



FROM **EXCEL**

TO POWER BI ... AND BACK!





OBJECTIVES

- ❖ Power BI and excel to analyze power BI datasets
- ❖ Demonstrate how to do it in excel, and why
- ❖ Show some ideas and techniques using MDX
- ❖ Other possibilities like publish from excel to power BI
- ❖ Informative, interactive and fun
- ❖ Contribute to change management and the quest for a single source of the truth
- ❖ And maybe even...

WHO AM I ? WHY AM I HERE ?



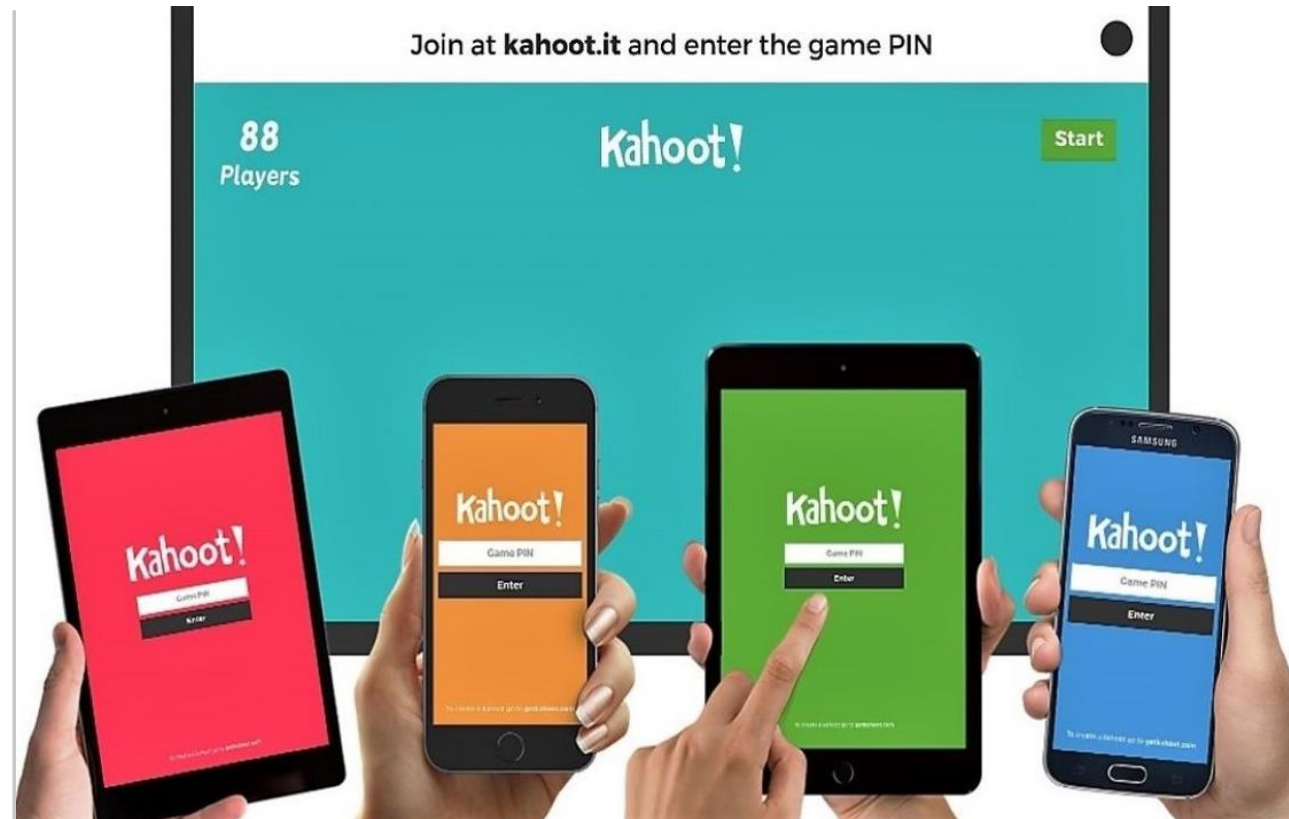
PEDRO REIS

BI ARCHITECT (ALTRAN / NATIXIS)

- ❖ Having been a Business User / Analyst / BI Architect and consultant, I am always thinking of ways to provide flexibility for the end user
- ❖ Excel expert who moved into Power BI, but secretly kept love for Excel

