

Top few Do's and Don'ts in Power BI Desktop

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Experience

I have a Masters degree in Statistics and am passionate about data, analytics and learning data science.

Business Intelligence Consultant with over 15 years experience in designing and developing data warehouses and analytical solutions

Speaker

Speaker at Local Users Groups and Virtual Webinars, and SQL Saturdays in New Zealand

Community

- Co-organiser for NZ Power BI User Group and SQL Saturday
- Co-organiser for Auckland AI Meetup
- Volunteering and sharing my knowledge is my passion. In my pass time I teach game development for primary school kids. Teach database concepts and data visualisations to 11-16 year olds.

Agenda

- What are the Top few Don't's
 - ▶ Power Query
 - ▶ Data Model
 - ▶ Report
- What are the Top few Do's
 - ▶ Options
 - ▶ Power Query
 - ▶ Data Model
 - ▶ Report

DONT'S



Don't start building your report in Power BI Service

WHY ?

- Limited features in Power BI Service
- Cannot download to Power BI Desktop from Power BI Service
- No way to back up changes in Power BI service

Don't try to replicate everything that you do in EXCEL

WHY ?

- Power BI is not same as Excel
- Explore the visualization options

DONT'S (Power Query)



Don't use the same old names from the source

WHY ?

- Naming is very important
- Business Users should understand your model
- Refer a Column as [Table][Columnname]
- Refer a Measure as [Measure]

Don't include High Cardinality Columns

WHY ?

- High Cardinality columns are very very unique
- Means less compression
- An example is a datetime column
- Have a date and time column
- Use integers wherever possible

DONT'S (Report)



Don't include too many visuals

WHY ?

- Too many visuals can generate large no of queries
- Minimum of 1 query per visual
- Try to use default filter or slicer selections

Don't use a lot of colour

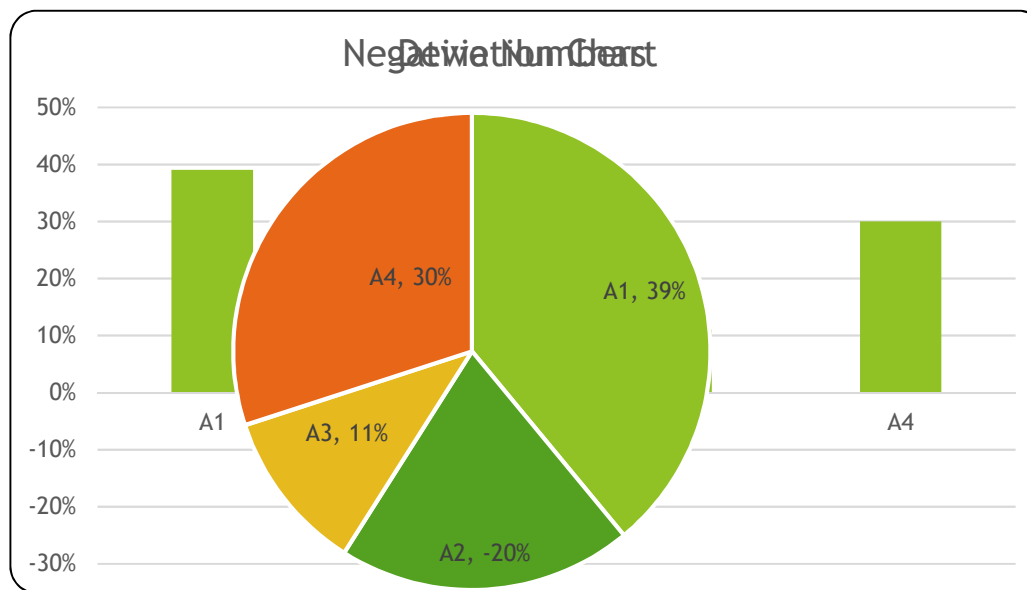
WHY ?

- Creates confusing report to the user
- Draws attention to too many areas
- Can distract the reader from getting the correct insights of the report



