

# Using Disconnected Tables in Power Pivot/Tabular Data Models to Solve Business Problems

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Excelerator BI

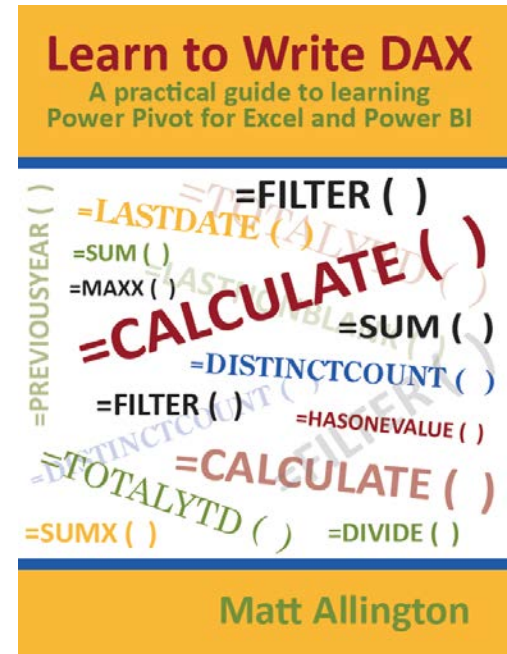
SQL Saturday #582, Melbourne  
11<sup>th</sup> February 2017



# Matt Allington

## Excelerator BI

- 25 year career at Coca-Cola working in both Sales and Information Technology
- Now running a Power BI consultancy in Sydney Australia
  - Self Service BI Consulting
  - Power Pivot/Power Query/Power BI Training
  - Blogger <http://xbi.com.au/blog>
- Author of the book “Learn to Write DAX”
- Microsoft MVP



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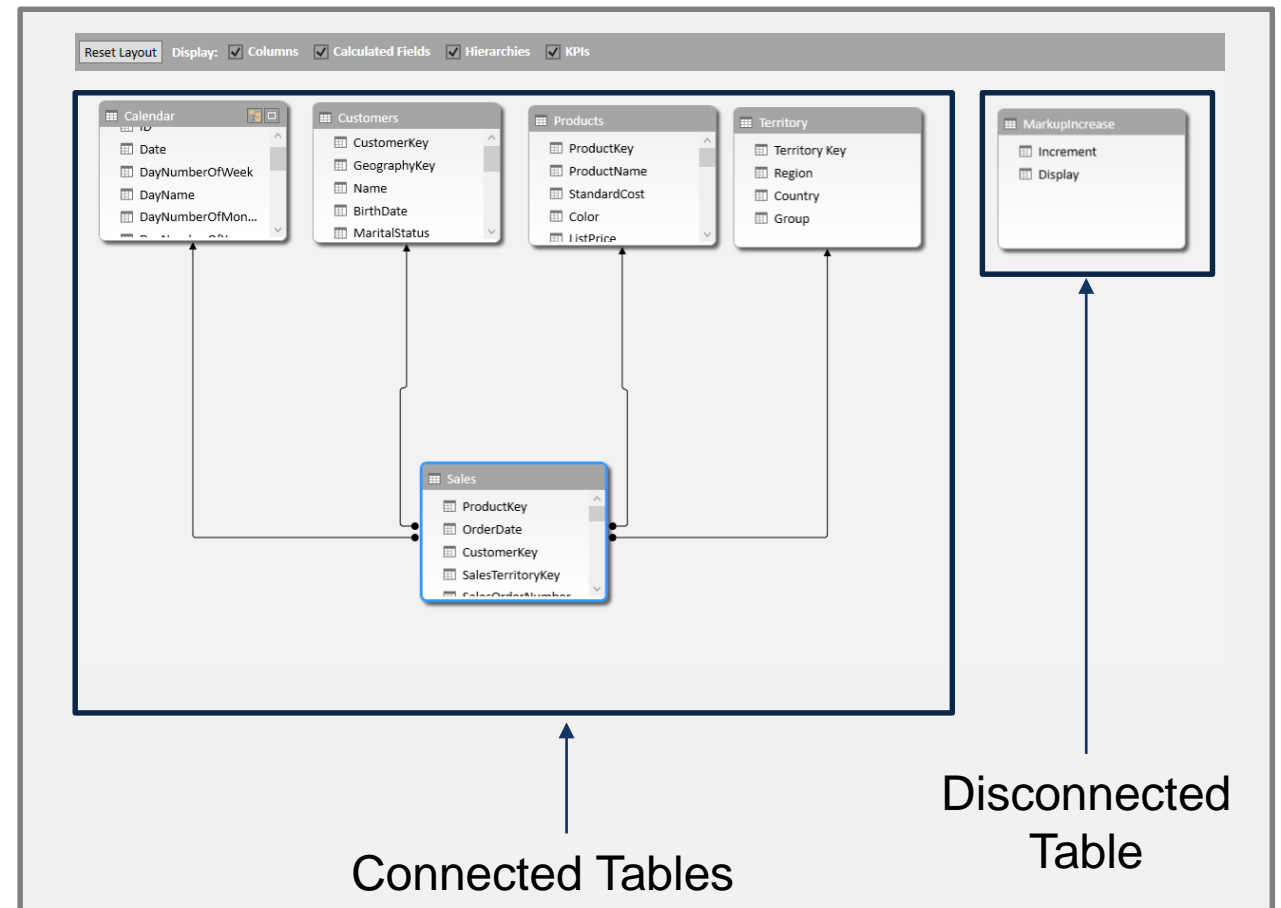
<http://xbi.com.au>