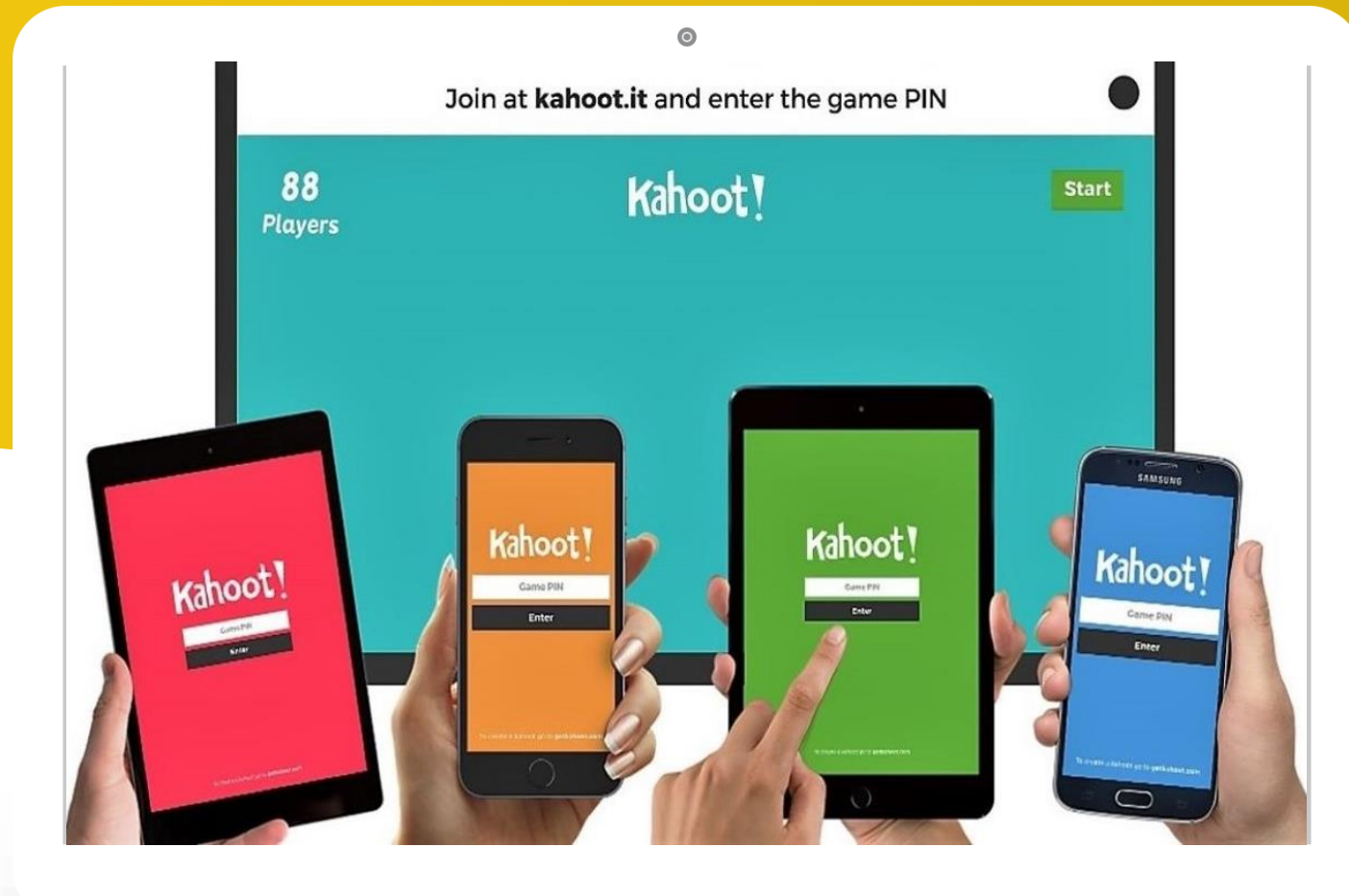


BEFORE WE START, 2 QUESTIONS





KEEP KAHOOT.IT OPEN! WE WILL GO BACK TO IT!



IT'S POSSIBLE TO ANALYZE A POWER BI DATASET IN EXCEL

- ❖ It's the same as connecting to an SSAS cube in Excel
- ❖ Need to download and install the Analyze in Excel package from Power BI Service



When you've finished installing...

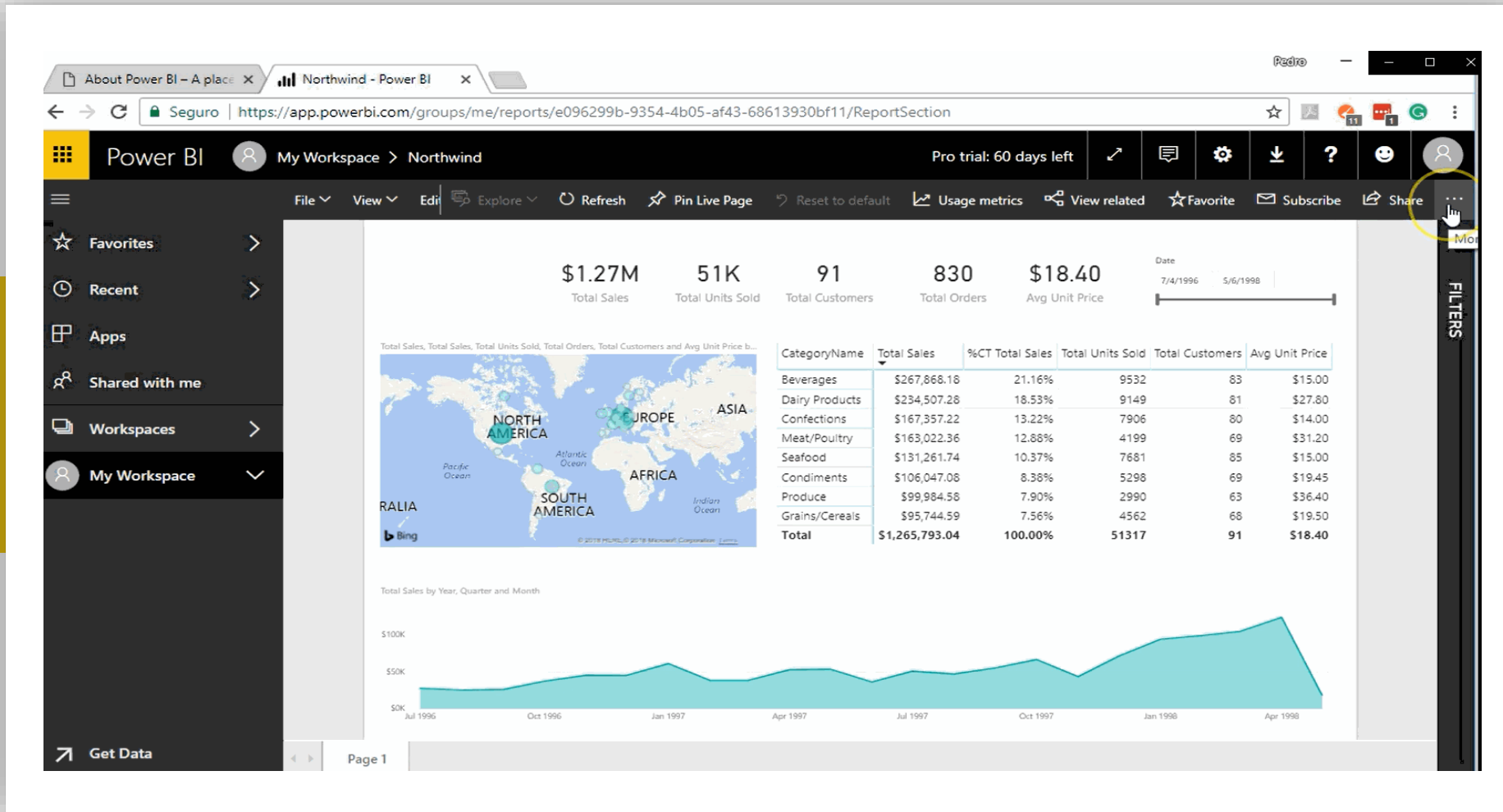
Connect to your Power BI data by clicking Analyze in Excel. Open the file and start analyzing. [Learn more about Analyze in Excel](#)

