Advanced / Best Practice Model Building

Anaplan

Agenda

PLANS – Modelling Standard

Systems modules

Dimension re-ordering

Formula Structure

Summary Options

Time Ranges

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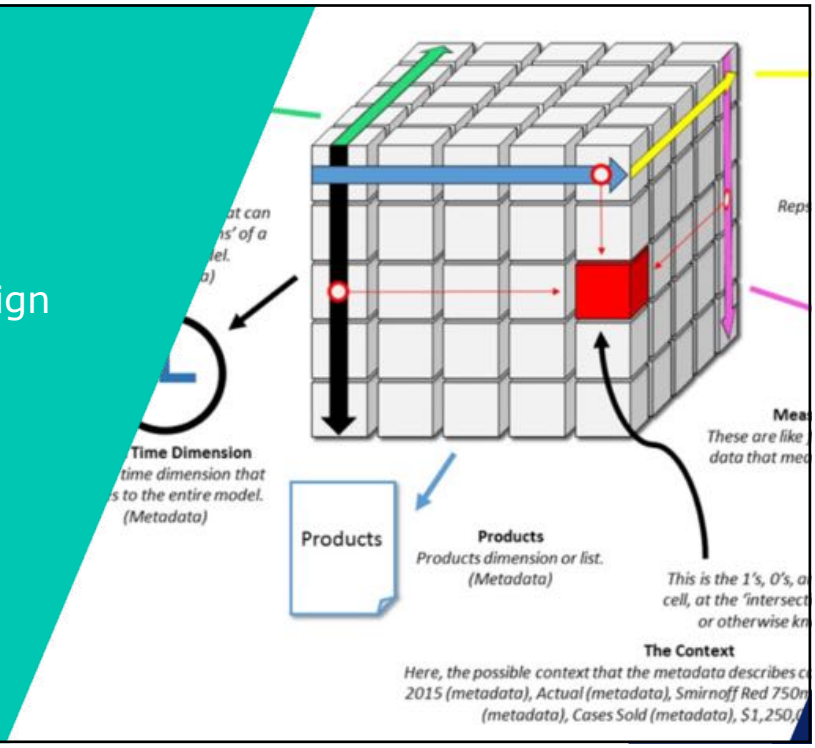
Modeling Principles

Model and module design



P - Performance
L - Logical
A - Auditable
N - Necessary
S - Sustainable

Modeling Principles – The way we model

- **Performance:** Use the correct structures and formulae to optimize the Hyperblock
- **Logical:** Build the models and formulae more logically
- **Auditable:** Break up formulae for better understanding, performance and maintainability
- **Necessary:** Don't duplicate expressions, reference data once, no unnecessary calculations
- **Sustainable:** Build with the future in mind, think about process cycles and updates

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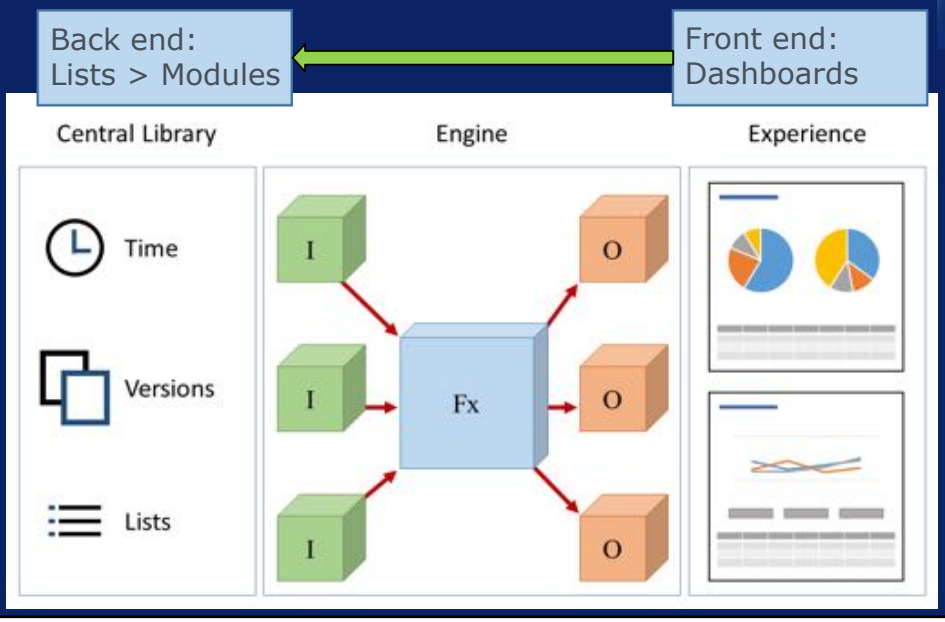
Model Design: Front to Back

