

Getting Started with DAX Formulas in Power BI, Power Pivot, and SSAS

UNDERSTANDING WHAT MAKES DAX SO UNIQUE



Eugene Meidinger

DATABASE DEVELOPER

@sqlgene www.sqlgene.com



Overview



Why you should learn DAX

How to get set up

Adding Business logic

Filtering data

Analysing history



What is DAX?



DAX

DAX is an expression language for distilling your data into bite-sized insights.



Where is DAX Used?



Power BI

Power Pivot

SSAS tabular mode

Azure Analysis Services

If you are doing BI
with Microsoft,
you need to learn DAX.



Where Does DAX Shine?

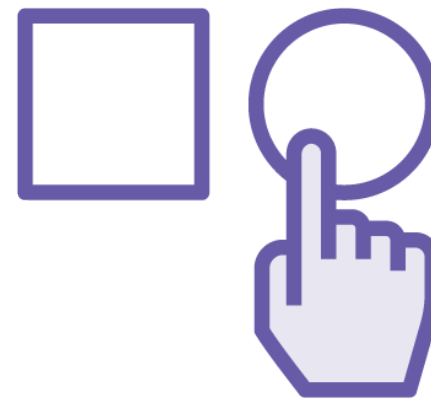


What Is DAX Good At?



Aggregations

DAX is optimized for turning millions of values into one result, such as total annual sales



Filtering

DAX is optimized to slice and dice your data, based on filters



Real Life Example



Your Boss

**Wants year over year analysis
and a set of key indicators,
all in a dashboard**



You

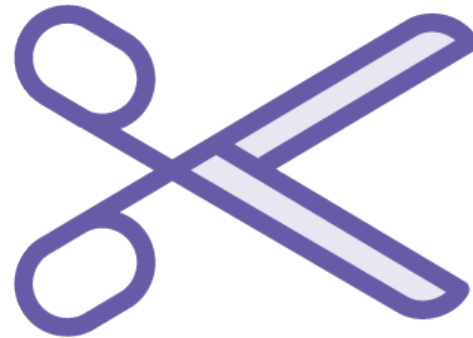
**Need to find an easy way to
manipulate the data**



What Do You Need?



**Easy way of defining
key metrics**



**Ability to slice and
dice**



**Support for historical
analysis**



The Power of DAX

Prev Year Total Sales :=

```
CALCULATE ( SUM ( [Amount] ), SAMEPERIODLASTYEAR ( 'Date'[Datekey] ) )
```



DAX is a concise language
for expressing your KPIs.



What Is DAX Not Good At?

**Operational
Reporting**

Wide Tables

**Many to Many
Relationships**



The Challenge of Learning DAX





Why do we need a course to learn DAX at all?

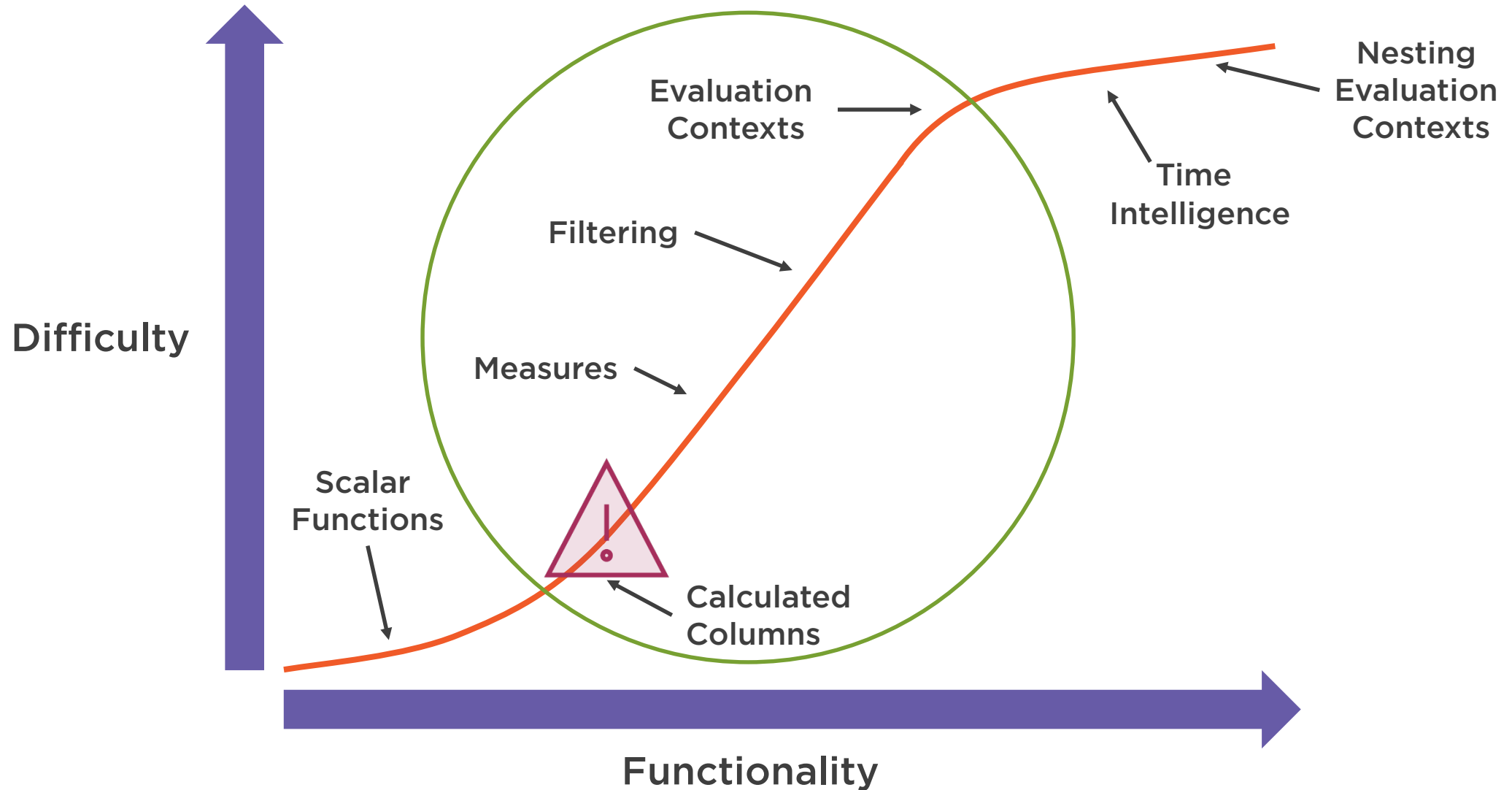


Learning DAX is hard.

It requires a different
way of thinking.



The Problem with Learning DAX



What Makes DAX Hard to Learn?

It *looks* like Excel

DAX works with
columns and tables,
instead of rows or
cells

Calculated columns
versus measures is
confusing

DAX involves
manipulating
filters

DAX is non-linear



Summary



DAX is optimized for compressing data into numerical insights

It is used heavily in the Microsoft BI stack

It can be hard to learn, at first

