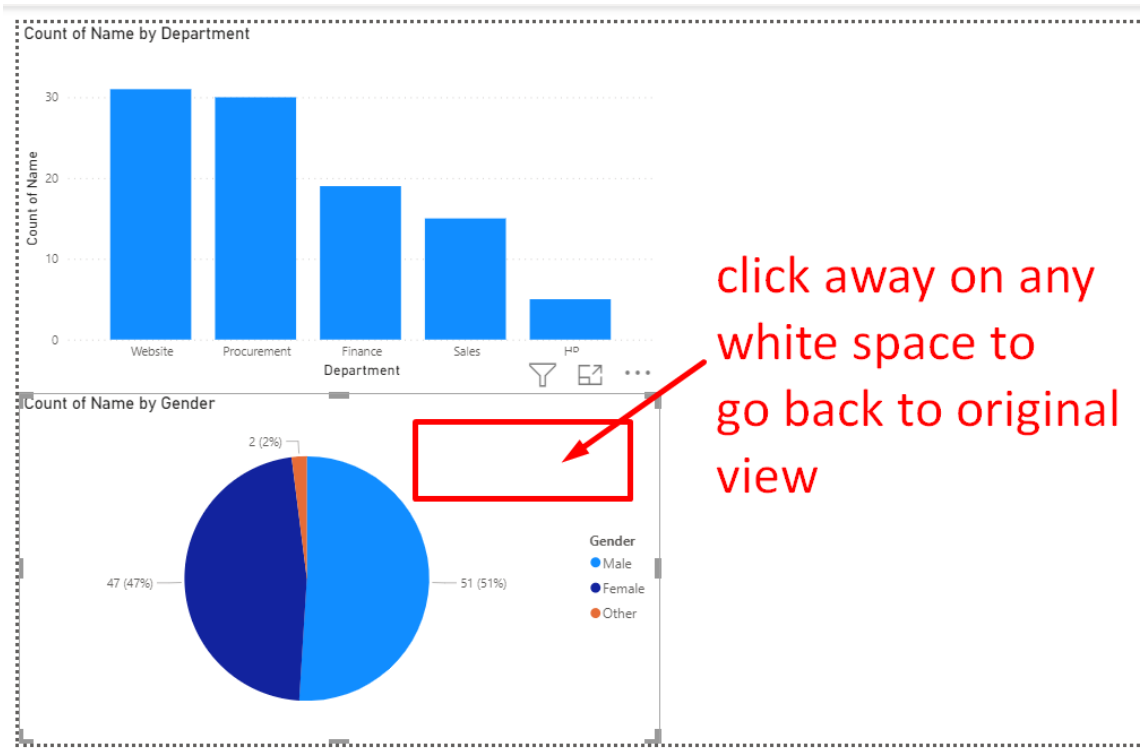
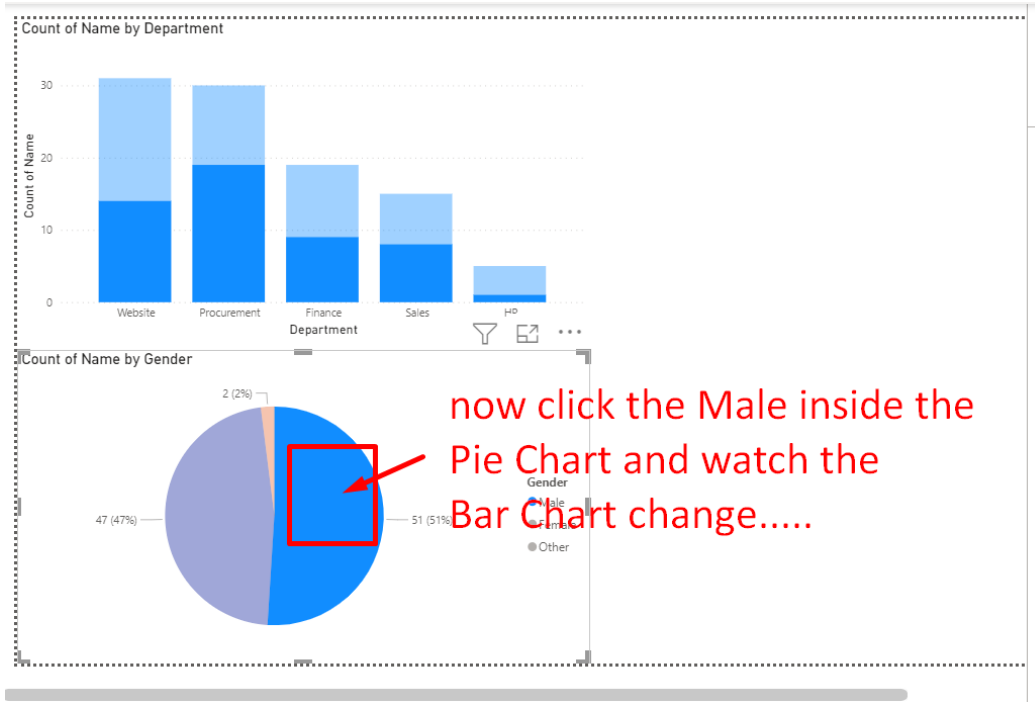
u see that the changes have taken place...

Fields

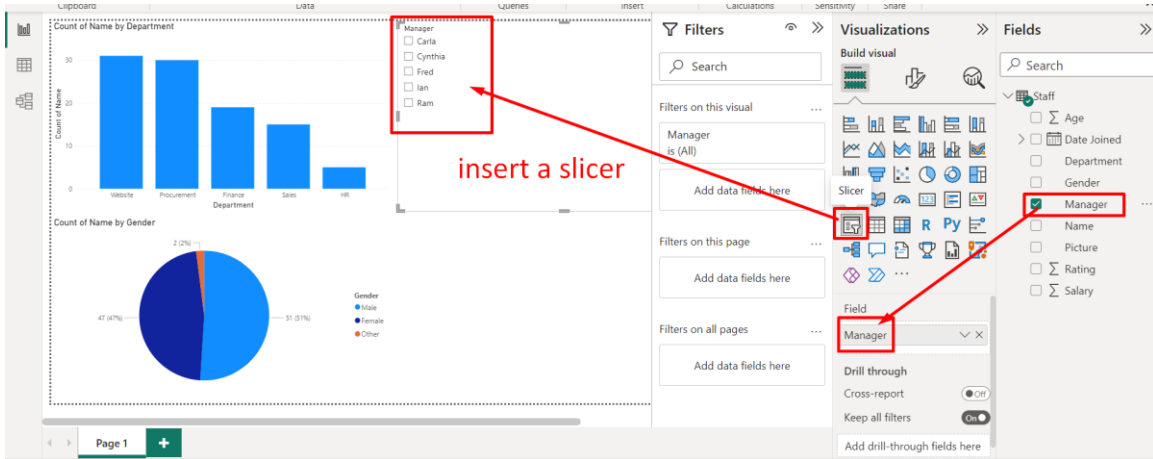
- Staff
- Age
- Date Joined
- Department
- Gender
- Manager
- Name
- Picture
- Rating
- Salary