Analyze in Excel

Cancel

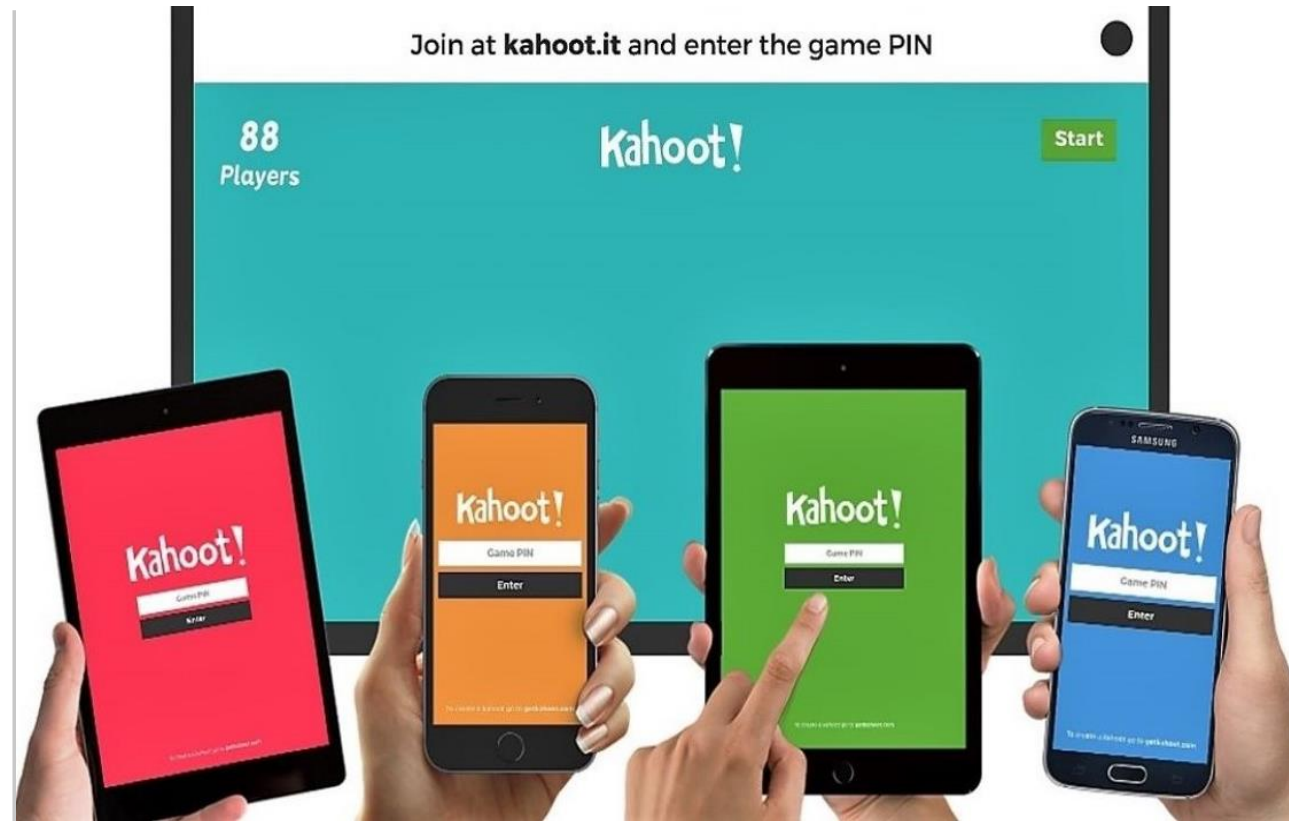


WHAT DO I NEED TO INSTALL





QUIZ TIME! NOW WITH POINTS!





WHY ANALYZE POWER BI DATA IN EXCEL ?

- ❖ Prefer to analyze the data in a pivot table format
- ❖ Automate some of the normal exports to excel that are being done by the users
- ❖ Analyzing data from multiple Power BI Datasets at the same time
- ❖ Take advantage of Excel granular referencing
- ❖ Feed existing reports
- ❖ Need to use some dimensions or lists that are available but not configured exactly in the way you need
- ❖ Other data exploration purposes

Let's see a Demo



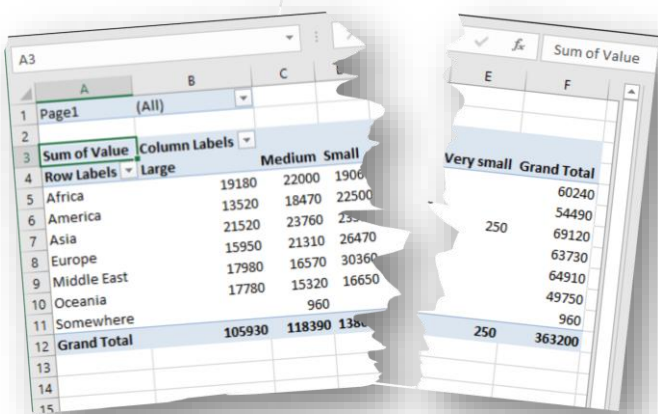
CONSIDERATIONS



- ❖ Having access to this features makes us put in perspective how important is to have a good Dataset
 - Clean
 - Organized
 - Good naming convention, intuitive
- ❖ Requires Explicit Measures
- ❖ Hidden tables and fields are not available
- ❖ Continuity

BREAKING A PIVOT

Pivot tables are amazing and a great tool to start an analysis from. There are some cases however where we cannot configure them exactly as we want.