P - Performance
L - Logical
A - Auditable
N - Necessary
S - Sustainable



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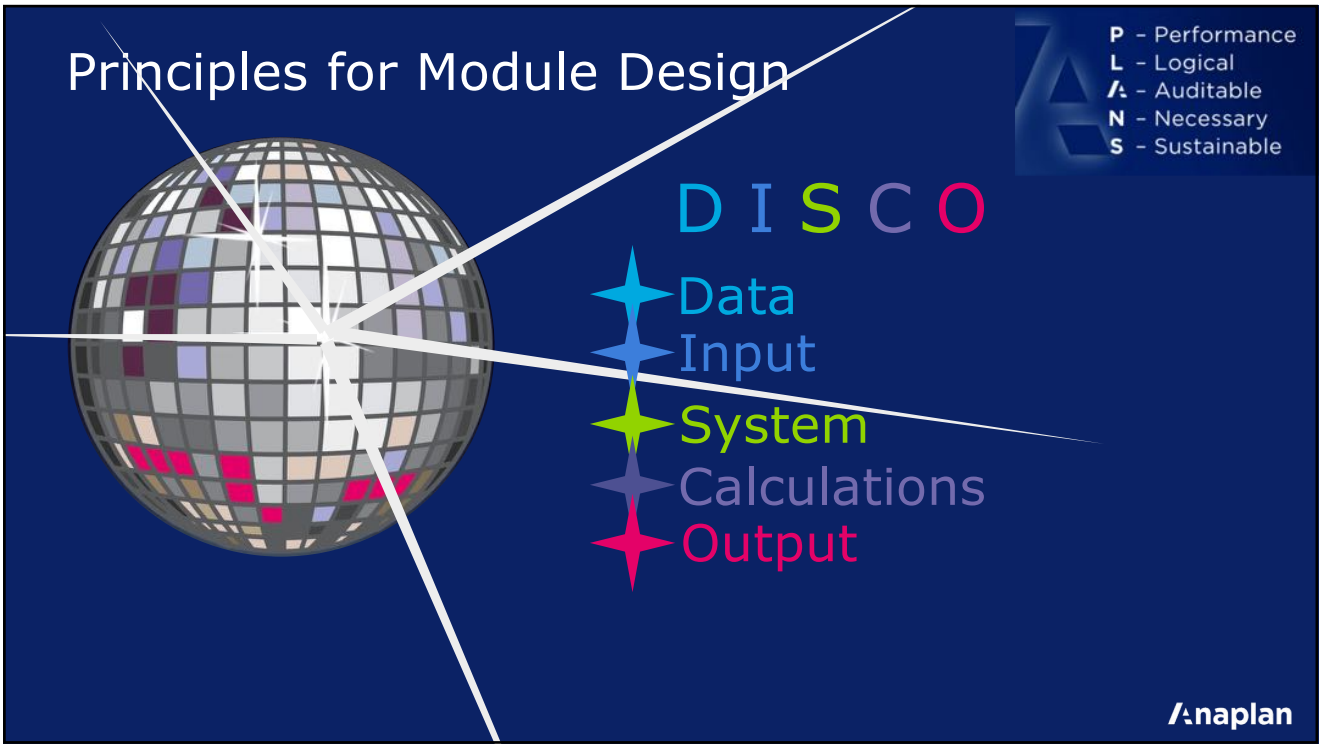

Types of Modules

P - Performance
L - Logical
A - Auditable
N - Necessary
S - Sustainable

Data	Transaction / Source data Data Hub
Input	Design for user entry Don't add calculations or outputs
System	Time management Mappings / technical modules
Calculations	Optimise for performance Group like calculation structures together
Output	Reporting Data only flows in – not out

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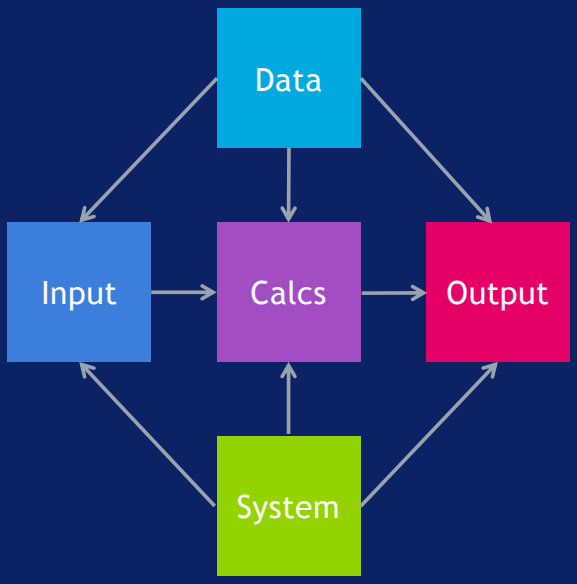