## E. INTERACTIVITY

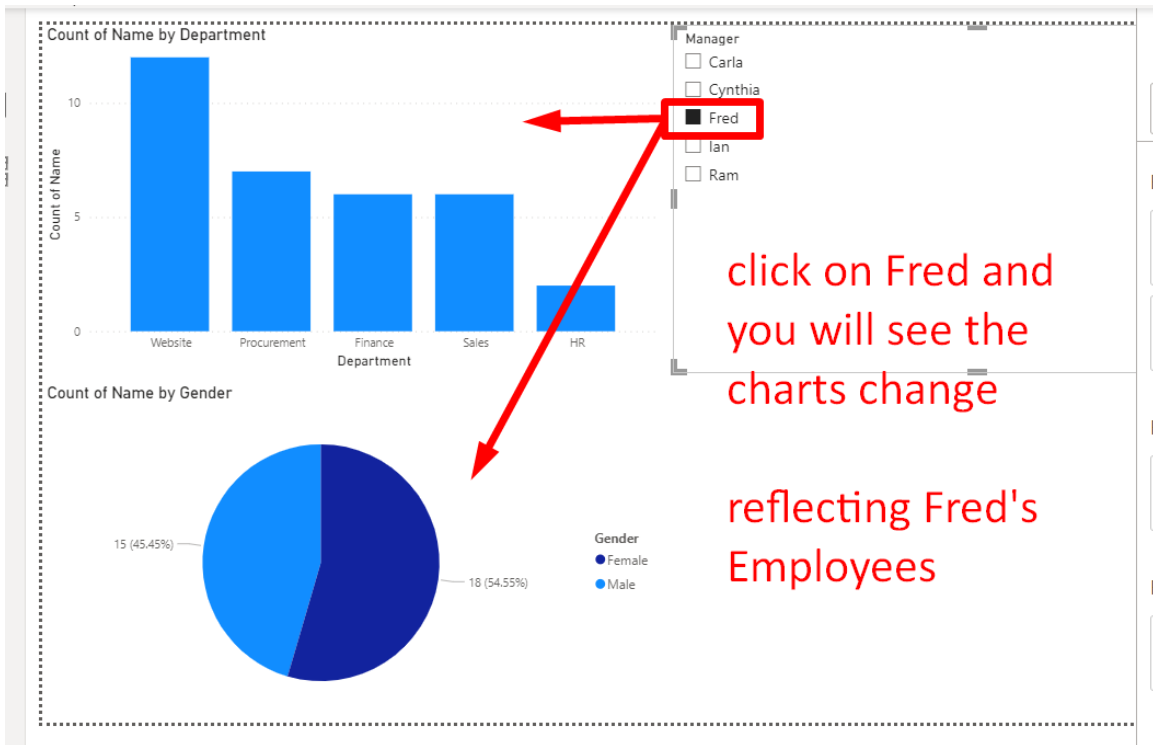




## F. SLICER: MANAGER

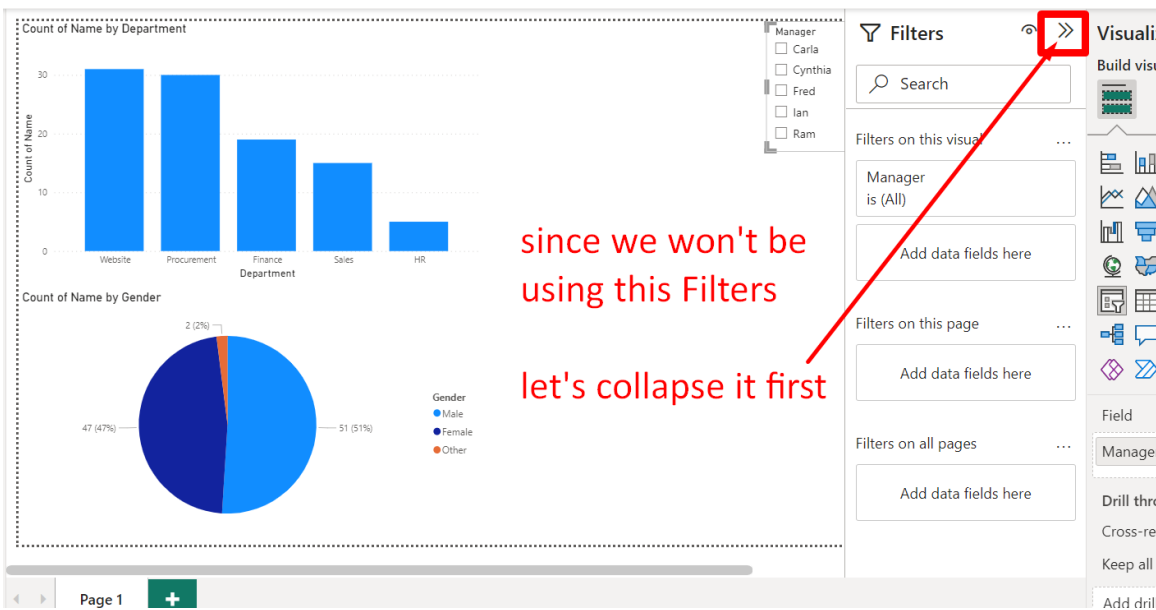
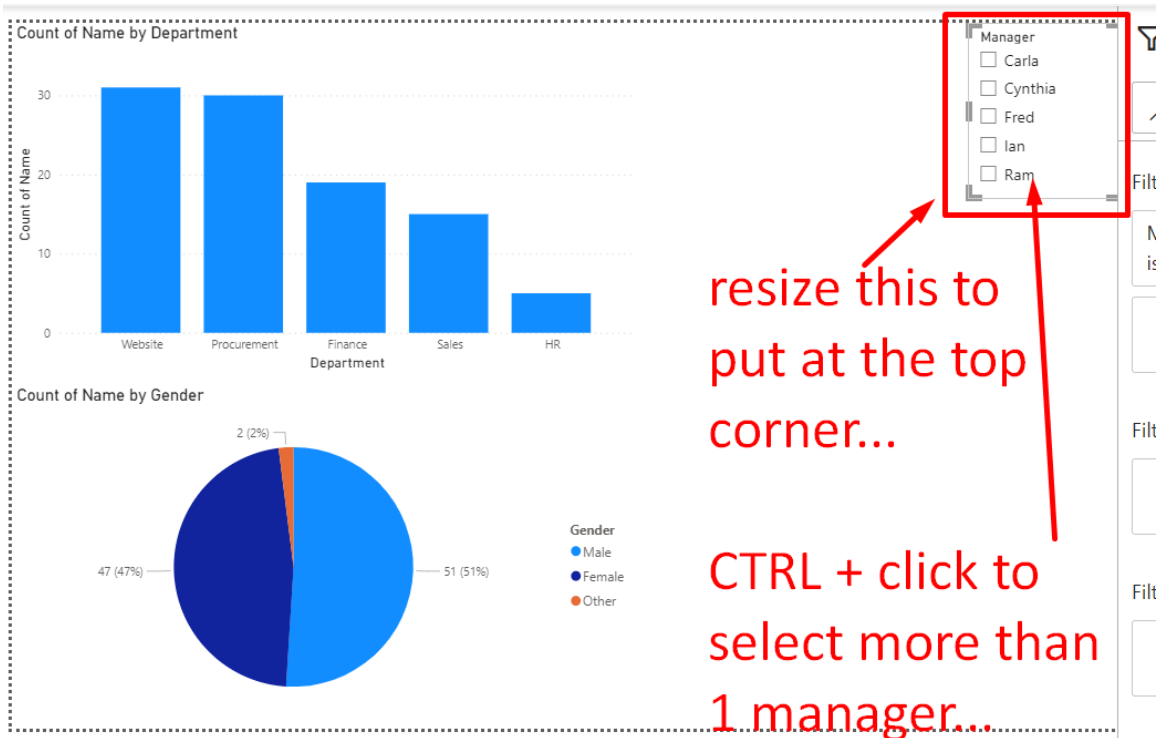


insert a slicer



click on Fred and you will see the charts change

reflecting Fred's Employees



Clipboard Data Queries Insert Calculations Sensitivity Share

Count of Name by Department

Department	Count of Name
Website	30
Procurement	30
Finance	20
Sales	15
HR	5

Count of Name by Gender

Gender	Count	Percentage
Male	47	47%
Female	51	51%
Other	2	2%

Gender  
● Male  
● Female  
● Other

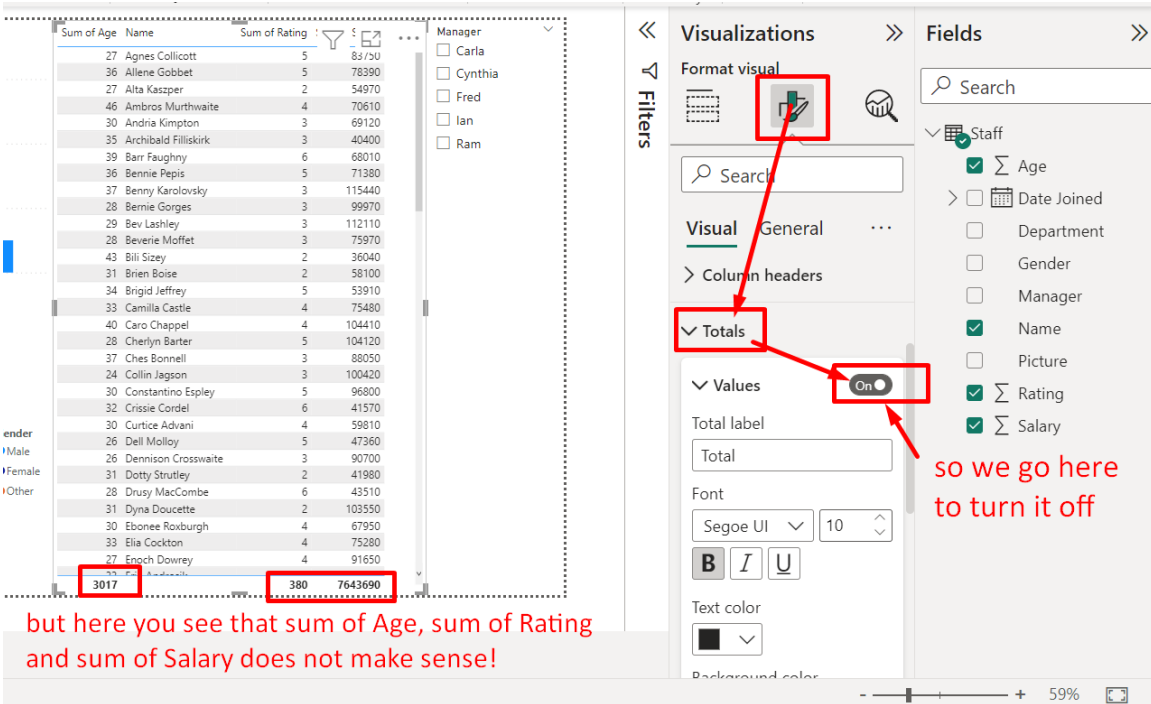
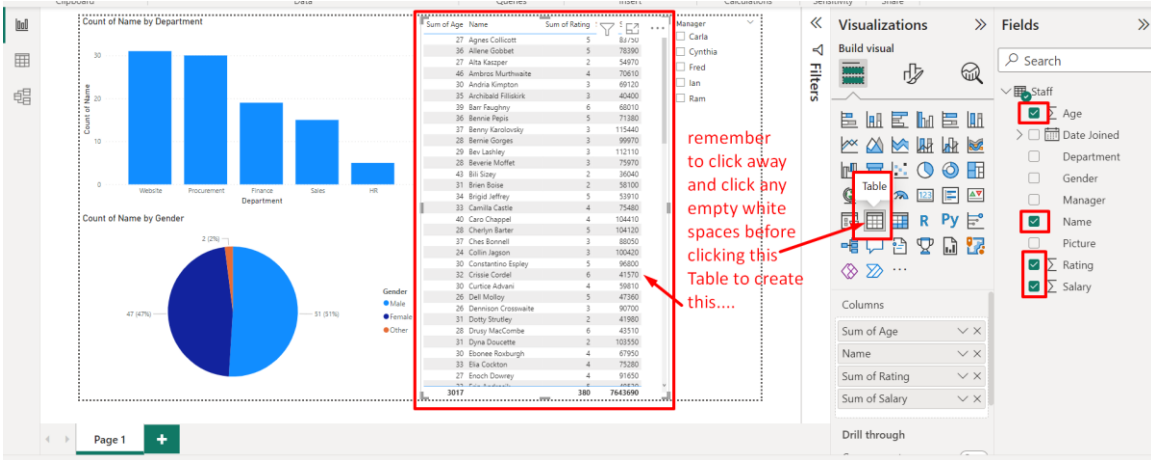
resize this again to fit in the upper corner...

notice there are these dotted lines to show the entire canvas Power BI is using...

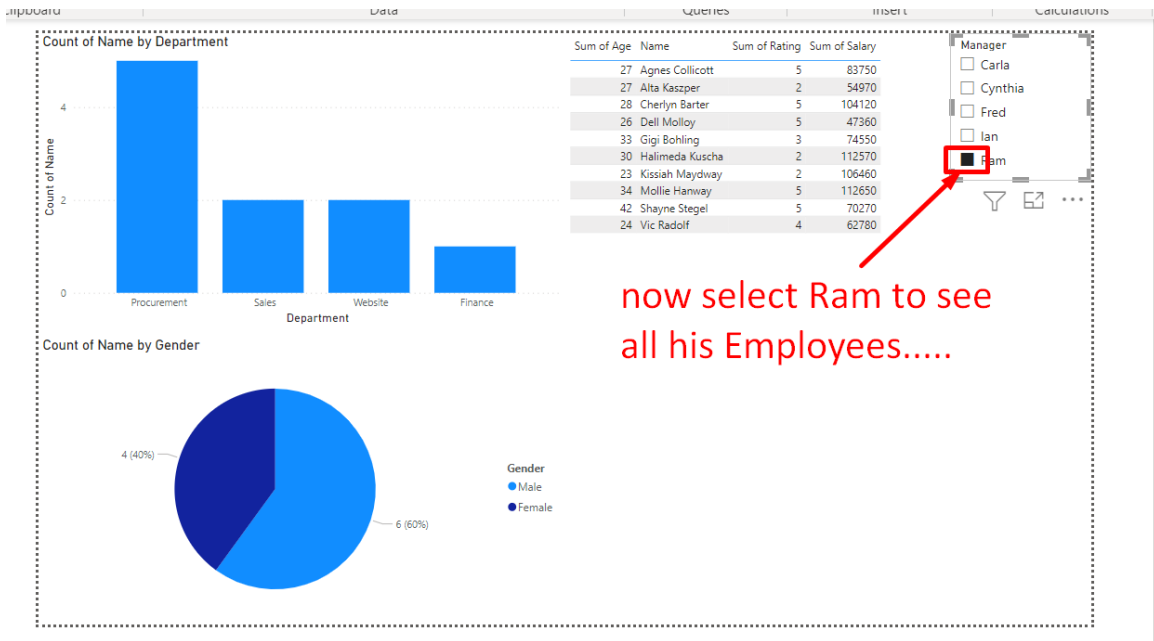
Visualizations  
Build visual  
Filters  
Field  
Manager  
Drill through  
Cross-report  
Keep all filter  
Add drill-thr

Page 1 +

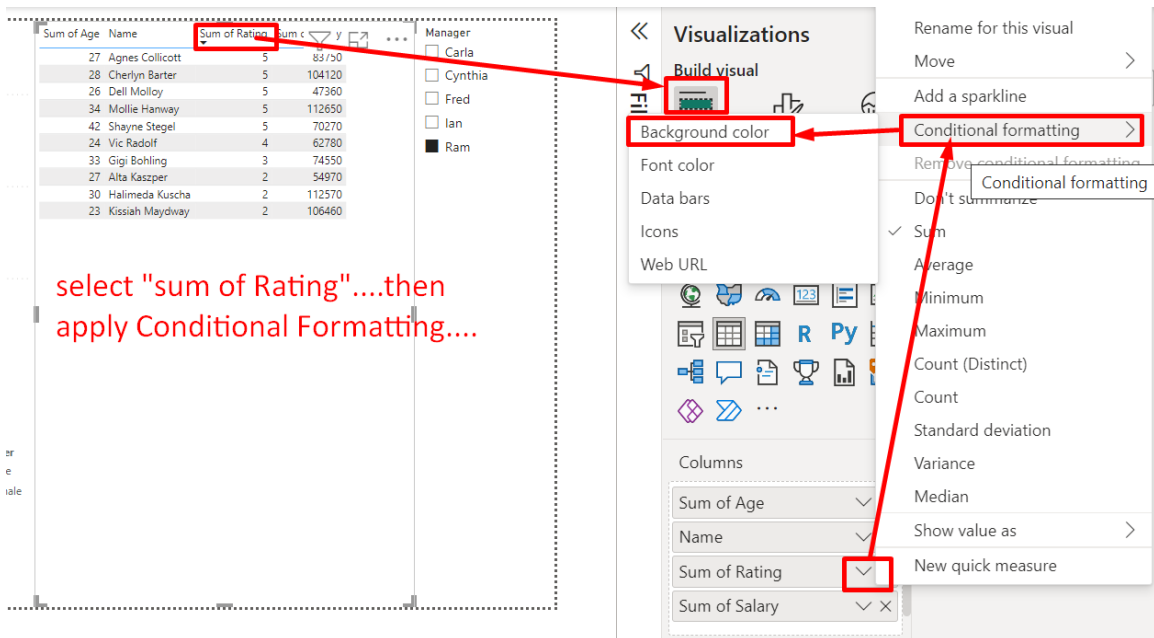
**G. TABLE: EMPLOYEES NAME / AGE / RATING / SALARY**







now select Ram to see all his Employees.....



select "sum of Rating" ....then apply Conditional Formatting....