# Overview of Today's Session

Tables do not have to be connected in the Data Model to add value

- Objective
  - Broaden the awareness of using DAX and Power Pivot with disconnected tables.
- 4 Techniques
  - User Input Slicers.
  - Switch Measure Slicers.
  - Banding.
  - Latest Survey Result.



# User Input Slicers

Purpose: To accept user input that can then be used in calculations in the data model

## Process Steps

1. Create list of values in a table.
2. Harvest the selection made by the user.
3. Write Measures that use the harvested value.
4. Build value adding interactive tools and what if tables.

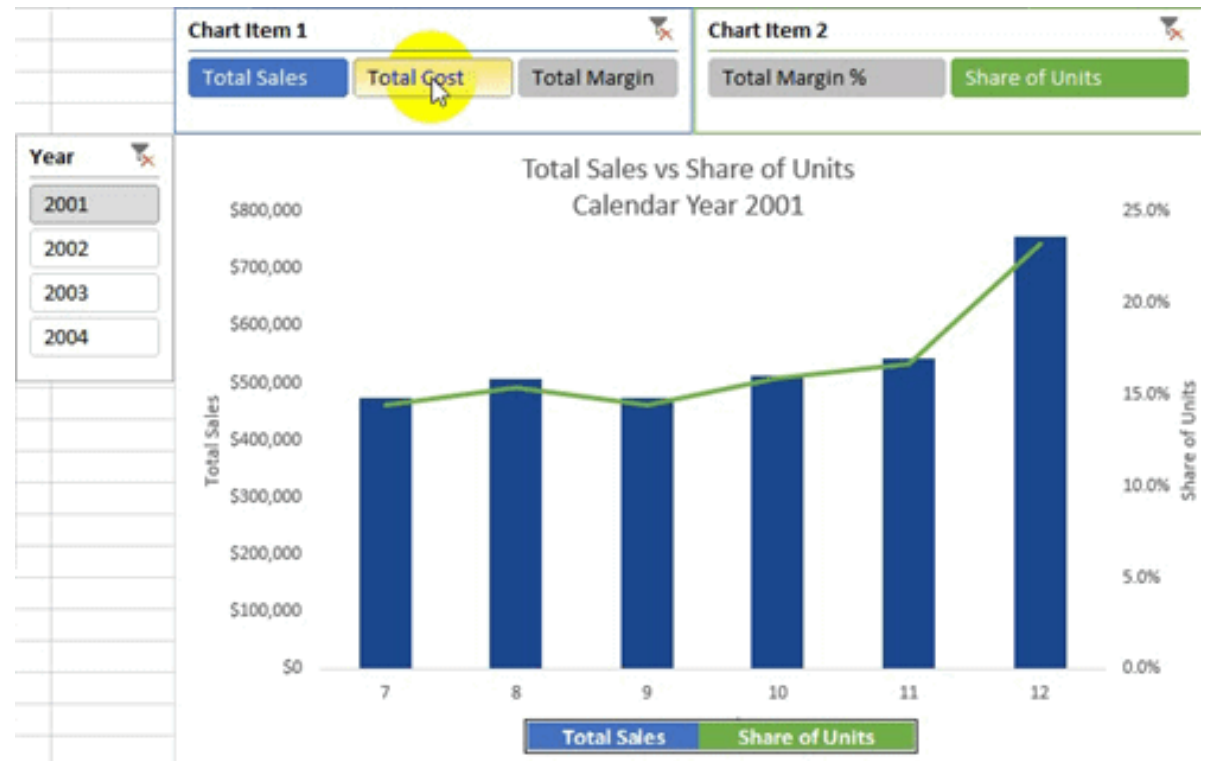
Select Increase	Row Labels	Total Sales	Total Cost	Total Margin %	New Sell Value	New Margin %	Incremental Margin
0.00%	Bike Racks	\$39,360	\$14,721	62.6%	\$39,360	62.6%	\$0
0.50%	Bike Stands	\$39,591	\$14,807	62.6%	\$39,591	62.6%	\$0
2.00%	Bottles and Cages	\$56,798	\$21,243	62.6%	\$56,798	62.6%	\$0
4.00%	Caps	\$19,688	\$15,160	23.0%	\$19,688	23.0%	\$0
6.00%	Cleaners	\$7,219	\$2,700	62.6%	\$7,219	62.6%	\$0
8.00%	Fenders	\$46,620	\$17,436	62.6%	\$46,620	62.6%	\$0
	Gloves	\$35,021	\$13,098	62.6%	\$35,021	62.6%	\$0
	Helmets	\$225,336	\$84,276	62.6%	\$225,336	62.6%	\$0
	Hydration Packs	\$40,308	\$15,075	62.6%	\$40,308	62.6%	\$0