Data and System modules are referenced by Input, Calculation and Output modules

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Model Map Design

P - Performance
L - Logical
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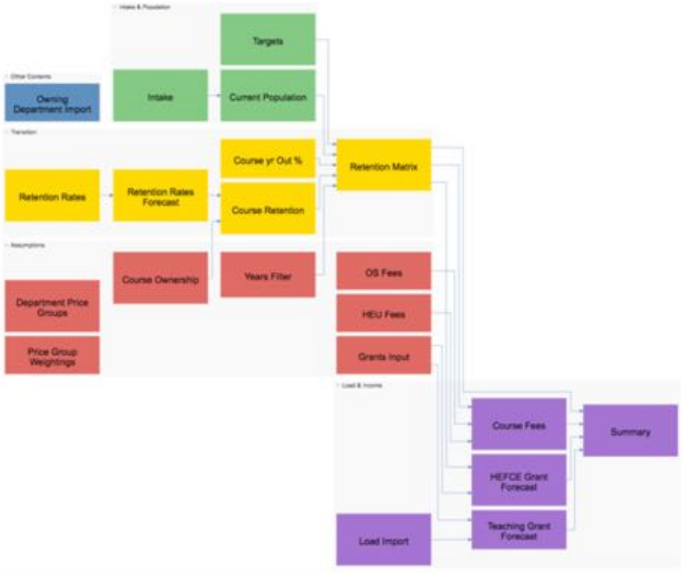

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System Modules

Types of System Modules

- Time Settings
- Hierarchies – details and attributes
- Mapping – join two lists / modules
- Filters
- User lists
- Clear or delete items in a list

Key Takeaway:
Create calculations once and reference many times!

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Key Takeaway:
Use Modules for List attributes not List Properties

- List Properties only for:
  - Display Name
  - Dependant drop downs
  - Conditional navigation on Dashboards
  - Export properties
- Module line items:
  - Filtering
  - Hide / Show on Dashboards
  - Better formula bar navigation
  - "Floating" modules

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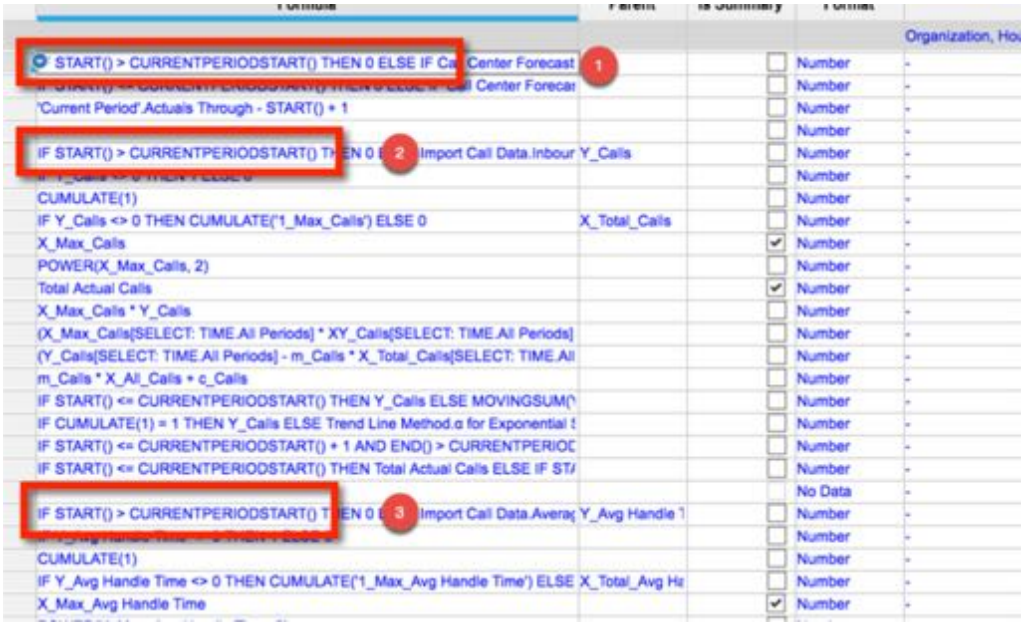
Repeated formula within line items



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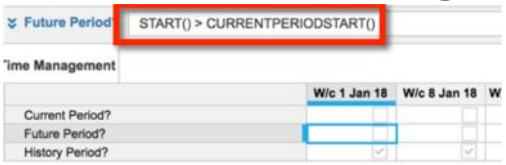
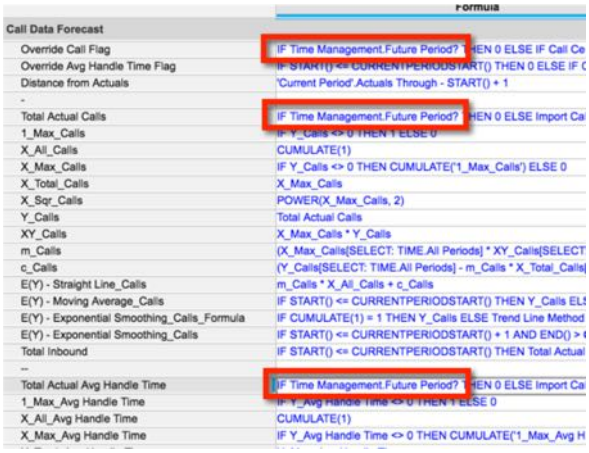
Use a Time Management Module



Cell Count = **105**

vs

280,908
x 3
= **842,724**



Key Takeaway:
Check the dimensionality all of the expressions = Applies to of line item. If not, break it out to a separate line item

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Does Order Matter?