How to do this with Pivot tables?

My Report	2014	2015	2016		
			Sales	Profit	Qty
Texas					
Pennsylvania					
California					
New York					
Florida					

Let's see a Demo



THE LANGUAGE OF THE CUBES

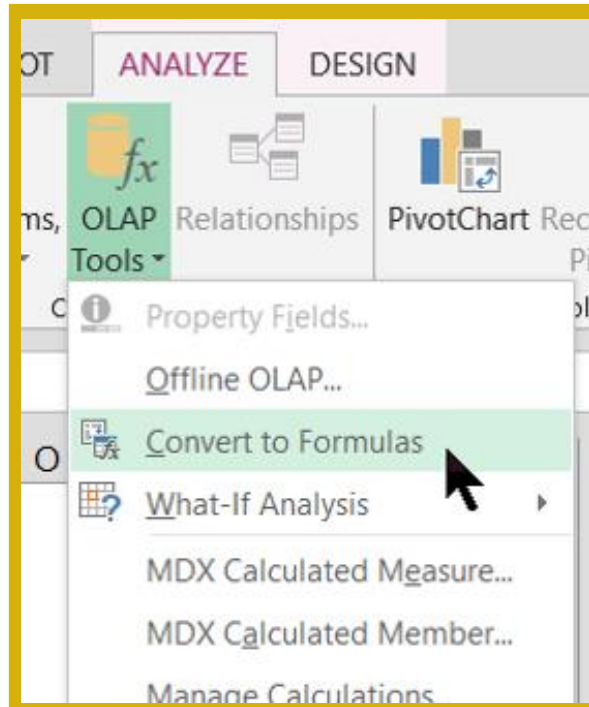
- ❖ Cubevalue
- ❖ Cubemember
- ❖ Cubeset

- ❖ `Cubevalue("Connection";Member1;Member2;Member3)`
- ❖ `Cubevalue("Connection";Member1;Member2;Cubeset1)`

- ❖ Cross any number of members / sets
- ❖ Only one Measure (Metric)
- ❖ Max one element from each dimension (ex: Only the category or subcategory, not both)