	Jerseys	\$172,951	\$133,172	23.0%	\$172,951	23.0%	\$0
	Mountain Bikes	\$9,952,760	\$5,439,135	45.4%	\$9,952,760	45.4%	\$0
	Road Bikes	\$14,520,584	\$8,983,284	38.1%	\$14,520,584	38.1%	\$0
	Shorts	\$71,320	\$26,674	62.6%	\$71,320	62.6%	\$0
	Socks	\$5,106	\$1,910	62.6%	\$5,106	62.6%	\$0
	Tires and Tubes	\$245,529	\$91,829	62.6%	\$245,529	62.6%	\$0
	Touring Bikes	\$3,844,801	\$2,389,928	37.8%	\$3,844,801	37.8%	\$0
	Vests	\$35,687	\$13,347	62.6%	\$35,687	62.6%	\$0
	<b>Grand Total</b>	<b>\$29,358,677</b>	<b>\$17,277,794</b>	<b>41.1%</b>	<b>\$29,358,677</b>	<b>41.1%</b>	<b>\$0</b>

# Switch Measure Slicers

Purpose: To accept user input to change a pivot table or chart

## Process Steps

1. Create list of measures in a table for each slicer.
2. Harvest the selection from the user.
3. Write a switch measure that 'morphs' from one measure to another.
4. Use the 'morphing' measures in your charts and reports.



More Info

<https://www.powerpivotpro.com/2014/10/5-interactive-chart-techniques-come-together/>



# Banding

Purpose: Group data into manageable “bands” for analysis

## Process Steps

1. Create list bands (age ranges) in a table.
2. Write a Calculated Column that categorises each customer into one of the bands.
3. Use the Calculated Column in your analysis.

