Ratio of views we generate for each dollar spend
The increase in the monthly views generated through all media divided to money spend on that increases at level not less then 1%compared to the previous month.

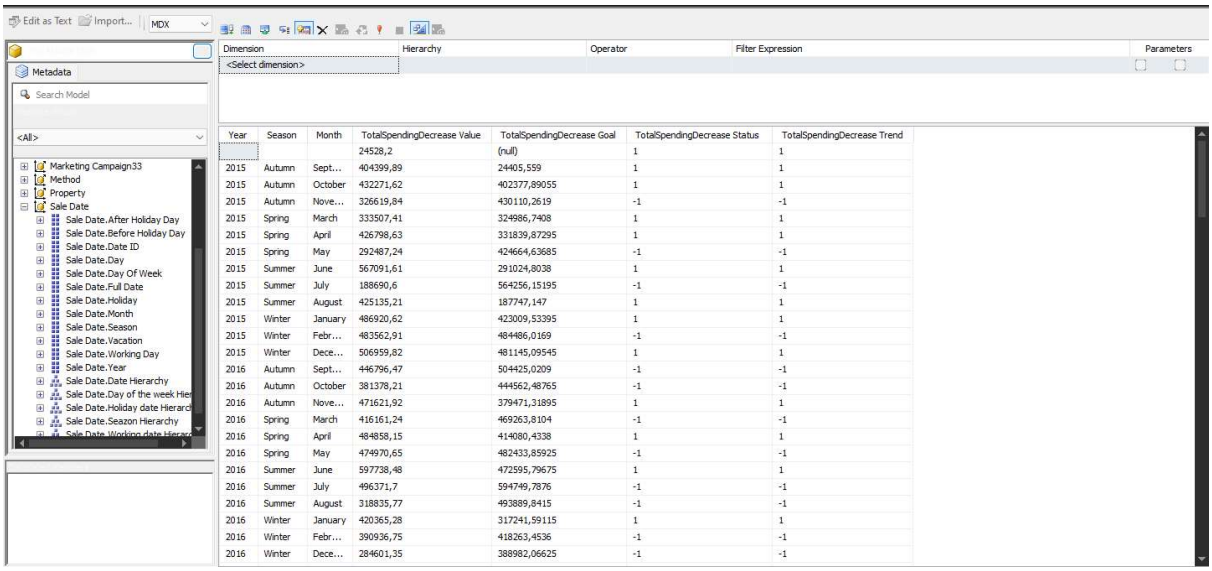
Name:
ViewsPerDollarGrowhRatio

Value expression:
[Measures].[ViewsPerDollar]

Goal expression:
1.01 * ([Measures].[ViewsPerDollar], [Sale Date].[Date Hierarchy].CurrentMember.PrevMember)

Status expression:
IIf (KPIVALUE("ViewsPerDollarGrowhRatio") > KPIGoal("ViewsPerDollarGrowhRatio"), 1, -1)

Trend expression:
```
IIf(
  KPIValue("ViewsPerDollarGrowhRatio") >
  (KPIValue("ViewsPerDollarGrowhRatio"), [Sale Date].[Date Hierarchy].CurrentMember.PrevMember),
  1,
  -1
)
```



Year	Season	Month	TotalSpendingDecrease Value	TotalSpendingDecrease Goal	TotalSpendingDecrease Status	TotalSpendingDecrease Trend
			24528,2	(null)	1	1
2015	Autumn	Sept...	404399,89	24405,559	1	1
2015	Autumn	October	432271,62	402377,89055	1	1
2015	Autumn	Nove...	326619,84	430110,2619	-1	-1
2015	Spring	March	333507,41	324986,7408	1	1
2015	Spring	April	426798,63	331839,87295	1	1
2015	Spring	May	292487,24	424664,63685	-1	-1
2015	Summer	June	567091,61	291024,8038	1	1
2015	Summer	July	188690,6	564256,15195	-1	-1
2015	Summer	August	425135,21	187747,147	1	1
2015	Winter	January	486920,62	423009,53395	1	1
2015	Winter	Febr...	483562,91	484486,0169	-1	-1
2015	Winter	Dece...	506959,82	481145,09545	1	1
2016	Autumn	Sept...	446796,47	504425,0209	-1	-1
2016	Autumn	October	381378,21	444562,48765	-1	-1
2016	Autumn	Nove...	471621,92	379471,31895	1	1
2016	Spring	March	416161,24	469263,8104	-1	-1
2016	Spring	April	484858,15	414080,4338	1	1
2016	Spring	May	474970,65	482433,85925	-1	-1
2016	Summer	June	597738,48	472595,79675	1	1
2016	Summer	July	496371,7	594749,7876	-1	-1
2016	Summer	August	318835,77	493889,8415	-1	-1
2016	Winter	January	420365,28	317241,59115	1	1
2016	Winter	Febr...	390936,75	418263,4536	-1	-1
2016	Winter	Dece...	284601,35	388982,06625	-1	-1