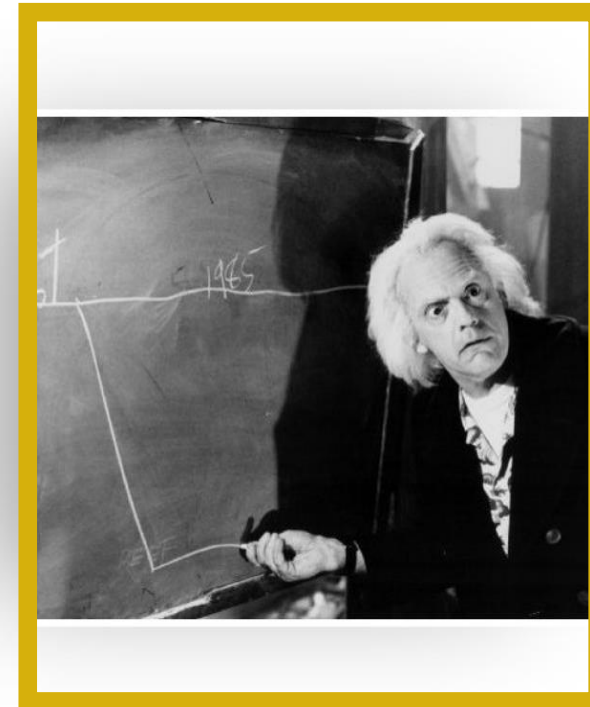


MANIPULATING MDX FORMULAS



INDEPENDENCE FOR THE CUBES

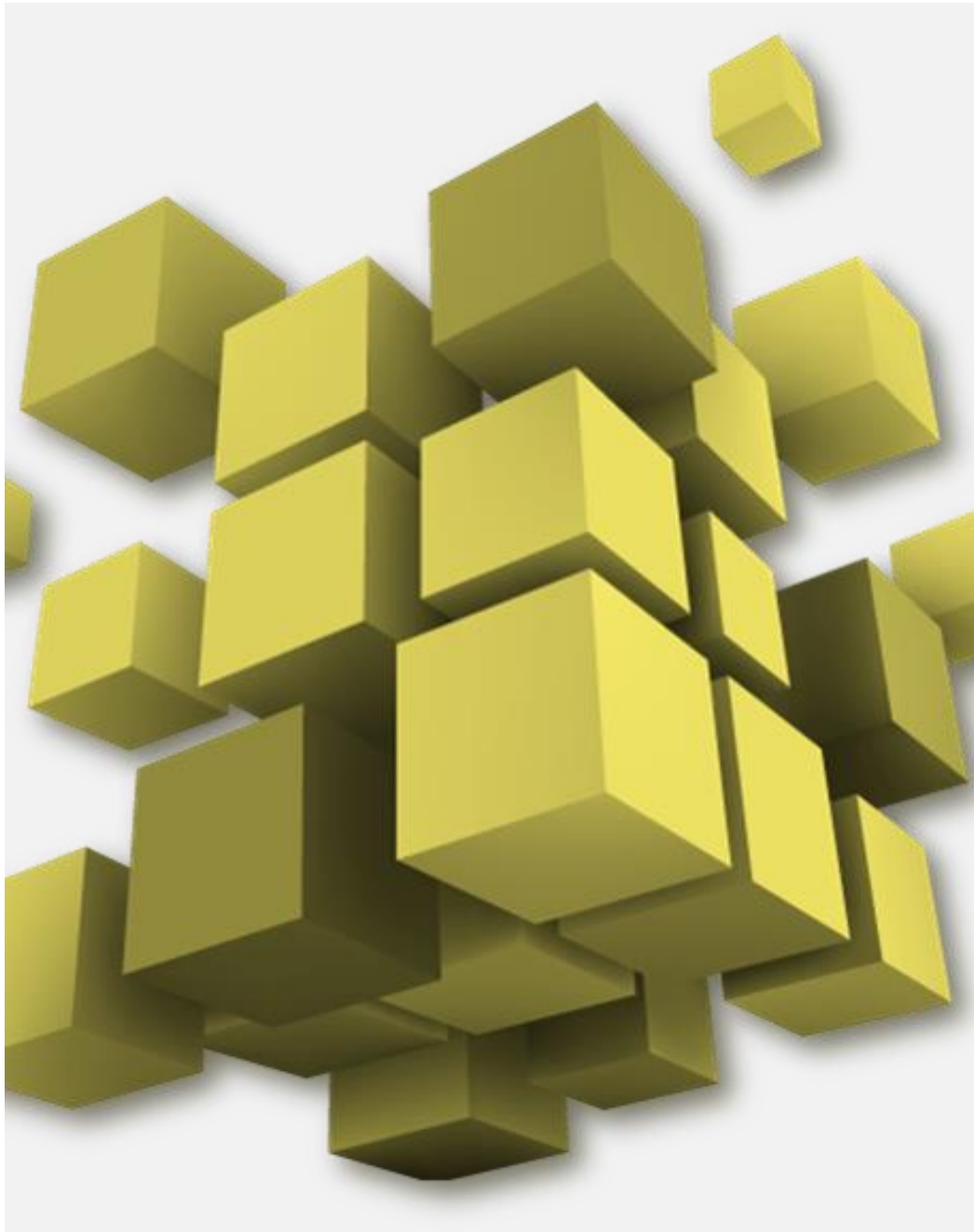
After converting a Pivot table into Olap formulas, we can replace all the references to cells directly by the cubemembers inside the formula



RELATIVE REFERENCE

"&[Cell Reference]&"





CUBESETS

Cubesets can be created by referencing a number of cubemembers or a numeric contiguous interval between two cubemembers

[Back to the Demo](#)



ADAPTING A TIME CUBESET

- ❖ `CUBESet("Connection";[time].[time].[Day].&[20190101]:[time].[time].[Day].&[20190201];"Caption")`
- ❖ `CUBESet("Connection";[time].[time].[Day].&["&cell1&"]:[time].[time].[Day].&["&cell2&"];"Caption")`
- ❖ `CUBESet("Connection";[time].[time].[Day].&["&text(cell 1;"aaaammdd")&"]:[time].[time].[Day].&["&text(cell2;"aaammdd")&"];"Caption")`

HANDY TIP: Convert date formats with `=text(cell;"aaaammdd")`

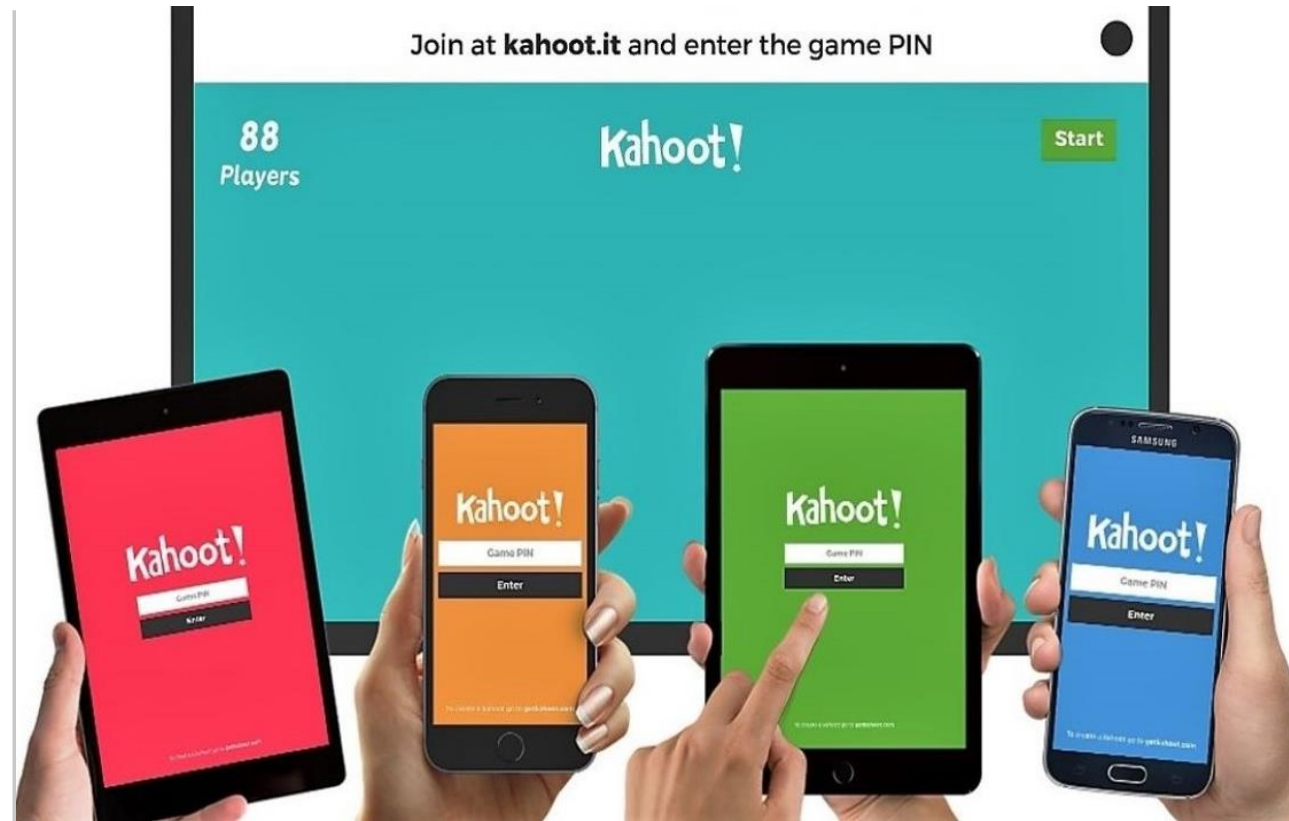
WHY ANALYZE POWER BI DATA IN EXCEL?