Consistency of ordering of dimensions affects calculation speed

Example of modules where the lists are in different order:

Price module: Applies to: Products, Customers

PRICES	Cust 1	Cust 2	Cust 3
Product 1	15	11	8
Product 2	13	12	9
Product 3	10	13	10

Volume module: Applies to: Customers, Products

VOLUMES	Prod 1	Prod 2	Prod 3
Customer 1	100	200	300
Customer 2	400	500	600
Customer 3	700	800	900

Revenue will be calculated in a third module with this formula

REVENUE = PRICES * VOLUMES

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Anaplan creates an index for each cell

Price module: Applies to: Products, Customers

PRICES	Customer 1	Customer 2	Customer 3
Product 1	1	2	3
Product 2	4	5	6
Product 3	7	8	9

Volume module: Applies to: Customers, Products

VOLUMES	Product 1	Product 2	Product 3
Customer 1	1	2	3
Customer 2	4	5	6
Customer 3	7	8	9

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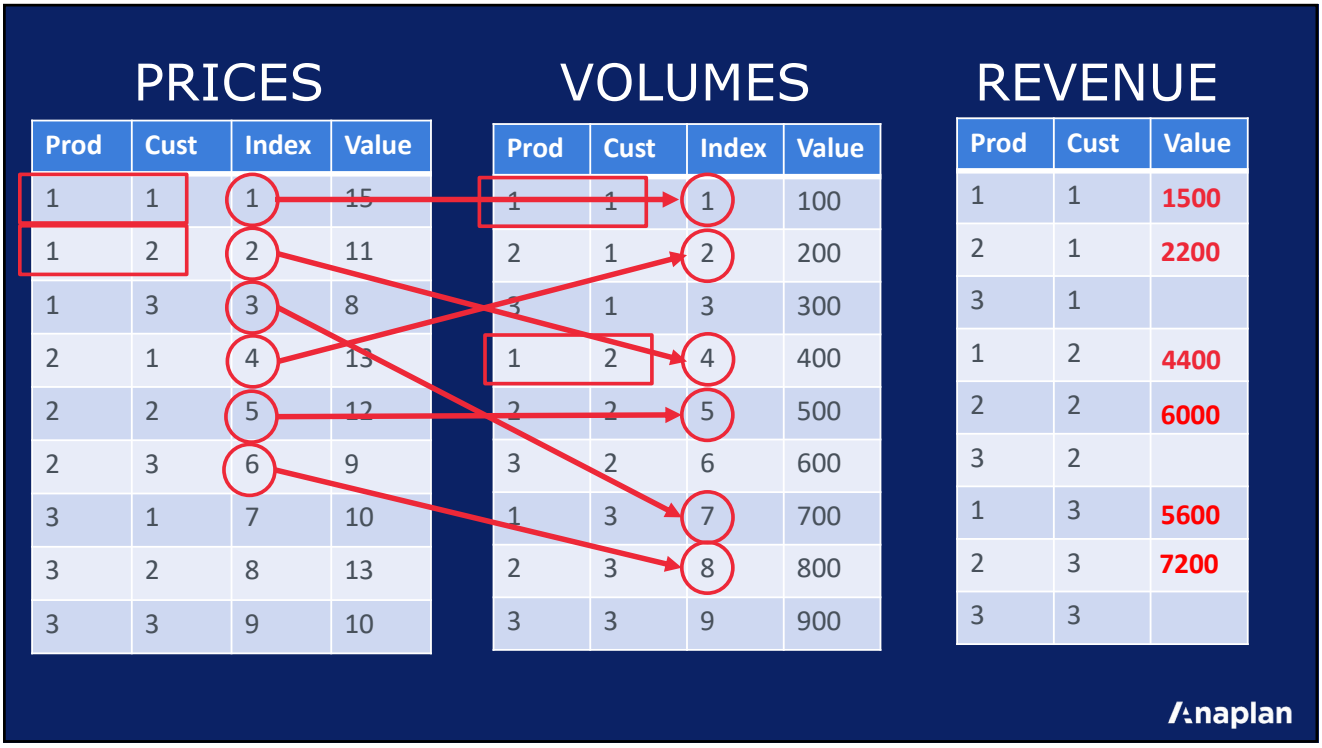

Align dimension order and indexes are also aligned

Price module: Applies to: Products, Customers

PRICES	Customer 1	Customer 2	Customer 3
Product 1	1	2	3
Product 2	4	5	6
Product 3	7	8	9

Volume module: Applies to: Products, Customers

VOLUMES	Customer 1	Customer 2	Customer 3
Product 1	1	2	3
Product 2	4	5	6
Product 3	7	8	9

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PRICES

Prod	Cust	Index	Value
1	1	1	15
1	2	2	11
1	3	3	8
2	1	4	13
2	2	5	12
2	3	6	9
3	1	7	10
3	2	8	13
3	3	9	10