## Background color - Sum of Rating


Format style: Gradient (dropdown)


Apply to: Values only (dropdown)

What field should we base this on?: Sum of Rating (dropdown)


Summarization: Sum (dropdown)

How should we format empty values?: As zero (dropdown)

Minimum: Lowest value (dropdown)  Enter a value

Maximum: Highest value (dropdown)  Enter a value

Add a middle color



[Learn more about conditional formatting](#)

OK Cancel

Sum of Age	Name	Sum of Rating	Sum of Salary
27	Agnes Collicott	5	83790
28	Cherlyn Barter	5	104120
26	Dell Molloy	5	47360
34	Mollie Hanway	5	112650
42	Shayne Stegel	5	70270
24	Vic Radloff	4	62780
33	Gigi Bohling	3	74550
27	Alta Kaszper	2	54970
30	Halimeda Kusch	2	112570
23	Kissiah Maydew	2	106460

now u see this has changed...

but now we want to change "sum of Salary" ...

Visualizations pane: Build visual (dropdown), Filters (dropdown), Background color (dropdown), Font color (dropdown), Data bars (dropdown), Icons (dropdown), Web URL (dropdown), Columns (Sum of Age, Name, Sum of Rating, Sum of Salary), Conditional formatting (dropdown), Remove field, Rename for this visual, Move, Add a sparkline, Remove conditional formatting, Don't summarize, Sum, Average, Minimum, Maximum, Count (Distinct), Count, Standard deviation, Variance, Median, Show value as, New quick measure.

### Data bars - Sum of Salary

Format cells with bars based on their values.

Show bar only

Minimum:  Maximum:

Positive bar:  Bar direction:

Negative bar:  Axis:

test - Power BI Desktop

File Home Insert Modeling View Help Format Data / Drill

Clipboard Count of Name by Department

Count of Name by Gender

Sum of Age Name Sum of Rating sum of Salary

Sum of Age	Name	Sum of Rating	sum of Salary
27	Agnes Collicott	5	83750
28	Carlynn Barter	5	104100
26	Colli Molloy	5	47300
34	Kellie Hamway	5	178800
42	Shayne Stegel	5	70270
24	Vic Radloff	4	62780
33	Gigi Bohling	3	74550
37	Alta Kaszper	3	54970
30	Halimeda Kuscha	3	112570
23	Kissiah Maydway	2	106480

Manager:  Carla  Cynthia  Fred  Ian  Ram

Visualizations: Build visual, Filters, Columns: Sum of Age, Name, Sum of Rating, Sum of Salary, Drill through

Fields: Search, Staff

Page 1

however if we select any name here, we realize that the other charts move accordingly, like the pie chart showing "Agnes is 1 Female" But this is not a useful relationship.....

data bars have now been added

How do we stop this filter interaction?

## H. STOPPING FILTER INTERACTIONS

test - Power BI Desktop

File Home Insert Modeling View Help **Format** Data / Drill

Apply drill down filters to  
Entire page

Interactions: Bring forward, Send backward, Selection, Align, Group

Count of Name by Department

stop the interaction (note if u can't find this button, is because u need to resize this bar chart in order to FORCE it to appear)

Sum of Age	Name	Sum of Rating	Sum of
42	Shayne Stegel	5	70270
34	Mollie Hanway	5	112650
33	Gigi Bohling	3	74550
30	Hallimeda Kuscha	2	112570
28	Cherlyn Barter	5	104120
27	Agnes Collicott	5	83750
27	Alta Kaszper	2	54970
26	Dell Molloy	5	47360
24	Vic Radolf	4	62780
23	Kissiah Maydway	2	106460

Count of Name by Gender

ensure that you are selecting this particular chart before clicking on format

to ensure that you are editing the right interactions with it

Page 1

## I. ADDING TITLE

test - Power BI Desktop

File **Home** Insert Modeling View Help

Clipboard: Paste, Copy, Format painter

Data: Get data, Excel workbook, Data hub, SQL Server, Enter data, Dataverse, Recent sources

Queries: Transform data, Refresh

Visual: New visual, **Text box**, More visuals

Calculations: New measure, Quick measure

**Our First Power BI Report**

Count of Name by Department

Department	Count of Name
Website	10
Procurement	7
Finance	6
Sales	6
HR	2

Count of Name by Gender

Gender	Count of Name	Percentage
Female	15	45.45%
Male	18	54.55%

Sum of Age, Name, Sum of Rating, Sum of Salary

Name	Sum of Age	Sum of Rating	Sum of Salary
Archibald Filliskirk	35	3	40400
Bev Lashley	29	3	112110
Bili Sizy	43	2	36040
Caro Chappel	40	4	104410
Ches Bonnell	37	3	88050
Crisse Cordel	32	6	41570
Currice Advani	30	4	59810
Dotty Strutley	31	2	41980
Drusy MacCombe	28	6	43510
Ebonee Roxburgh	30	4	67950
Florinda Grace	32	5	45510
Gisella Mewe	23	4	109760
Gray Seamon	36	4	78540
Hannis January	29	6	29530
Hogan Iles	30	1	114180
Jan Morforth	28	5	48170
Karlen McCaffrey	34	2	71230
Kassi Jonson	32	3	43040
Kath Bletsoe	25	2	65700
Kaye Crocroft	24	5	52610
Merrilee Plenty	40	6	87620
Mollie Hanway	20	4	113650
Moore	32	3	49530

Manager: Carla, Cynthia, Fred, Ian, Ram

rename

Getting Started +

Page 1 of 1

**SAVE YOUR WORK!!!!**

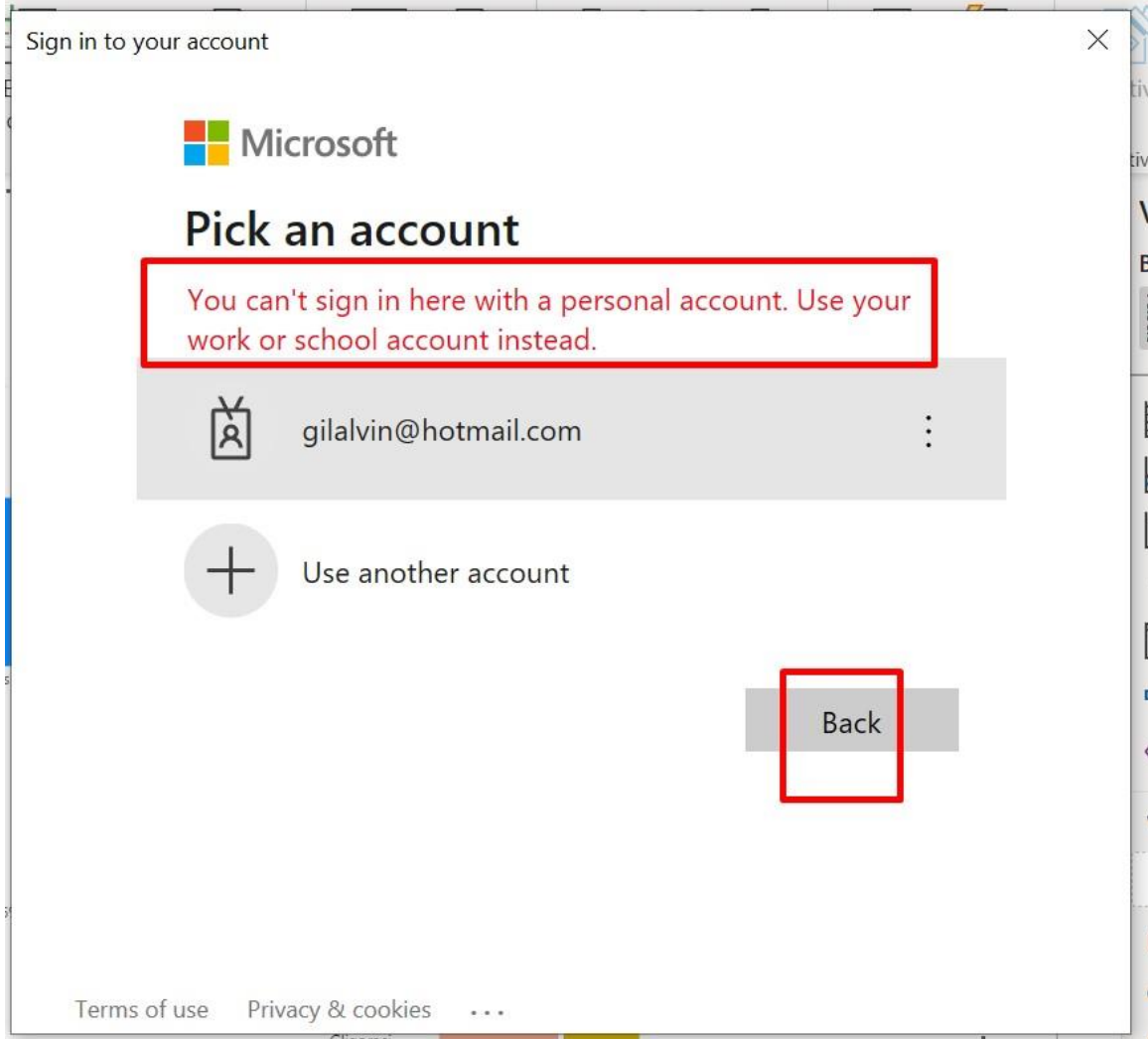
## J. PUBLISHING

The screenshot shows the Power BI Desktop interface. In the top ribbon, the 'Publish' button is highlighted with a red box. Below the ribbon, a dialog box titled 'Enter your email address' is displayed. The dialog contains the text: 'Power BI Desktop and the Power BI service work better together. Sign in to enhance your collaboration and access organizational content.' Below this text is a text input field containing the email address 'gilalvin@hotmail.com', which is also highlighted with a red box. At the bottom of the dialog are two buttons: 'Continue' (highlighted with a red box) and 'Cancel'. In the background, a report is visible with a table of data.

Age	Name	Count	Salary
28	Jan Morforth	5	48170
34	Karlen McCaffrey	2	71230
32	Kassi Jonson	3	43840
25	Kath Bletsoe	2	65700
24	Kaye Crocroft	5	52610

The screenshot shows the 'Sign in to Power BI' dialog box. The dialog has a title bar with a close button. The main text reads: 'Sign in to Power BI' and 'Choose the version of Power BI you want to use:'. There are two radio button options: 'Power BI' (which is selected and highlighted with a red box) and 'Power BI operated by 21Vianet in China'. At the bottom right of the dialog are two buttons: 'OK' (highlighted with a red box) and 'Cancel'. In the background, a report is visible with a table of data.