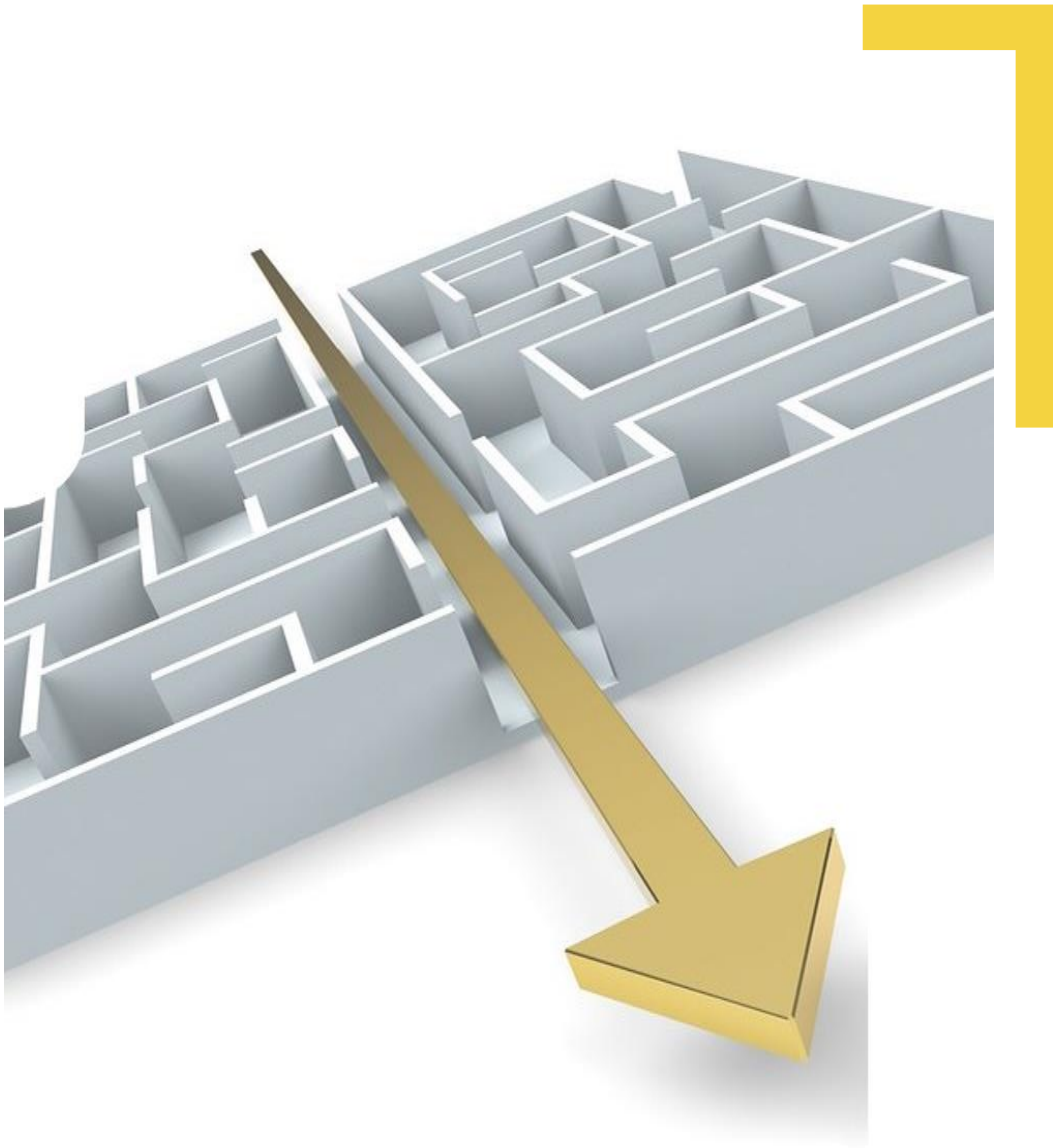
- ❖ Prefer to analyze the data in a pivot table format
- ❖ Automate some of the normal exports to excel that are being done by the users
- ❖ Analyzing data from multiple Power BI Datasets at the same time
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THE FINAL 2 QUESTIONS!





THIS IS NOT SO SIMPLE! HOW TO MAKE IT INTUITIVE FOR THE USERS?