Ratio of views we generate for each dollar spend

The decrease int the monthly cost generated through all media decreases at level not less then 0.5% compared to the previous month.

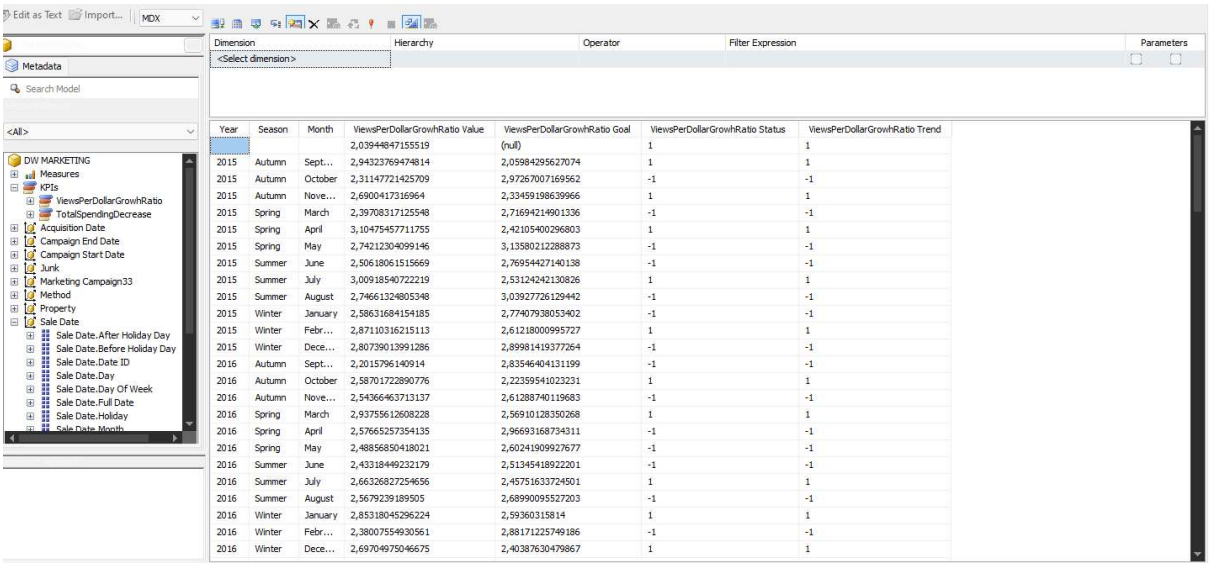
Name:
TotalSpendingDecrease

Value expression:
[Measures].[Total Cost]

Goal expression:
0.995 * ([Measures].[Total Cost], [Sale Date].[Date Hierarchy].CurrentMember.PrevMember)

Status expression:
IIf (KPIVALUE("TotalSpendingDecrease") > KPIGoal("TotalSpendingDecrease"), 1, -1)

Trend expression:
IIf (KPIValue("TotalSpendingDecrease") > (KPIValue("TotalSpendingDecrease"), ParallelPeriod (
[Sale Date].[Date Hierarchy].[Month], 1,
[Sale Date].[Date Hierarchy].CurrentMember)), 1, -1)