VOLUMES

Prod	Cust	Index	Value
1	1	1	100
1	2	2	400
1	3	3	700
2	1	4	200
2	2	5	500
2	3	6	800
3	1	7	300
3	2	8	600
3	3	9	900

REVENUE

Prod	Cust	Value
1	1	1500
1	2	4400
1	3	5600
2	1	2600
2	2	6000
2	3	7200
3	1	3000
3	2	7800
3	3	9000

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How to correct out-of-order dimensions

1. Click on the ellipse in the Applies To column.
2. Click OK, and confirm.
3. Dimensions are reordered.

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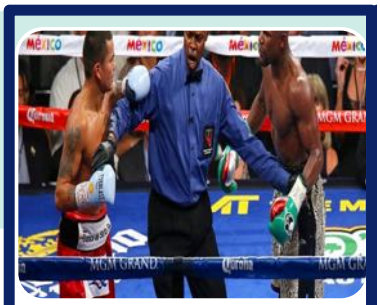
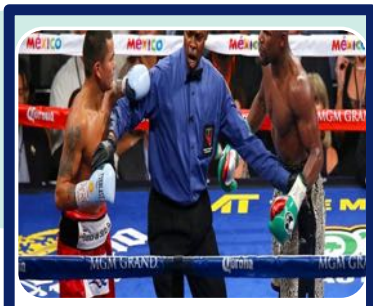
Formula Structure

Do:



Break it up!

Do:



Break it up!

Do Not:

Nest

Use Combinations

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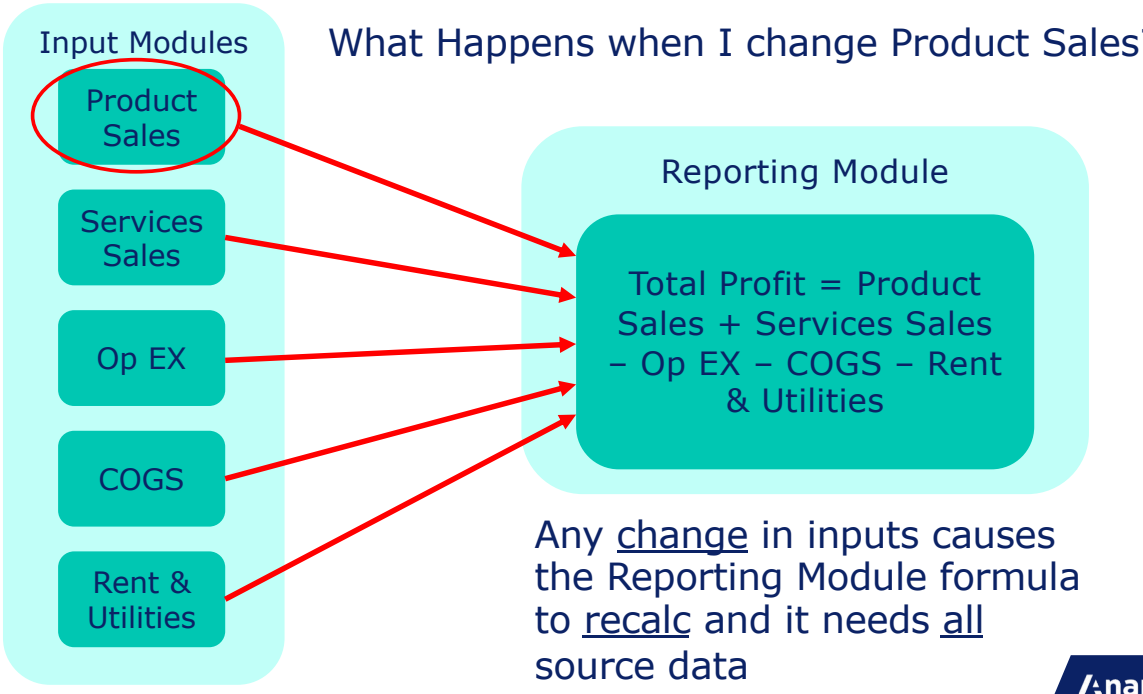