Age	Name	Count	Salary
29	Hannis	6	29530



**You need to sign up with Power BI with CORPORATE ACCOUNT to publish!!!**

### III. CALL CENTER DASHBOARD

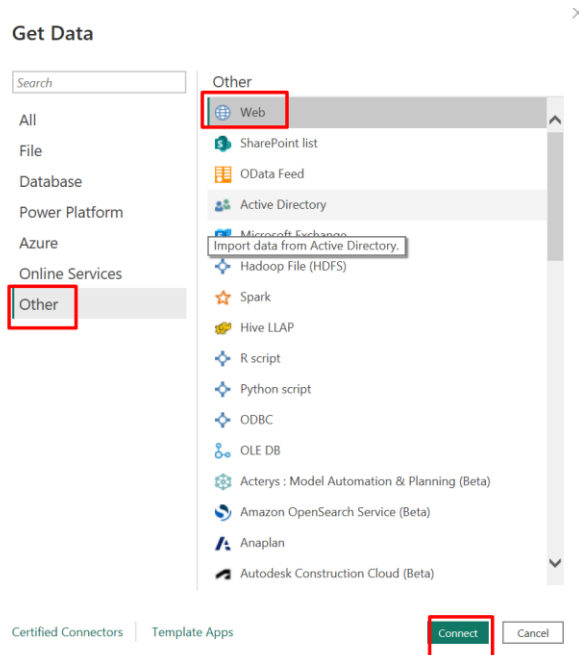
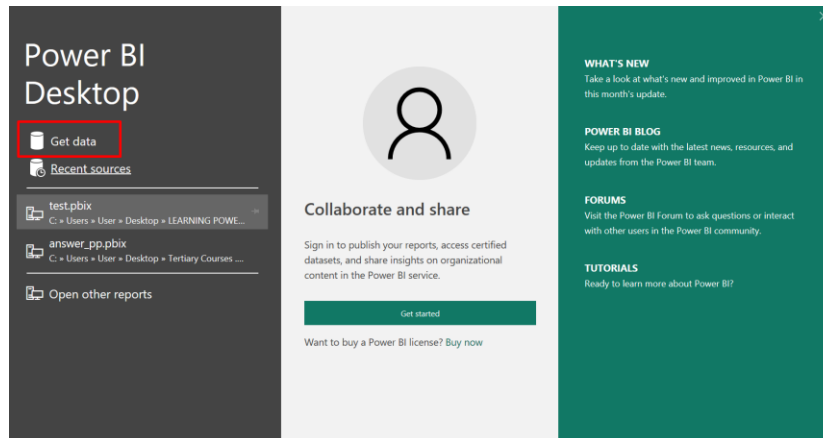
<https://www.alvinang.sg/s/Call-Center-Dashboard-Data.xlsx>

We will create a Dashboard like this:





## A. CONNECT TO DATA



# Power BI Training ~ Power BI Training ~ Power BI Training

go to [alvinang.sg/working-files...](http://alvinang.sg/working-files...) right click

1. HR Dashboard Data.xlsx

copy link address...

2. Call Center Dashboard Data.xlsx

**From Web**

Basic  Advanced

URI

<https://www.alvinang.sg/s/Call-Center-Dashboard-Data.xlsx>

paste the link inside....

## Navigator

Display Options

<https://www.alvinang.sg/s/2017-data.xlsx> [6]

- custs
- reps
- Table2
- Customers
- data
- Reps

## Table2

Customer ID	Duration	Purchase Amount	Representative	Date of Call
C0287	102	85	R003	4/3
C0076	109	195	R006	5/5
C0205	68	55	R006	5/10
C0154	68	90	R006	8/14
C0096	95	0	R004	8/9
C0252	105	65	R007	4/5
C0275	67	155	R001	1/23
C0004	90	0	R005	5/8
C0252	90	190	R007	3/2
C0068	101	0	R003	7/7
C0013	109	140	R004	3/29
C0082	89	140	R001	1/27
C0059	85	50	R004	2/3
C0037	98	120	R005	8/14
C0091	67	70	R005	3/14
C0125	94	0	R007	1/11
C0292	116	190	R005	8/16
C0287	109	195	R004	5/1
C0249	115	185	R006	5/26
C0145	49	165	R006	6/5
C0065	125	160	R002	7/18
C0241	100	55	R007	7/21

2017-data - Excel

File Home Insert Page Layout Formulas Data Review View Developer Help Table Design

Clipboard Font Alignment Number

Table2

	Duration	Purchase Amount	Representative	Date of Call	F	G	H
custs	102	85	R003	3-Apr-17			
reps	109	195	R006	5-May-17			
4 C0205	68	55	R006	10-May-17			
5 C0154	68	90	R006	14-Aug-17			
6 C0096	95	0	R004	9-Aug-17			
7 C0252	105	65	R007	5-Apr-17			
8 C0275	67	155	R001	23-Jan-17			
9 C0004	90	0	R005	8-May-17			
10 C0252	90	190	R007	2-Mar-17			
11 C0068	101	0	R003	7-Jul-17			
12 C0013	109	140	R004	29-Mar-17			
13 C0082	89	140	R001	27-Jan-17			
14 C0059	85	50	R004	3-Feb-17			
15 C0037	98	120	R005	14-Aug-17			
16 C0091	67	70	R005	14-Mar-17			
17 C0125	94	0	R007	11-Jan-17			
18 C0292	116	190	R005	16-Aug-17			
19 C0287	109	195	R004	1-May-17			
20 C0249	115	185	R006	26-May-17			
21 C0145	49	165	R006	5-Jun-17			
22 C0065	125	160	R002	18-Jul-17			

data Customers Reps

there are 3 tables in this workbook

we shall select all 3 of them

## B. RENAME TABLE 2 TO CALLS

The screenshot shows the Power BI Desktop interface. The 'Table tools' ribbon is active, with the 'Name' field set to 'calls'. The ribbon includes options for 'Mark as date table', 'Manage relationships', and 'Calculations' (New measure, Quick measure, New column, New table). The main area displays a table with columns: Customer ID, Duration, Purchase Amount, Representative, and Date of Call. The 'Data' pane on the right shows a search bar and a list of tables: 'calls', 'custs', and 'reps'. The 'calls' table is selected and highlighted with a red box. A red text annotation 'rename Table 2 to calls' is positioned next to the 'calls' table in the Data pane.

Customer ID	Duration	Purchase Amount	Representative	Date of Call
C0125	94	0	R007	Wednesday, January 11, 2017
C0053	90	0	R007	Friday, July 7, 2017
C0229	90	0	R007	Wednesday, June 7, 2017
C0022	105	0	R007	Tuesday, May 16, 2017
C0037	111	0	R007	Monday, July 10, 2017
C0041	81	0	R007	Wednesday, February 1, 2017
C0093	75	0	R007	Thursday, April 20, 2017
C0072	82	0	R007	Monday, August 14, 2017
C0059	73	0	R007	Tuesday, February 28, 2017
C0166	94	0	R007	Thursday, January 19, 2017
C0104	71	0	R007	Monday, May 1, 2017
C0141	84	0	R007	Wednesday, April 26, 2017
C0147	122	0	R007	Thursday, January 5, 2017
C0179	102	0	R007	Monday, May 8, 2017
C0256	70	0	R007	Monday, January 9, 2017

Table: calls (2,547 rows)

## C. EDIT THE RELATIONSHIPS

### 1. CUSTOMER ID TO CUSTOMER

first enter the data model.... you will see that a relationship has been auto setup for you....

mouseover the relationship you see that "Customer" is linked to "Customer ID"

this is a MANY to ONE relationship.... meaning 1 Customer can receive MANY calls.

double click the relationship and you can edit it.....

preview the first 3 rows of the "calls" table

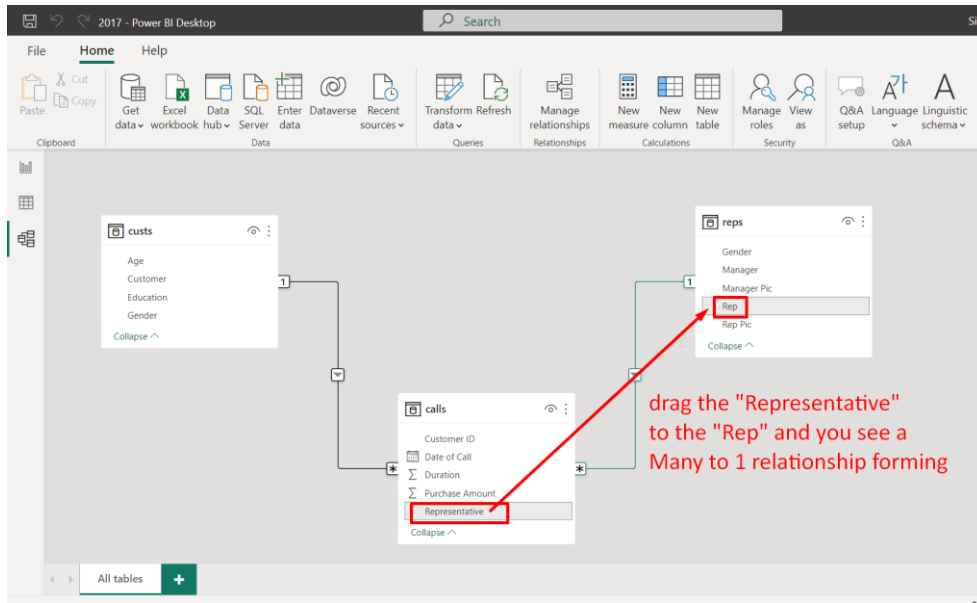
'Customer ID' Column is matched to 'Customer' column...meaning they will be matched based on the same ID

preview the first 3 rows of the "custs" table

Cardinality: MANY calls to 1 customer

Make this relationship active

## 2. REPRESENTATIVE TO REP



double click this and you can edit the relationship....

MANY calls can be made by 1 representative!

Cardinality: Many to one (\*:1)

Customer ID	Duration	Purchase Amount	Representative	Date of Call
C0125	94		R007	Wednesday, January 11, 20
C0053	90		R007	Friday, July 7, 20
C0229	90		R007	Wednesday, June 27, 20

Rep	Manager	Gender	Rep Pic
R001	Bob	Male	http://files.chandoo.org/playdate/cs/img/R001.png
R002	Bob	Female	http://files.chandoo.org/playdate/cs/img/R002.png
R003	Bob	Female	http://files.chandoo.org/playdate/cs/img/R003.png

2017 - Power BI Desktop

File Home Help

Clipboard: Paste, Cut, Copy

Data: Get data, Excel workbook, Data hub, SQL Server, Enter data, Dataverse, Recent sources

Queries: Transform data, Refresh

Relationships: Manage relationships

Calculations: New measure, New column, New table

Security: Manage roles, View as

Q&A: Q&A setup, Language, Linguistic schema

once these 3 tables relationships have been setup, it means that backend there is ONE huge table that displays ALL 3 tables (inner joined)