- ❖ Base
- ❖ Give named Ranges

Let's see a Demo

- ❖ Any excel cell can be assigned a named range
- ❖ Valid named ranges can only contain letters, numbers, periods, question marks and underscores
- ❖ Cannot contain spaces or start by numbers

FILE HOME INSERT PAGE LAYOUT FORMULAS DATA

Pin Manager Open Power BI Profile Update About

Pin Manager

Select a pinned element from your workbook to update in you

Name	Type	Dashboard	Last update
Range3	NamedRange	Pin Excel Data	28-01-201
Range5	NamedRange	Pin Excel Data	28-01-201
Range7	NamedRange	Pin Excel Data	28-01-201
Range9	NamedRange	Pin Excel Data	28-01-201

<

Refers to:

Sales!\$A\$1:\$G\$23

Account

Dr. Lopes

Dr. Tom

Dr. Paul

Dr. Seema

Dr. Kunal

Dr. Sean

Dr. Vinoc

Dr. Mark

Dr. Jay

Dr. Gary

Dr. Shukla

Dr. Jimmy

Dr. Paul

Dr. Henk

Dr. Murphy

Dr. Sean

Dr. Carl

Dr. Sara

Core Haan

COLE HAAN 1030

YOU CAN ALSO PUBLISH TO POWER BI

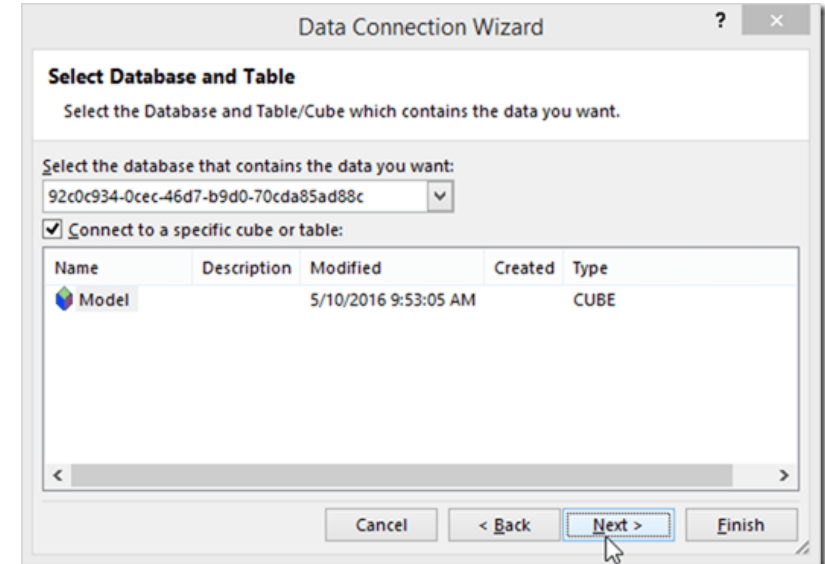
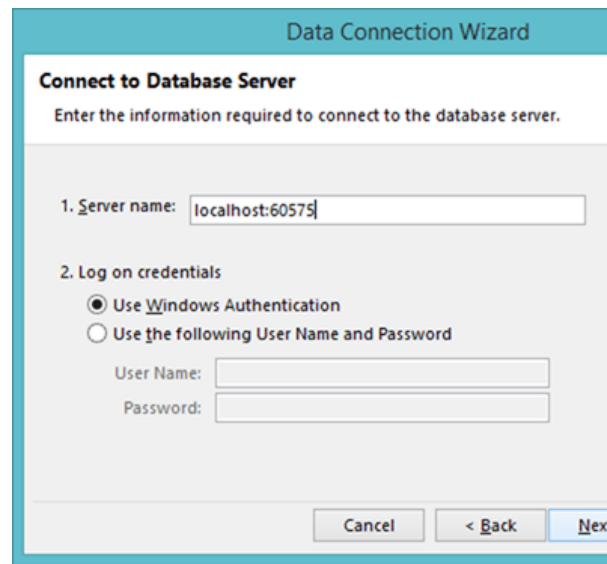
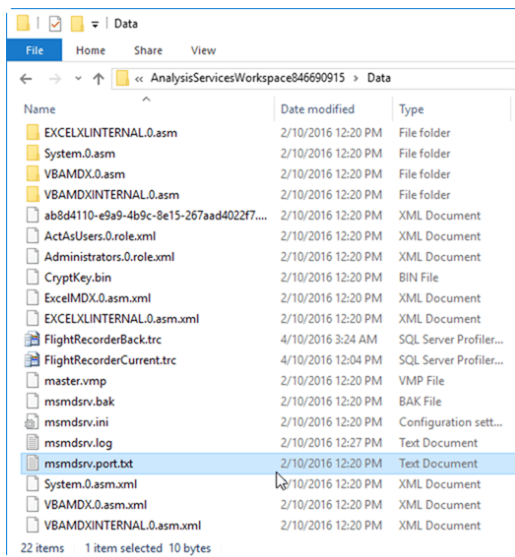
- ❖ <https://www.microsoft.com/en-us/download/confirmation.aspx?id=50729>
- ❖ <https://docs.microsoft.com/en-us/power-bi/publisher-for-excel>
- ❖ Can also connect to Power BI Reports or Datasets

Let's see a Demo



YOU CAN ALSO ANALYZE A POWER BI DESKTOP MODEL

<https://www.biinsight.com/connect-to-power-bi-desktop-model-from-excel-and-ssms/>