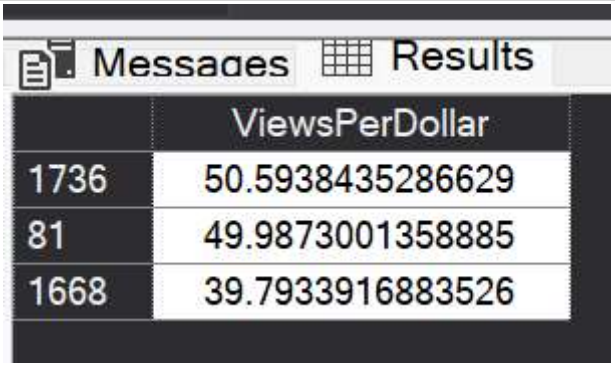


Analytical problems queries

1. What are the top-performing ad campaigns in terms of dollars spent to views generated in the last 12 months?

```
SELECT
    { [Measures].[ViewsPerDollar] } ON COLUMNS,
    TOPCOUNT(
        [Property].[Physical Property Id].MEMBERS,
        3,
```

```
        [Measures].[ViewsPerDollar]
    ) ON ROWS
FROM [DW MARKETING]
WHERE
    {
        [Campaign End date].[Month].LASTCHILD.LAG(11) :
        [Campaign End date].[Month].LASTCHILD
    }
```



Messages Results

	ViewsPerDollar
1736	50.5938435286629
81	49.9873001358885
1668	39.7933916883526

2. Did any apartment remain unsold for more than 6 months?

```
WITH
    MEMBER [Measures].[Not Sold Count] AS
        COUNT(
            FILTER(
                [Junk].[Days To Sale].MEMBERS,
                [Junk].[Days To Sale].CURRENTMEMBER.MEMBER_CAPTION =
"Not Sold"
            )
        )

SELECT
    {[Measures].[Not Sold Count]} ON COLUMNS
FROM [DW MARKETING]
```

Not Sold Count
1

3. Compare the average number of views on our website to the competition website all time?

```
WITH
    MEMBER [Measures].[Avg Views Our Website] AS
        ROUND(
            [Measures].[Total Views on our website] /
[Measures].[Marketing Campaign Count],
```

```
            2
        )

    MEMBER [Measures].[Avg Views Competition Website] AS
        ROUND(
            [Measures].[Total Views Competition Website] /
[Measures].[Marketing Campaign Count],
            2
        )

SELECT
    {
        [Measures].[Avg Views Our Website],
        [Measures].[Avg Views Competition Website]
    } ON COLUMNS
FROM [DW MARKETING]
```

Avg Views Our Website	Avg Views Competition Website
5505.39	24995.37

4. Give 3 types of best-selling apartments in the last year?

```
WITH
    MEMBER [Measures].[Sales Last Year] AS
        SUM(
            FILTER(
                [Sale Date].[Date Hierarchy].[Year].MEMBERS,
                [Sale Date].[Date Hierarchy].CURRENTMEMBER.NAME =
CSTR(YEAR(NOW()) - 1)
            ),
            [Measures].[Total Sales]
        )

SELECT
    {
        [Measures].[Sales Last Year]
    } ON COLUMNS,

    TOPCOUNT(
        [Property].[Property characteristic hierarchy].[Type].MEMBERS,
        3,
        [Measures].[Sales Last Year]
    ) ON ROWS

FROM [DW MARKETING]
```

	Sales Last Year
House	45
Villa	39
penthouse	37

5. What is the average marketing cost per successful sale in the last year?

```
WITH
    MEMBER [Measures].[Total Marketing Cost Last Year] AS
        SUM(
            FILTER(
                [Sale Date].[Date Hierarchy].[Year].MEMBERS,
                [Sale Date].[Date Hierarchy].CURRENTMEMBER.NAME =
CSTR(YEAR(NOW()) - 1)
            ),
            [Measures].[Total Cost]
        )

    MEMBER [Measures].[Total Sales Last Year] AS
        SUM(
            FILTER(
                [Sale Date].[Date Hierarchy].[Year].MEMBERS,
                [Sale Date].[Date Hierarchy].CURRENTMEMBER.NAME =
CSTR(YEAR(NOW()) - 1)
            ),
            [Measures].[Total Sales]
        )

    MEMBER [Measures].[Avg Marketing Cost per Sale] AS
        ROUND(
            [Measures].[Total Marketing Cost Last Year] /
[Measures].[Total Sales Last Year],
            2
        )

SELECT
    {
        [Measures].[Avg Marketing Cost per Sale]
    } ON COLUMNS
FROM [DW MARKETING]
```