**custs**

- Age
- Customer
- Education
- Gender
- Collapse ^

**calls**

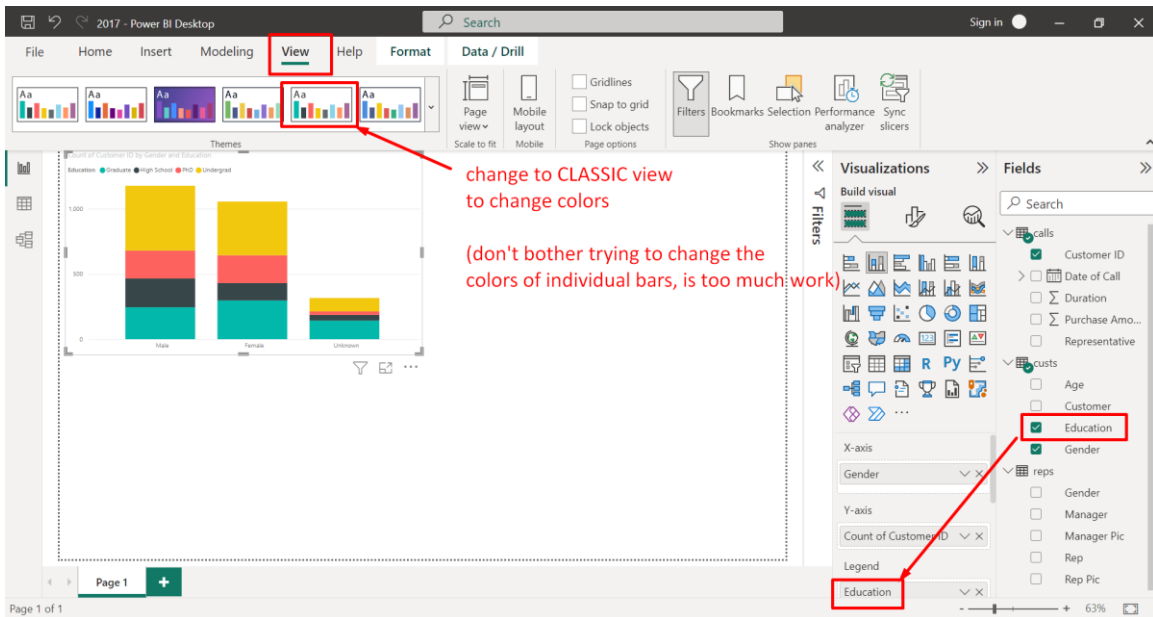
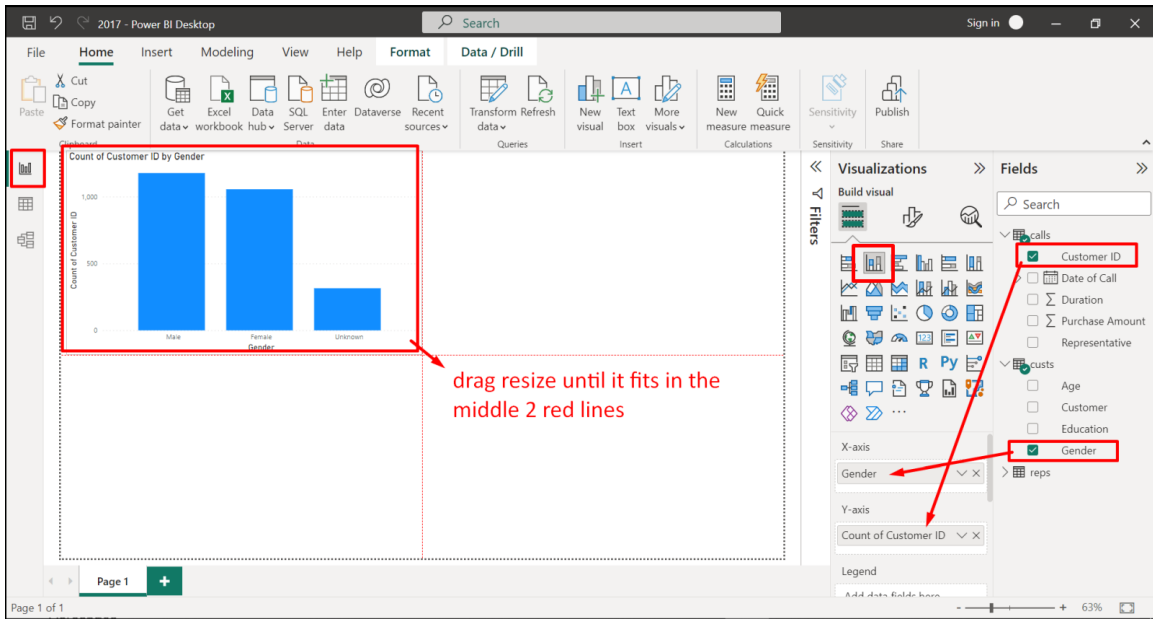
- Customer ID
- Date of Call
- Duration
- Purchase Amount
- Representative
- Collapse ^

**reps**

- Gender
- Manager
- Manager Pic
- Rep
- Rep Pic
- Collapse ^

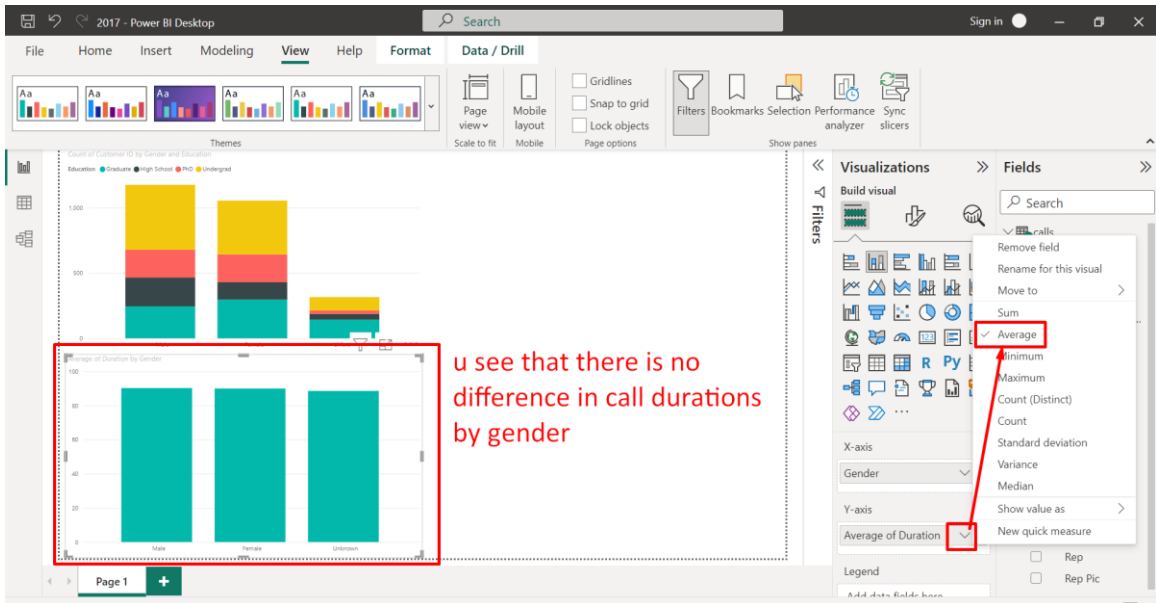
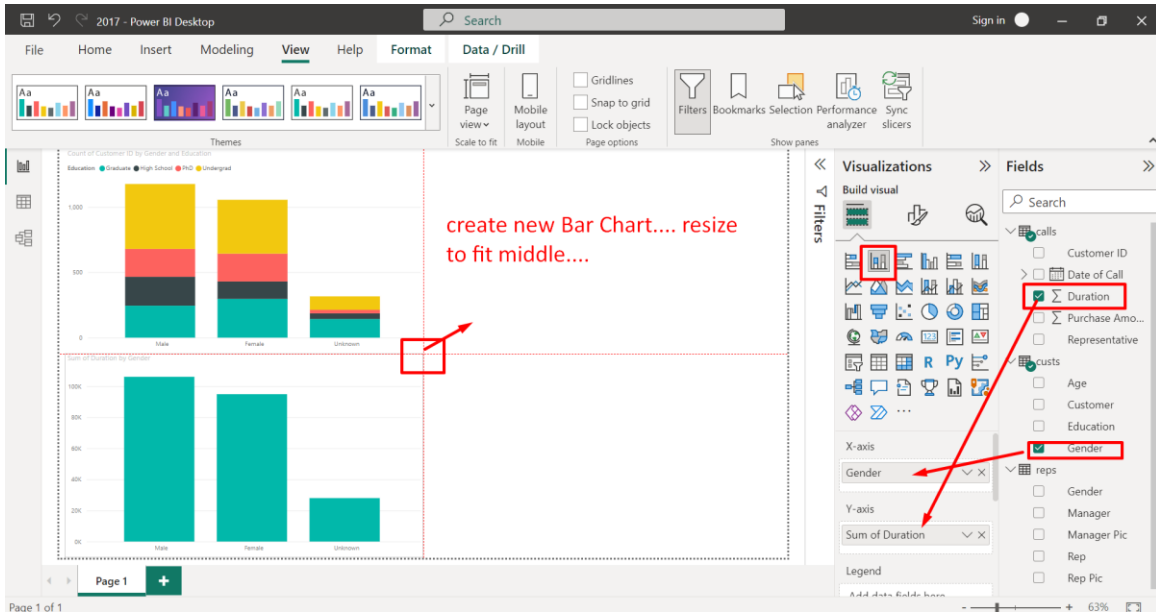
All tables +

### D. BAR CHART: NO. OF CUSTOMERS BY GENDER

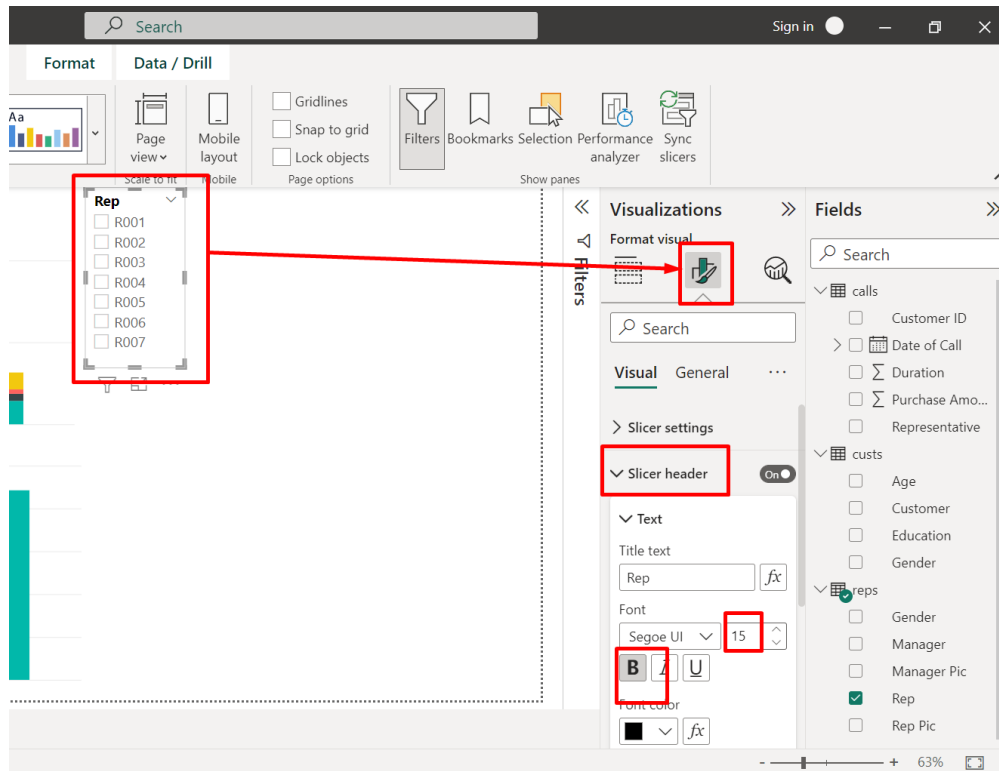
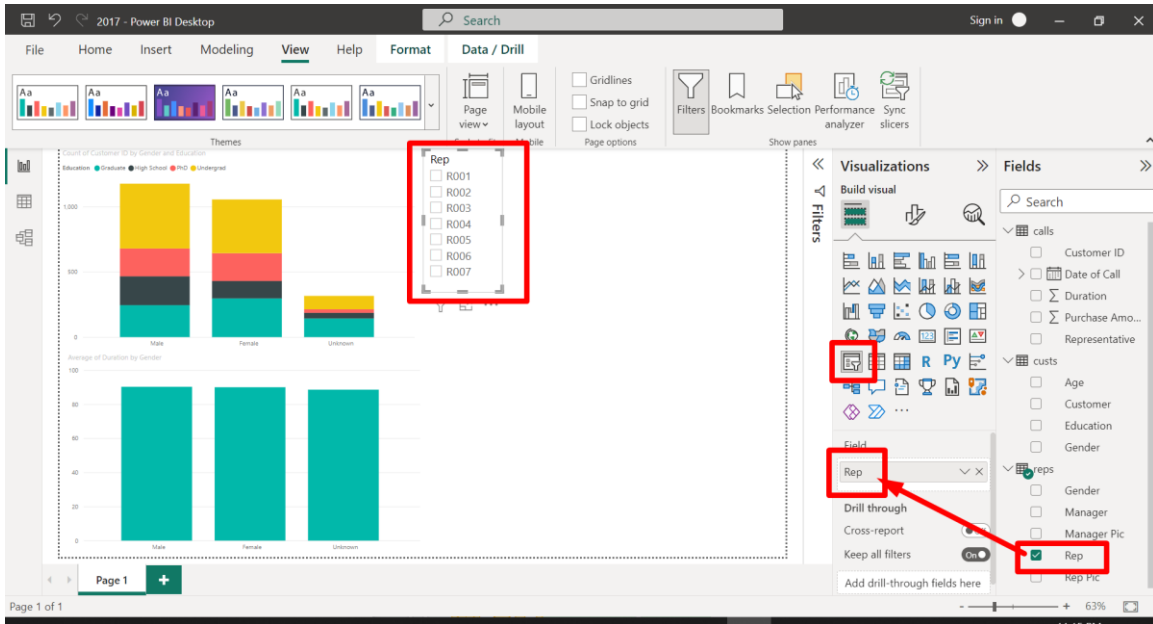