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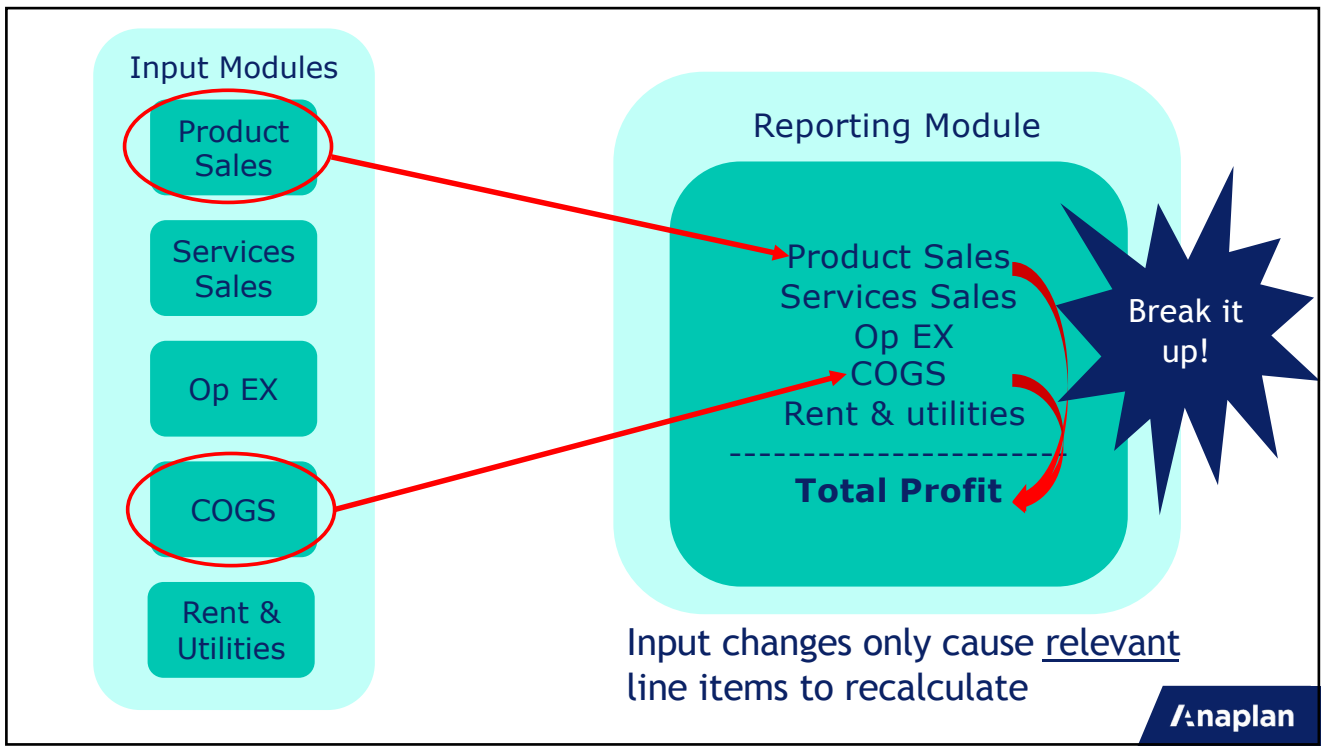
Input Modules
Product Sales
Services Sales
Op EX
COGS
Rent & Utilities
Reporting Module
Product Sales
Services Sales
Op EX
COGS
Rent & utilities
Total Profit
Break it up!
Input changes only cause relevant line items to recalculate
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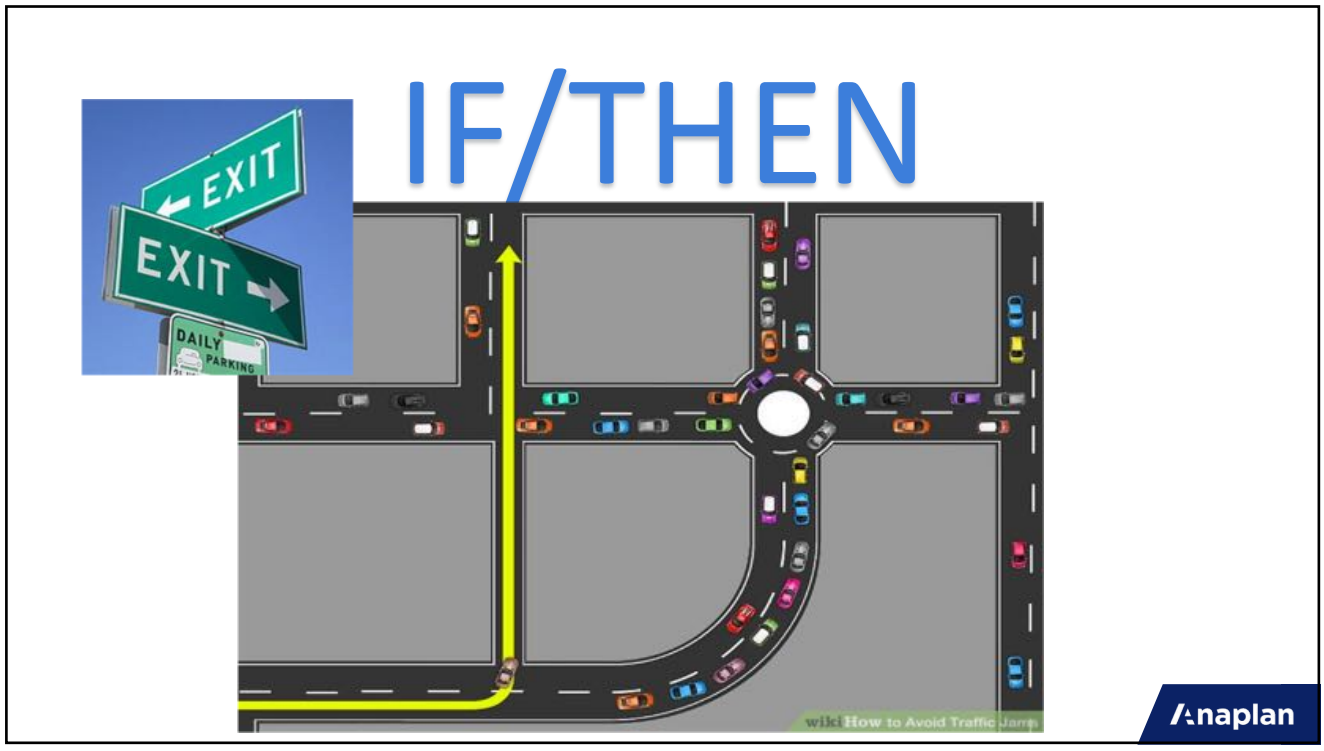
IF/THEN
EXIT
EXIT
DAILY PARKING
wikiHow to Avoid Traffic Jams
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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Summer Promo						✓	✓	✓				
Winter Promo	✓											✓

```
IF Winter Promo THEN
        TIMESUM(xxxx)
ELSE IF Summer Promo THEN
        TIMESUM(yyyy)
ELSE 0
```