Avg Marketing Cost per Sale
27073.51

6. Do property sales change before and after major holidays in the last year?

```
WITH
MEMBER [Measures].[Sales After Subtracting Not after Holiday] AS
  [Measures].[Total Sales] - ([Sale Date].[After Holiday Day].[Not After
Holiday], [Measures].[Total Sales])

MEMBER [Measures].[Sales After Subtracting Not before Holiday] AS
  [Measures].[Total Sales] - ([Sale Date].[Before Holiday Day].[Not
Before Holiday], [Measures].[Total Sales])

MEMBER [Measures].[Sales not After Holiday] AS
      [Measures].[Total Sales]  - [Measures].[Sales After Subtracting
Not after Holiday] - [Measures].[Sales After Subtracting Not before
Holiday]

SELECT
  {
    [Measures].[Total Sales],
      [Measures].[Sales not After Holiday],
      [Measures].[Sales After Subtracting Not before Holiday],
    [Measures].[Sales After Subtracting Not after Holiday]
  } ON Columns

FROM [DW MARKETING]
```

Total sales	Sales not After Holiday	Sales After Subtracting Not before Holiday	Sales After Subtracting Not after Holiday
1996	1884	58	54

7. Compare the difference in views for properties marketed with videos compared those with only images in the last year.

```
WITH
    MEMBER [Measures].[Total Views Photos] AS
        SUM(
            FILTER(
                [Method].[Method Name].MEMBERS,
                [Method].[Method Name].CURRENTMEMBER.MEMBER_CAPTION =
"Photos"
            ),
                  [Measures].[Total Views for given method]
        )
```

```
      MEMBER [Measures].[Total Views Video] AS
        SUM(
            FILTER(
                [Method].[Method Name].MEMBERS,
                [Method].[Method Name].CURRENTMEMBER.MEMBER_CAPTION =
"Video"
            ),
                  [Measures].[Total Views for given method]
        )

SELECT
    {[Measures].[Total Views Photos],
      [Measures].[Total Views Video]} ON COLUMNS
FROM [DW MARKETING]
WHERE ([Sale Date].[Year].[2024])
```

Total Views Photos	Total Views Video
6727143	5816300

8. During which months do we get the highest/lowest views from marketing campaigns in the last year?

```
SELECT
  ORDER(
    [Campaign Start Date].[Month].MEMBERS,
    [Measures].[Total Views],
    BDESC
  ) ON ROWS,
  [Measures].[Total Views] ON COLUMNS
FROM [DW MARKETING]
WHERE (
  [Campaign Start Date].[Year].[2024]
)
```

	Total Views
All	12009262
October	1466600
March	1152875
April	1116810
January	1090985
September	1089824
June	1002477
February	980480
August	933779
May	910811
November	799863
July	751070
December	713688

9. What are the top 5 months with the highest number of property sales all time?

```
SELECT
  TOPCOUNT(
    [Sale Date].[Month].MEMBERS,
    5,
    [Measures].[Total Sales]
  ) ON ROWS,
  [Measures].[Total Sales] ON COLUMNS
FROM [DW MARKETING]
```

	Total sales
All	1996
June	182
January	175
August	175
October	174

10. What is the percentage increase in the number of sales during each summer season compared to other seasons all time?

```
WITH
MEMBER [Measures].[Summer Sales] AS
```

```
  SUM(
    {[Sale Date].[Season].[Summer]},
    [Measures].[Total Sales]
  )

MEMBER [Measures].[Other Seasons Sales] AS
  SUM(
    {
      [Sale Date].[Season].[Spring],
      [Sale Date].[Season].[Autumn],
      [Sale Date].[Season].[Winter]
    },
    [Measures].[Total Sales]
  )

MEMBER [Measures].[Comparison] AS
  [Measures].[Summer Sales] * 3 / [Measures].[Other Seasons Sales] * 100

SELECT
  { [Measures].[Comparison],
    [Measures].[Summer Sales],
    [Measures].[Other Seasons Sales]
  } ON COLUMNS
FROM [DW MARKETING]
```

Comparison	Summer Sales	Other Seasons Sales
99.4663108739159	497	1499