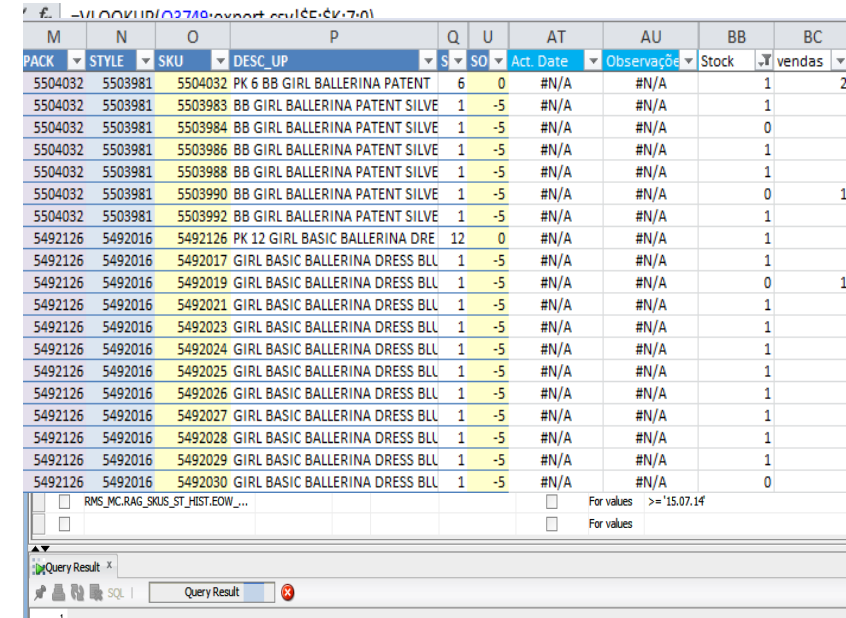
SOME REALITIES BEFORE TOOK A LOT OF TIME

1 – Get a list of Items to Analyze

2 – Look these up to see their stocks

3 – Extract sales by Query ou Cubes

4 – Vlookup the sales back to the list



PACK	STYLE	SKU	DESC_UP	S	SO	Act. Date	Observaço	Stock	vendas
5504032	5503981	5504032	PK 6 BB GIRL BALLERINA PATENT	6	0	#N/A	#N/A	1	2
5504032	5503981	5503983	BB GIRL BALLERINA PATENT SILVE	1	-5	#N/A	#N/A	1	
5504032	5503981	5503984	BB GIRL BALLERINA PATENT SILVE	1	-5	#N/A	#N/A	0	
5504032	5503981	5503986	BB GIRL BALLERINA PATENT SILVE	1	-5	#N/A	#N/A	1	
5504032	5503981	5503988	BB GIRL BALLERINA PATENT SILVE	1	-5	#N/A	#N/A	1	
5504032	5503981	5503990	BB GIRL BALLERINA PATENT SILVE	1	-5	#N/A	#N/A	0	1
5504032	5503981	5503992	BB GIRL BALLERINA PATENT SILVE	1	-5	#N/A	#N/A	1	
5492126	5492016	5492126	PK 12 GIRL BASIC BALLERINA DRE	12	0	#N/A	#N/A	1	
5492126	5492016	5492017	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492019	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	0	1
5492126	5492016	5492021	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492023	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492024	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492025	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492026	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492027	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492028	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492029	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	1	
5492126	5492016	5492030	GIRL BASIC BALLERINA DRESS BLL	1	-5	#N/A	#N/A	0	

AND AFTER COULD BE DONE IN 10 SECONDS

CL	SO	BCL	SY	SOH	SOO	STA	UNIT	Nº	LOJAS	Act. Date	SOH	L4wk	L4wk	L4wk	STK	L4wk							
DEPT	AS	UB	DESC	Tipo	Artigo	ST	PACK	STYLE	SKU	DESC_UP	DISP	Un	Tr	Season	Phase	MARCA	VPN	RET	Avg	S/	TO	SL	
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381925	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:25	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	24	4	11	8%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381927	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:26	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	29	4	10	6%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381930	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:27	2	0	A	323	0113	ZY	ZPG402001	6,99	124	#N/A	25	4	12	8%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381932	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:28	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	21	4	5	5%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381934	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:29	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	17	4	2	3%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381936	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:30	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	17	4	4	5%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381938	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:31	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	22	4	14	10%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381940	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:32	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	20	4	9	8%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381942	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:33	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	18	4	5	5%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381944	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:34	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	17	4	5	6%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381946	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:35	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	26	4	6	5%
4204	1	2	ZYG Shoes	Sapatos	f	5382016	5381923	5381948	GIRL BALLERINA STYLE EGRET:EGRET 11-0103 TC:36	1	0	A	323	0113	ZY	ZPG402001	6,99	124	09-01-2015	44	4	8	4%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381926	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	0	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	6	4	6	13%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381928	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	0	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	8	4	8	13%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381929	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	7	4	8	13%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381931	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	0	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	5	4	4	11%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381933	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	8	4	5	10%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381935	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	0	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	12	4	2	4%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381937	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	0	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	7	4	6	12%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381939	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	2	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	8	4	4	8%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381941	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	-1	0	A	323	0113	ZY	ZPG402001	6,99	125	#N/A	4	4	3	11%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381943	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	7	4	3	8%
4204	1	2	ZYG Shoes	Sapatos	f	5382017	5381924	5381947	GIRL BALLERINA STYL DRESS BLUE:DRESS BLUES 19	0	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	23	4	16	10%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381950	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	2	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	18	4	7	7%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381951	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	15	4	6	7%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381952	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	2	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	10	4	10	13%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381954	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	8	4	7	12%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381955	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	2	0	A	323	0113	ZY	ZPG402001	6,99	125	#N/A	14	4	5	7%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381956	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	2	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	23	4	7	6%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381957	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	19	4	6	6%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381958	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	18	4	6	6%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381959	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	1	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	27	4	11	7%
4204	1	2	ZYG Shoes	Sapatos	f	5382018	5381949	5381960	GIRL BALLERINA STYL CONCH SHEL:CONCH SHELL 1!	2	0	A	323	0113	ZY	ZPG402001	6,99	125	09-01-2015	46	4	12	5%

TAKEAWAY NOTES

- ❖ Analyze in Excel can be handy according to the maturity of the Corporate Analytics, Self Service BI options and KPI action driven ability
- ❖ Even huge organizations like Maersk only recently moved from csv / excel and data silos to a tool like Power BI
- ❖ Keep your models clean and concise. Think about naming convention and what it is to come
- ❖ If you can't deliver everything to your stakeholders, it's great to have options.





QUESTIONS?