Calculation Time: ~ 10 sec

OR

```
IF NOT Summer Promo AND
NOT Winter Promo THEN 0
ELSE IF Winter Promo THEN
        TIMESUM(xxxx)
ELSE TIMESUM(yyyy)
```

Calculation Time: ~ 5 sec

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	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Summer Promo						✓	✓	✓				
Winter Promo	✓											✓
No Promo		✓	✓	✓	✓				✓	✓	✓	

```
IF No Promo THEN 0
ELSE IF Summer Promo THEN
TIMESUM(yyyy)
ELSE TIMESUM(xxxx)
```

Break it up!

Calculation Time: ~ 4 sec

Key Takeaway:
Early Exit - Put the most common expression first

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Other Examples: FINDITEM

More blank than text items

```
IF BLANK(TEXT)
THEN BLANK
ELSE FINDITEM(LIST,TEXT)
```

Instead of:

```
IF ISNOTBLANK(TEXT)
THEN FINDITEM(LIST,TEXT)
ELSE BLANK
```

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Other Examples: LAG

If Y is often 0

```
IF Y=0
THEN X
ELSE
LAG(X, Y, 0)
```

Instead of:

```
LAG(X, Y, 0)
```

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Other Examples

Keeping it simple

SALES>0

Instead of:

IF SALES>0
THEN TRUE
ELSE FALSE

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Is your formula is too complicated?

- Can you explain its purpose in one simple sentence?
- Does it disappear of the bottom of the formula editor?
- Is it easier to create the formula in excel or word?
- Do you repeat the same expression multiple times?

- Do you need to have more than 10 IFs?
- Do you need more than 10 SUMs?
- Do you need to pull from multiple modules and line items into a module with different dimensionality?

For these points, think about using a Line Item Subset and a Mapping module

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Stop
- Just because you can doesn't mean you should!

Think
- What am I actually trying to achieve here? How is the calculation broken down?

Observe
- Look at the dimensionality of the source and target, look for repetition, patterns, cycles etc.

Proceed
- Now you can start (re)modelling
  - Summaries
  - DISCO
  - Formulae

Key Takeaway:
Take a breath before diving straight in to modelling

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Summary Options

Reduce the number of calculations

Sales Volume: Dimension Hierarchies

Sales Volume has 3 dimension hierarchies: Region by Product by Channel
Region has 4 levels, Product has 3 levels, Channel has 2 levels

Region Hierarchy	Product Hierarchy	Channel Hierarchy
City	SKU	Channel
Country	Product	All Channels
Region	All Products	
All Regions		

Engine partitions on every combination of levels
Total # blocks for Sales Volume = 4 * 3 * 2 = 24 blocks

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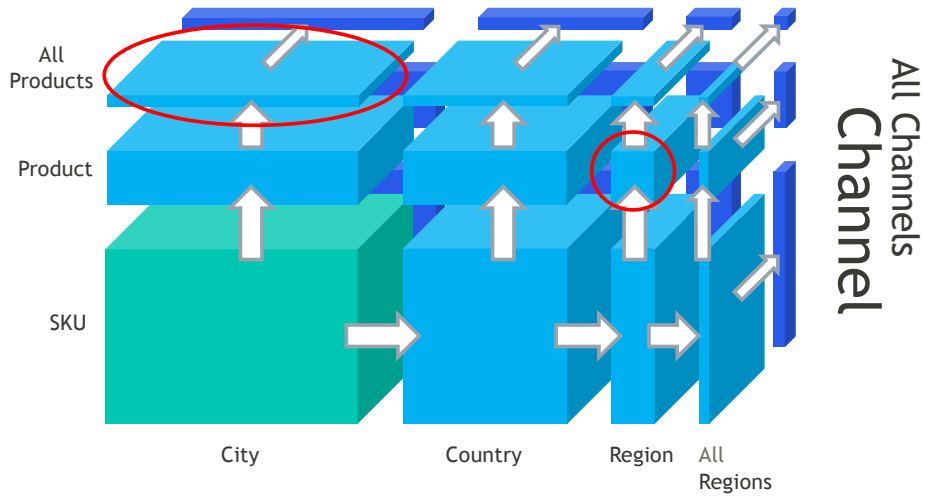
Sales Volume: Aggregations