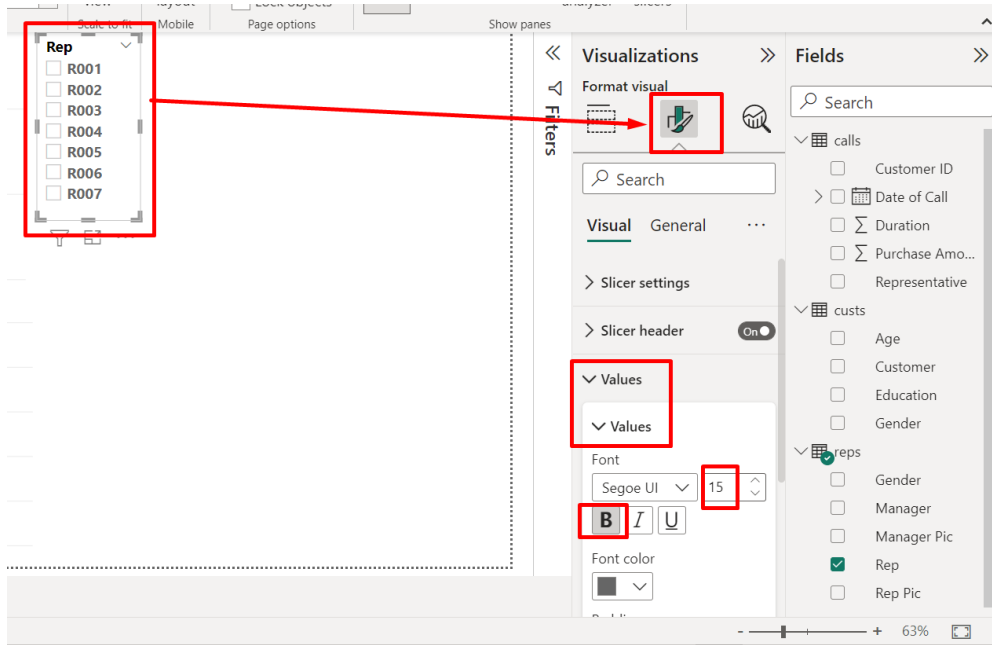


## E. BAR CHART: AVERAGE DURATION BY GENDER

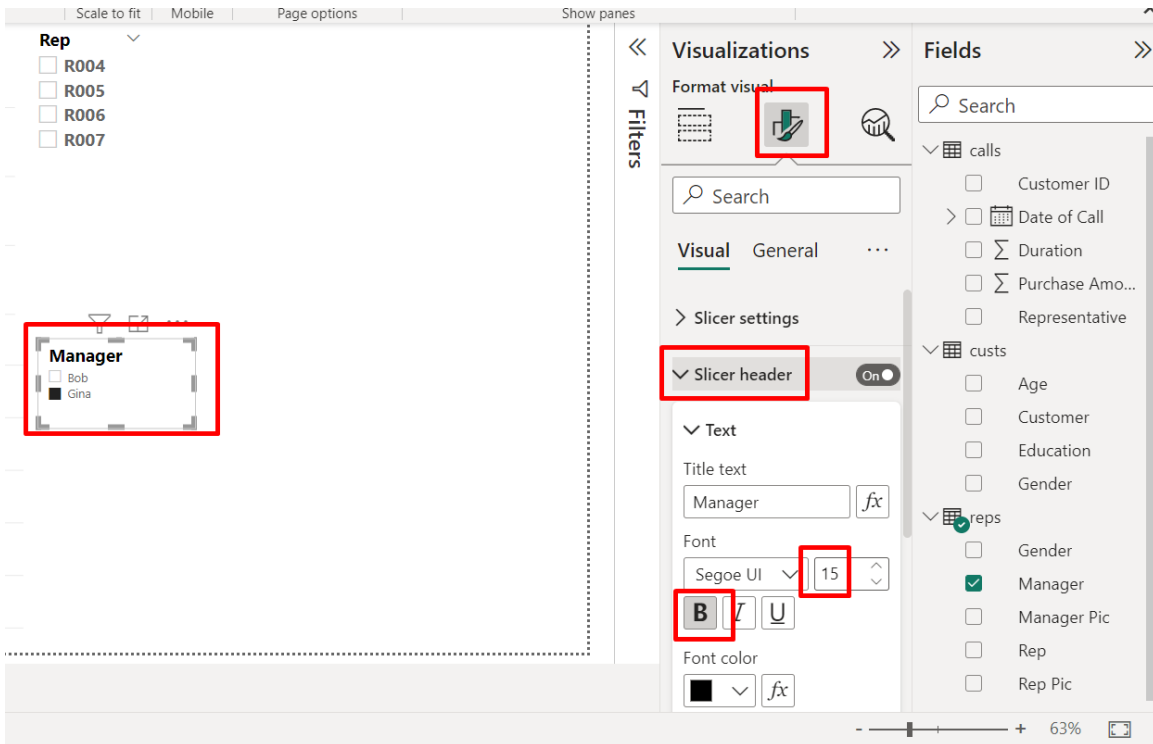
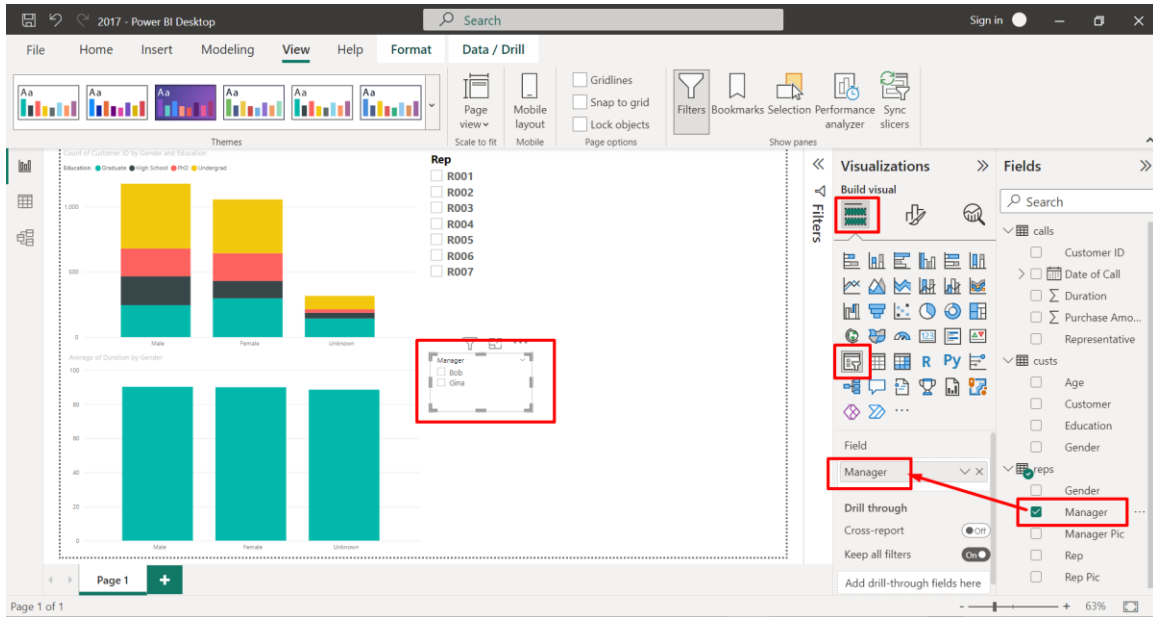