## Too much detail for analysis

% of All Product Purchases	Column Labels			
Age of Customer	Mountain Bikes	Road Bikes	Touring Bikes	Grand Total
35	22.5%	69.7%	7.7%	100.0%
36	29.4%	65.5%	5.2%	100.0%
37	30.4%	60.9%	8.8%	100.0%
38	28.4%	65.7%	5.9%	100.0%
39	38.1%	46.6%	15.3%	100.0%
40	36.6%	51.6%	11.8%	100.0%
41	34.6%	52.6%	12.8%	100.0%
42	30.8%	58.1%	11.1%	100.0%
43	32.4%	52.6%	14.9%	100.0%
44	34.3%	50.3%	15.4%	100.0%
45	31.3%	52.6%	16.1%	100.0%
46	32.3%	53.8%	14.0%	100.0%
47	32.7%	51.9%	15.4%	100.0%
48	30.9%	53.4%	15.6%	100.0%
49	35.3%	47.7%	17.0%	100.0%
50	43.4%	41.1%	15.5%	100.0%
51	39.3%	50.4%	10.4%	100.0%

Further Reading:

<http://www.daxpatterns.com/static-segmentation/>

<http://www.daxpatterns.com/dynamic-segmentation/>

More Info

<http://excleratorbi.com.au/banding-in-dax/>



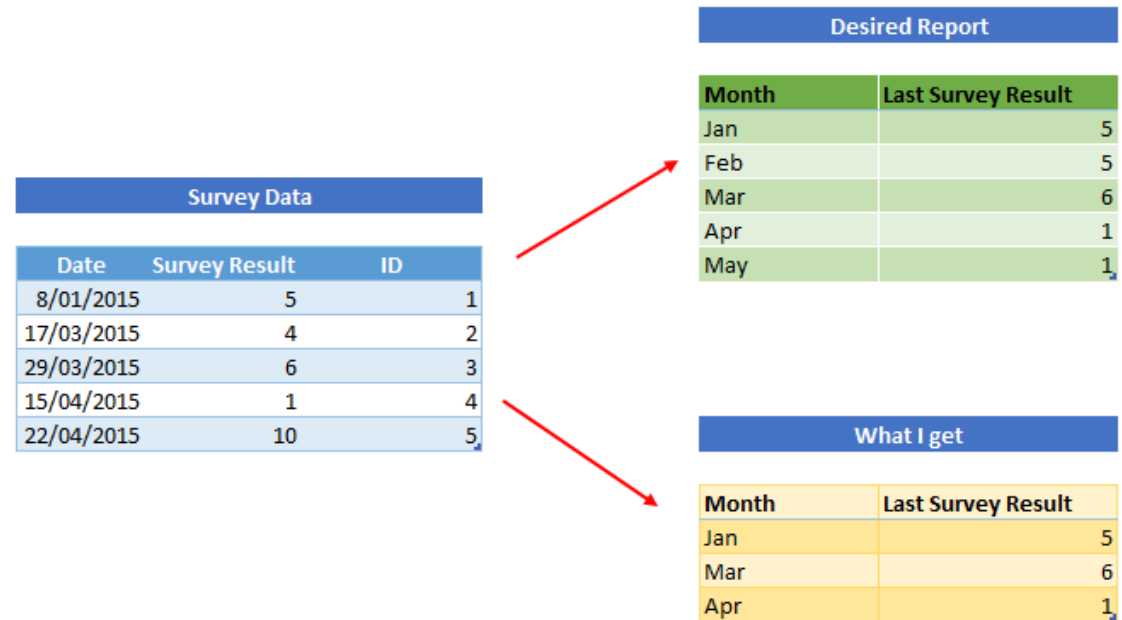
# Latest Survey Result

Purpose: Access the “last valid record” from a set of data regardless of date

## Process Steps

1. Build your data model as normal
2. Remove the relationship to the Calendar table
3. Write DAX measures to replace the relationship

Standard filter propagation is a problem here



More Info

<http://exceleratorbi.com.au/fill-table-with-last-survey-result/>



# Questions?

<http://xbi.com.au/blog>

<http://xbi.com.au/learndax>

