Calculations II

Adding business logic to a cube

Stacia Misner

www.pluralsight.com

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Overview

- Calculated Members
- Named Sets
- Key Performance Indicators

Calculated Members of a Dimension

```
CREATE MEMBER
CURRENTCUBE.[Product].[Category].[All].[Other Products]
 AS Aggregate(
     {[Product].[Category].&[Accessories],
     [Product].[Category].&[Clothing],
      [Product].[Category].&[Components]}
),
FORMAT_STRING =
case
when Measures.CurrentMember is Measures.[Profit Margin Percent]
then "Percent"
when Measures.CurrentMember is Measures.[Reseller Order Quantity]
OR
Measures.CurrentMember is Measures.[Internet Order Quantity]
then "#,#"
else "Currency" end,
VISIBLE = 1,
language=1033 ;
```

Aggregate function

Set

Named Sets

```
CREATE DYNAMIC SET CURRENTCUBE.[Top 10 Customers]
  AS

TopCount
    (
        [Customer].[Customers].[Customer].Members
        10,
        [Measures].[Internet Sales Amount]
    )
    , DISPLAY_FOLDER = 'Customer Sets'  ;
```

Setfunction

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Key Performance Indicators

Component	Example
Value	`[Measures].[Sales Growth Percent]`
Goal	`([Measures].[Sales Growth Percent],` `[Order Date].[Calendar].PrevMember) * 1.05`

Status	`case`
	`when KPIValue("Sales Growth") >= .85 * KPIGoal("Sales Growth") then 1`
	`when KPIValue("Sales Growth") >= .5 * KPIGoal("Sales Growth") then 0`
	`else -1`
	`end`

Trend	`case`
	`when KPIValue("Sales Growth") >`
	`(KPIValue("Sales Growth"),[Order Date].[Calendar].PrevMember) then 1`
	`when KPIValue("Sales Growth") =`
	`(KPIValue("Sales Growth"),[Order Date].[Calendar].PrevMember) then 0`
	`else -1`
	`end`

Summary

- **Calculated Members**
  - Parent hierarchy, parent member, aggregate function, set
- **Named Sets**
  - Expression to produce set of one or more members, dynamic, static
- **Key Performance Indicators**
  - Set of four measures to measure progress towards goal
  - Graphics for status and trend direction

References

- **Defining Calculations**
  - http://msdn.microsoft.com/en-us/library/ms175362.aspx
- **Defining Named Sets**
  - http://msdn.microsoft.com/en-us/library/ms166594.aspx
- **Key Performance Indicators**
  - http://msdn.microsoft.com/en-us/library/ms174875.aspx
- **Stairway to MDX**
  - http://www.sqlservercentral.com/stairway/72404/