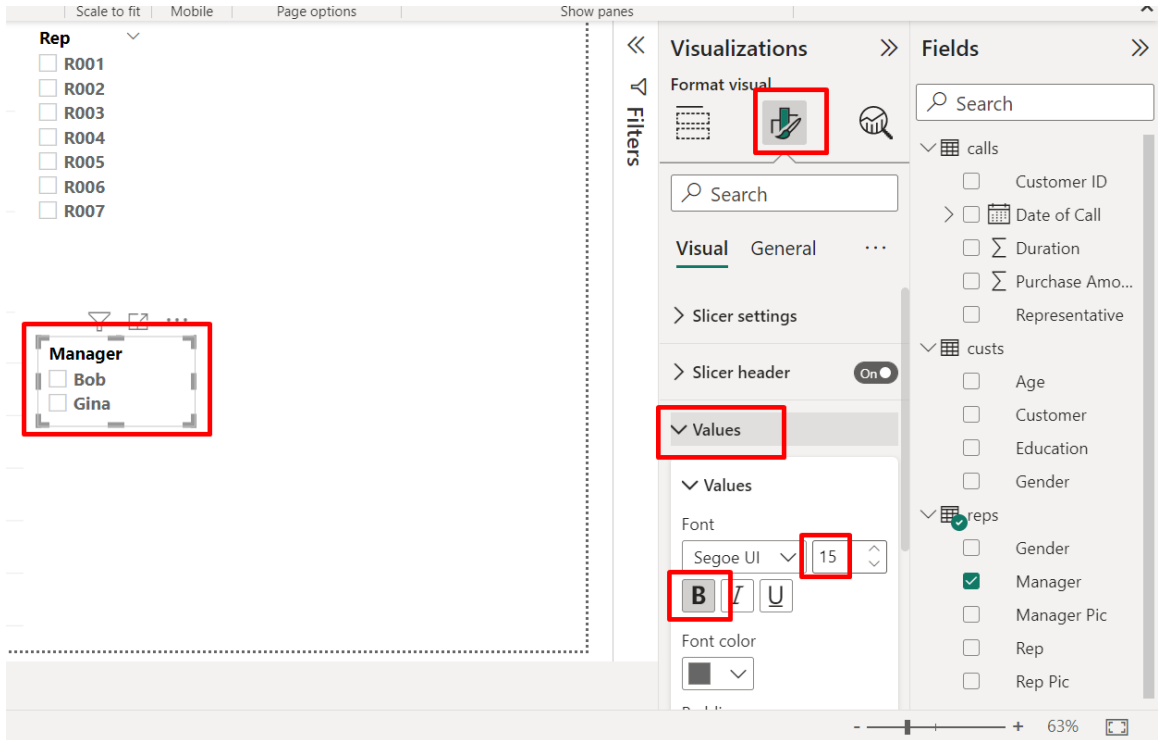
## F. SLICER SHOWING REPRESENTATIVES



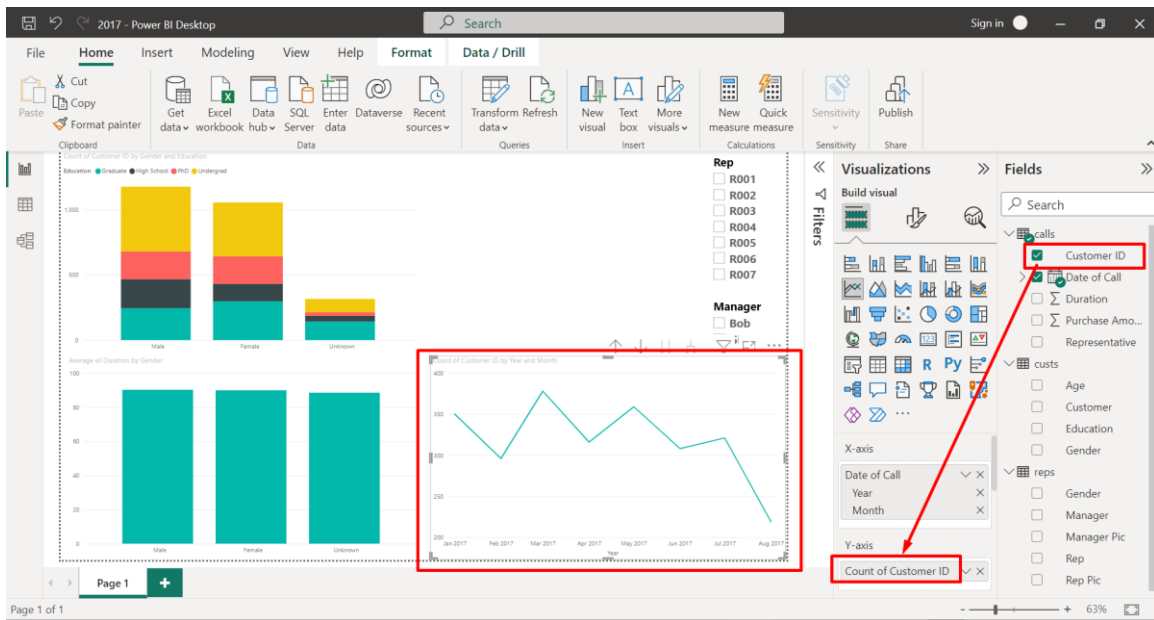
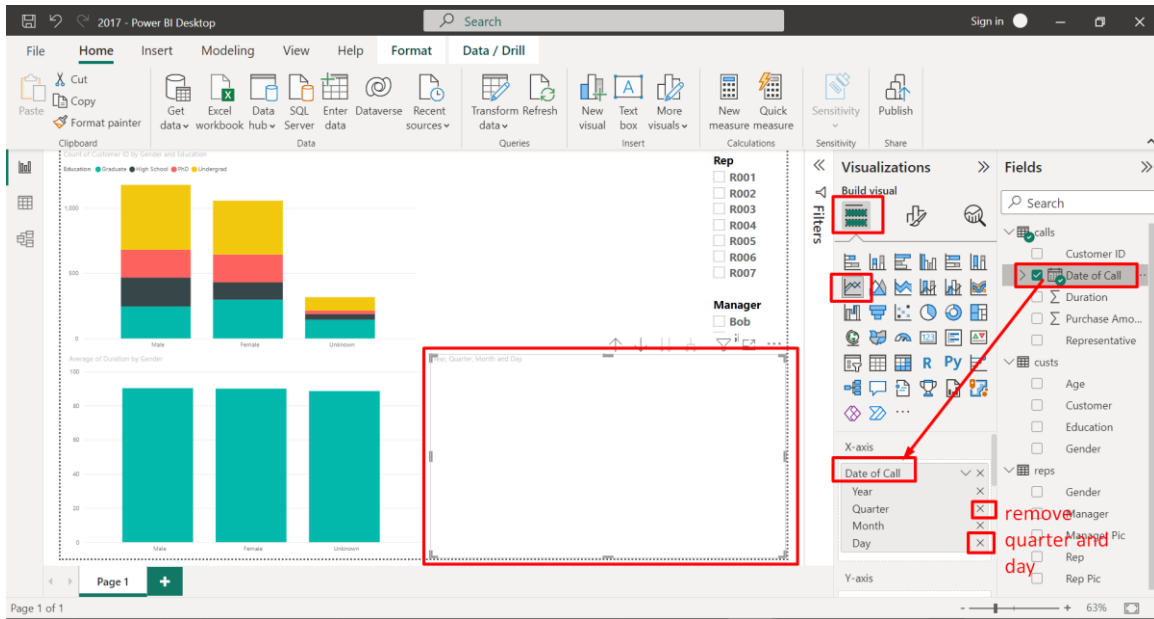


## G. SLICER FOR MANAGER

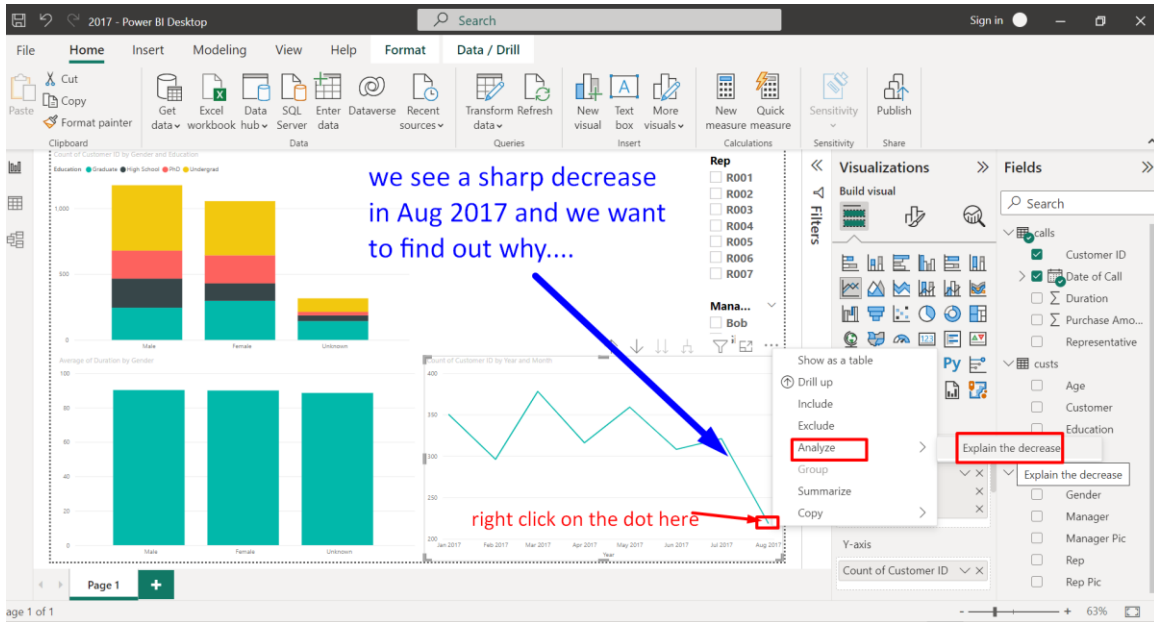




## H. LINE CHART: NUMBER OF CALLS THRU 2017

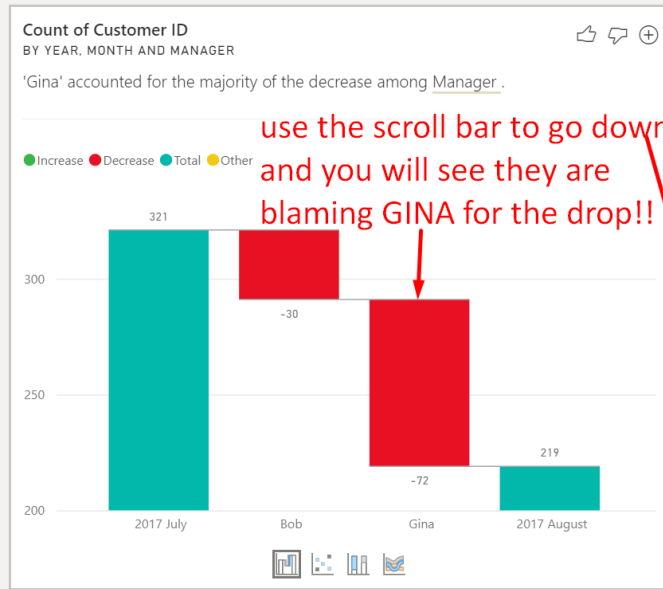


## I. ANALYSE: EXPLAIN THE DECREASE

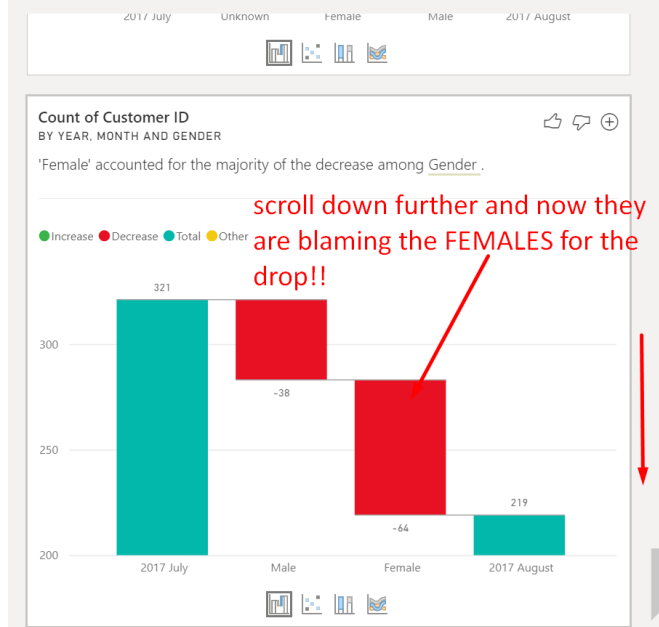


But this reason is not easy to understand... let's take a look at other reasons....

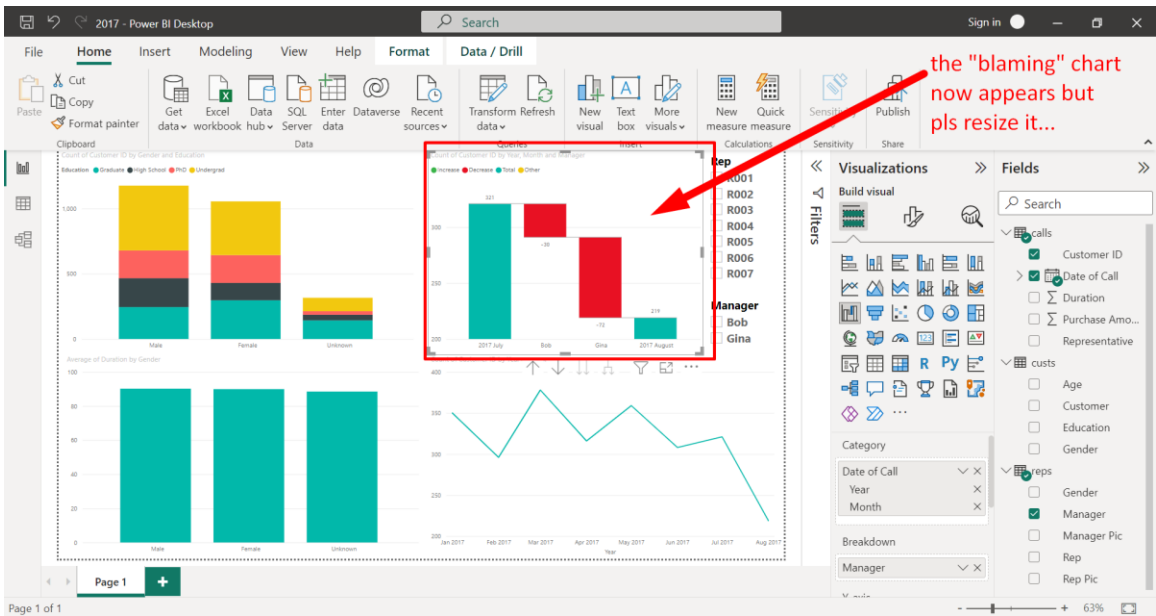
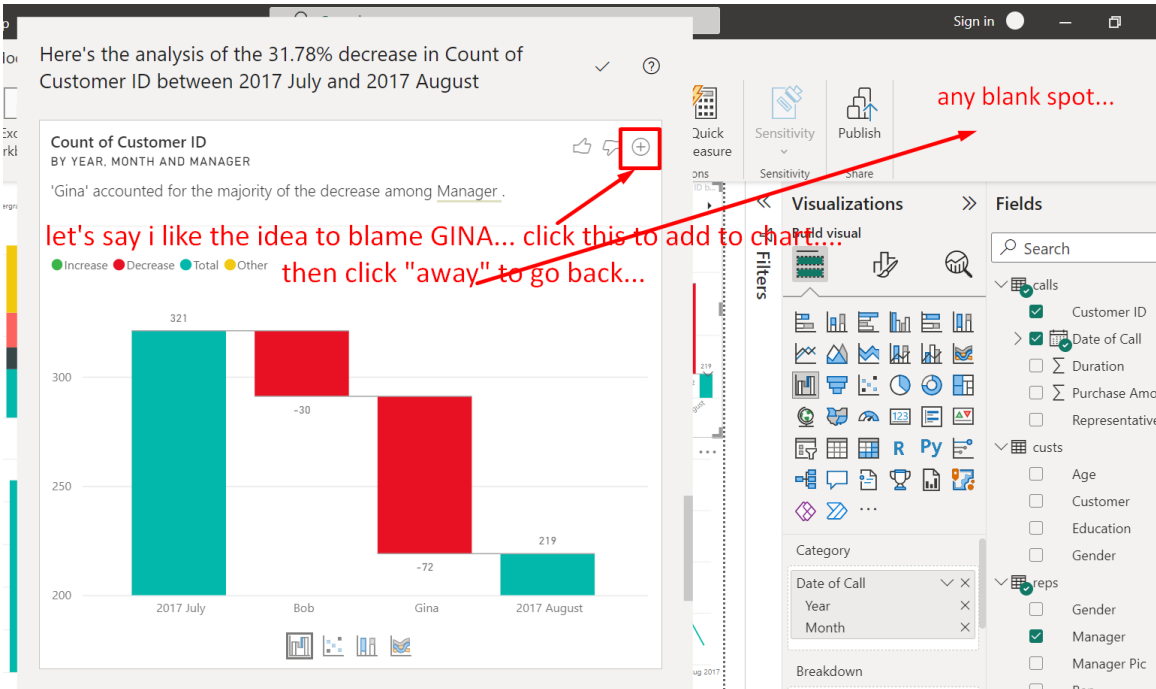
Here's the analysis of the 31.78% decrease in Count of Customer ID between 2017 July and 2017 August