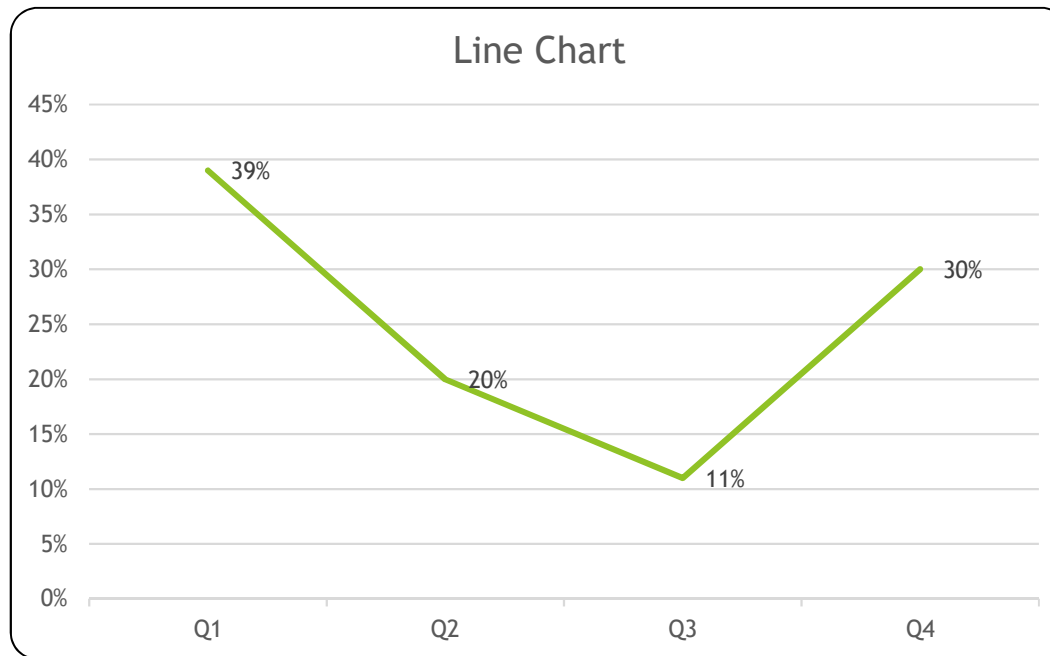
Don't use Pie Charts

- If you have negative numbers



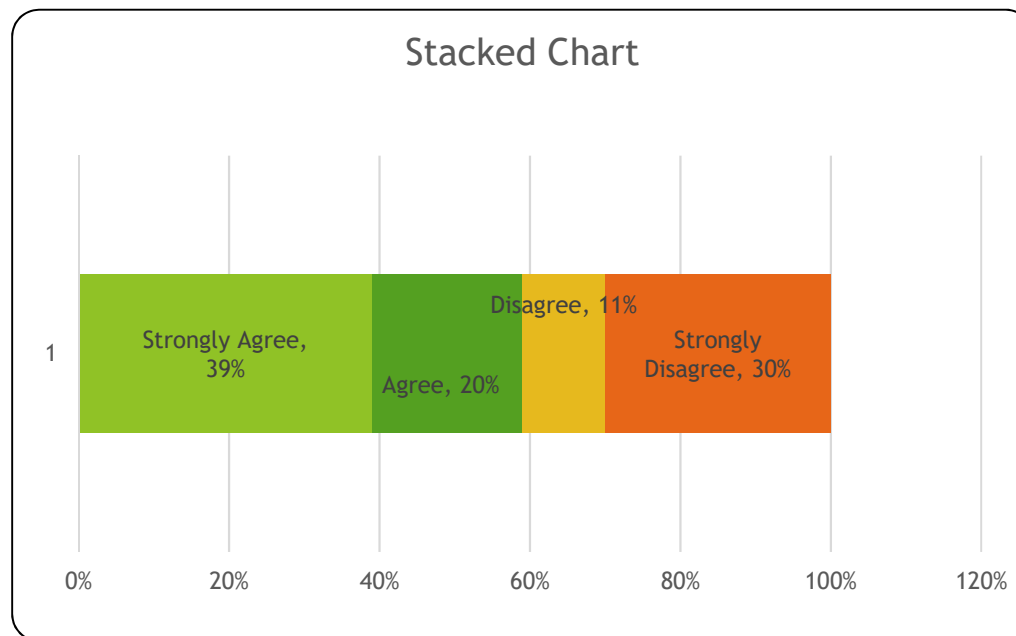
Don't use Pie Charts

- If you have got patterns over time



Don't use Pie Charts

- If you have got ordinal data



DO's (Options)



Do check your auto detect settings

GLOBAL

Data Load
Power Query Editor
DirectQuery
R scripting
Python scripting
Security
Privacy
Regional Settings
Updates
Usage Data
Diagnostics
Preview features
Auto recovery
Report settings

CURRENT FILE

Data Load

Type Detection

- ☒ Automatically detect column types and headers for unstructured sources

Relationships

- ☒ Import relationships from data sources on first load ⓘ
- ☐ Update or delete relationships when refreshing data ⓘ
- ☒ Autodetect new relationships after data is loaded ⓘ

[Learn more](#)