Summary Options On 1 vs 24

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How to spot if Summaries are needed

Look for

- Detail to Detail
- Calculation and staging modules
- Can you have different summaries for time and lists?
- Are the modules / line items:
  - Referenced by a reporting module?
  - Shown on a Dashboard?
- Summary dashboards and detail below
  - User experience often doesn't need totals

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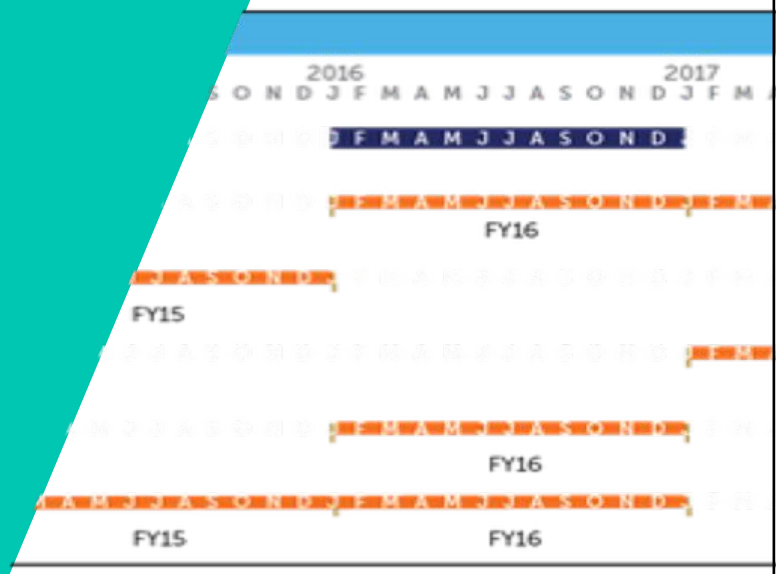
Time Ranges



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Time Ranges – Tips and Tricks

- Naming convention
  - FYxx-FYyy
- Time Ranges are Static
  - Be aware when updating the model calendar
- Potential Pitfalls
  - Potential Data loss
  - Formula references
- Model Calendar vs Time Range?
  - Flexibility vs sparsity
- Select Statements
  - Avoid on detailed time entries
- ALM Considerations
  - Time Ranges are structural

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Call to action

- Model Design
  - PLANS
  - DISCO
  - STOP
- Dimension Ordering
  - Check and correct
- Formula Structure & Conditionals
  - Break them up and Early Exit
  - Reduce multiple expressions
- Calculations
  - Summary Options
  - Calc once, reference many times

If it feels wrong, it probably is!!!

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Enriching our Services offerings with Customer Success

Success Accelerators

Data Integration

Data Hub Workshop

Center of Excellence

Application Lifecycle Management (ALM)

Model Audit

Model Analysis

Design Workshop

Process Workshop

Connected Planning roadmap

Reach out to your Anaplan Business Partner for more information

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Anaplan Modelling Standard

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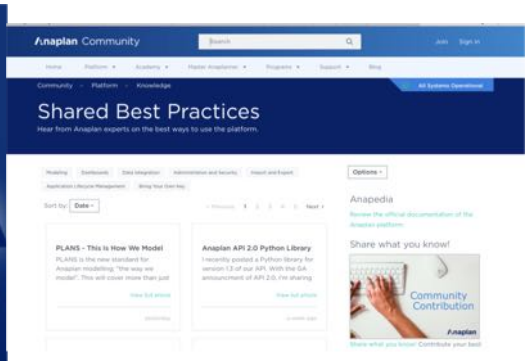

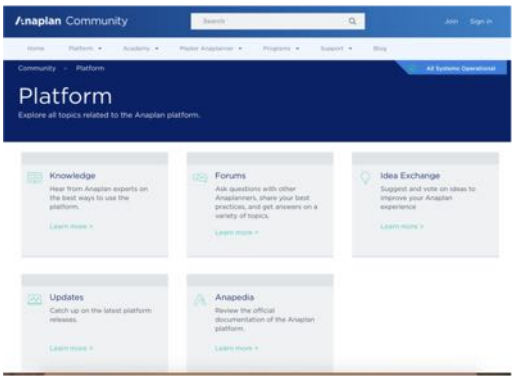

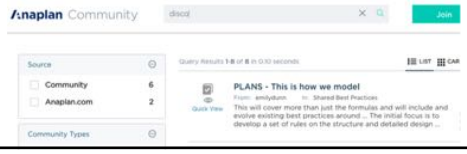

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Q
A
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