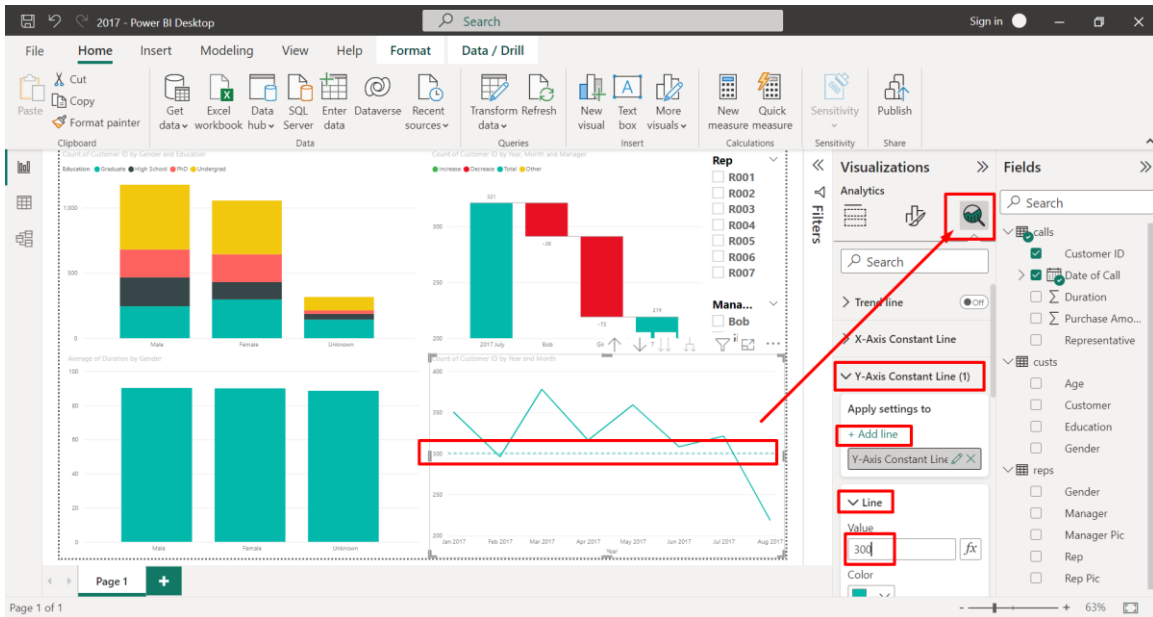
Here's the analysis of the 31.78% decrease in Count of Customer ID between 2017 July and 2017 August



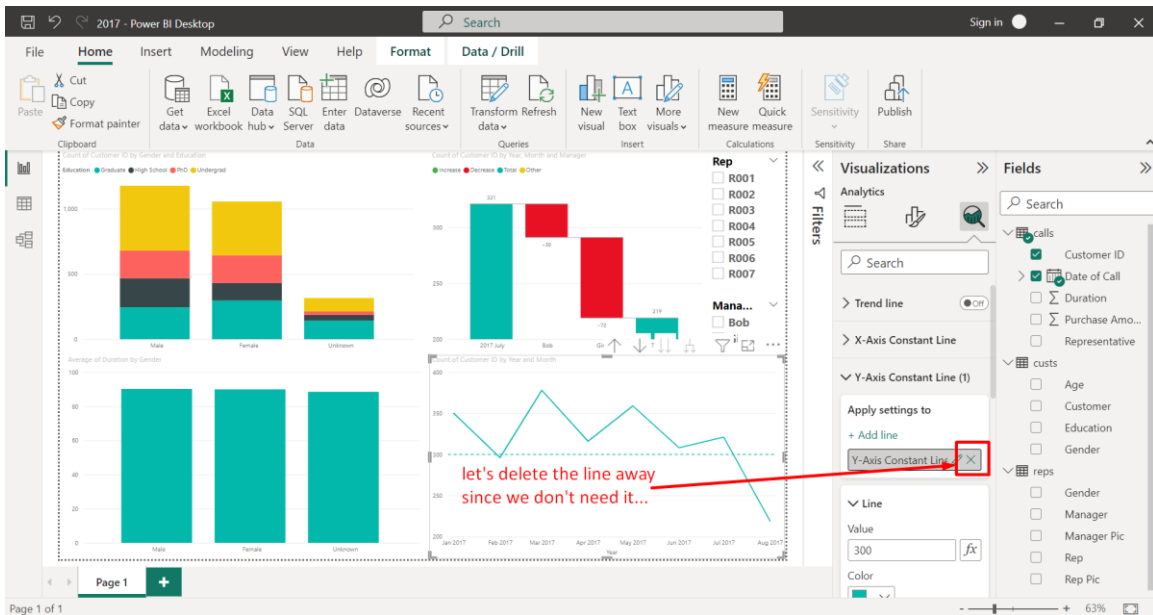




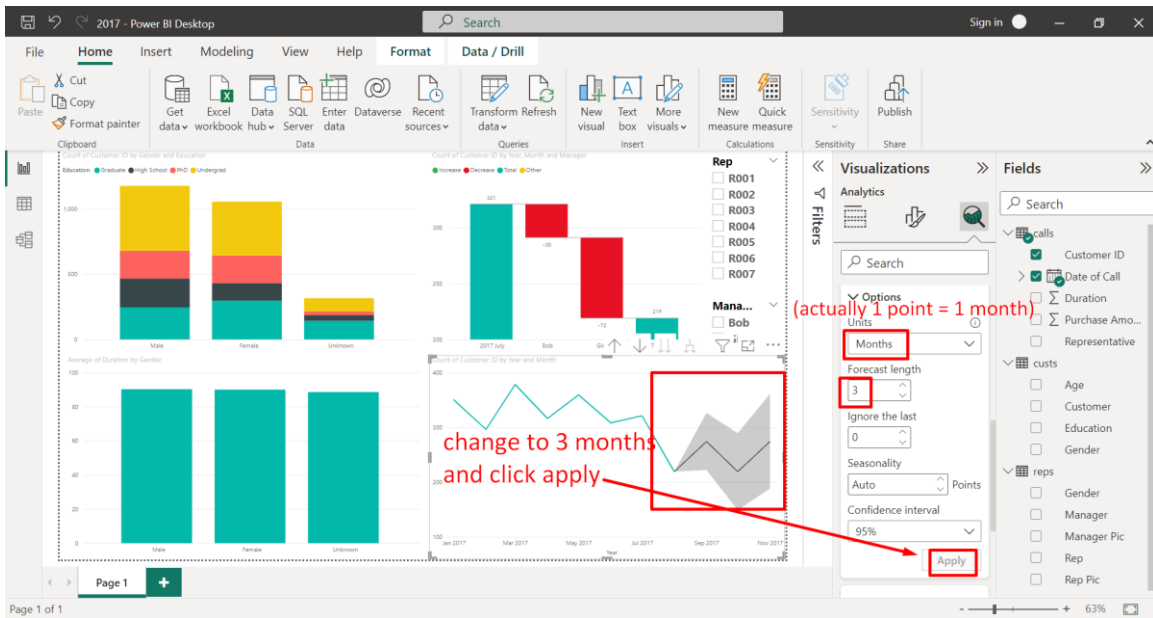
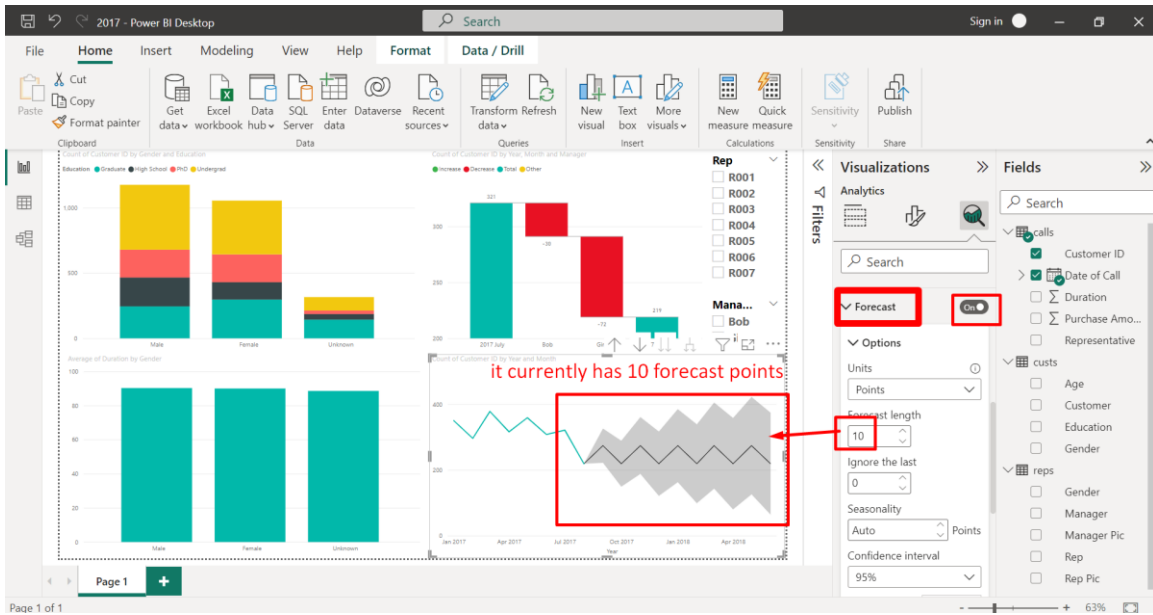
## J. ADDING A CONSTANT LINE TO THE LINE CHART



We don't need the line.. let's delete it away....



## K. ADDING A FORECAST TO THE LINE CHART



## L. FINAL DASHBOARD



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## ABOUT DR. ALVIN ANG

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Dr. Alvin Ang earned his Ph.D., Masters and Bachelor degrees from NTU, Singapore. He is a scientist, entrepreneur, as well as a personal/business advisor. More about him at [www.AlvinAng.sg](http://www.AlvinAng.sg).