Time intelligence

- ☒ Auto date/time ⓘ

Background Data

- ☒ Allow data preview to download in the background

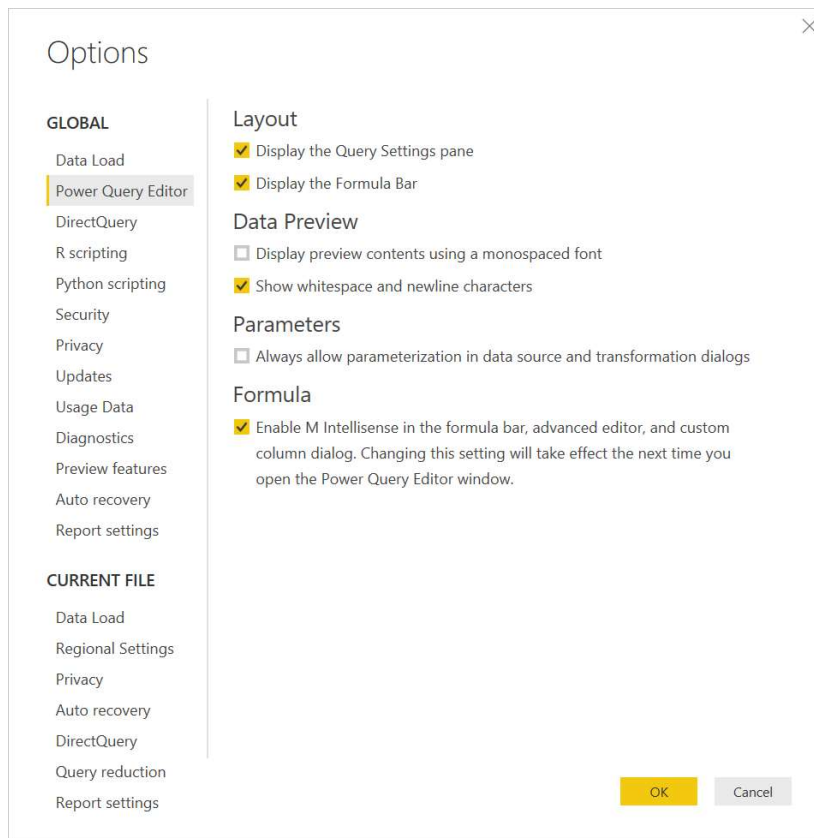
Parallel loading of tables

- ☒ Enable parallel loading of tables ⓘ

Q&A

- ☒ Turn on Q&A to ask natural language questions about your data ⓘ

Do display the formula bar



DO's (Power Query)



Do Use the Reference in Power Query

WHY ?

- Lets you create a new query referencing the original query
- Can create multiple queries referencing the original query
- When the source changes only one base query can be changed
- Can disable load for the base query



DEMO (Reference)

Do Remove unused tables and columns

WHY ?

- Increases model size
- Increases time to load into memory
- Increases refresh time
- May affect usability

DO's (Data Model)



Do Import Data as a first choice for Data Connectivity

WHY ?

- Leverage compression engine of xVelocity
- Column store in memory technology
- Take advantage of the full power BI capability
- All features of Power Query and DAX functionality can be used

Data Connectivity ...

WHEN WOULD YOU USE DIRECT QUERY ?

- When your datasets are very large
- If you need more frequent updates of your data



Data Connectivity ...

WHEN WOULD YOU USE LIVE CONNECT?

- Big sized data model (> 1 GB)
- Row Level Security defined in SSAS comes into play
- No memory or size constraints in Power BI

Do use STAR schema in your model

WHY ?

- Structures data into facts and dimensions that is specific to business analysis.
- Data is denormalised
- Simple join conditions are used
- Fast aggregation

Be careful of Bi-directional Relationship

WHY ?

- Applying filters/slicers traverses many relationships and will be slower
- Creates an issue with performance
- Some filter chains unlikely to add business value
- Sometimes creates a filtering loop

DO's (Report)



Categorise your data

WHY ?

- Location data for correctly using the MAPS
- Web Url
- Image Url
- Bar codes

Review Visual interactions

WHY ?

- Using a slicer filters every other visual by default
- Generates many queries
- Use Edit Interactions
- Disable interactions that are not needed

Avoid Slicers with large no of values.

WHY ?

- High memory load specially with multiple interacting slicers.
- Issues 2 queries (for populating and fetching)
- Filter slicers if you have too many values

Use Buttons and Bookmarks

WHY ?

- Saves the state of the page and is interactive.
- Can put visuals on top of each other, and then hide or unhide them
- Can do a presentation mode that can be used in presentations

Demo Performance Analyser





Resources

[10 pitfalls of the Data Wrangler](#)

[Microsoft Power BI: Designing for high performance in Power BI](#)

[Data Connectivity in Power BI](#)

[The-Do-s-and-Don-ts-of-Power-BI-Relationships](#)

Recap

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- What are the Top few Do's
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Questions?



Thank You

