



Year-on-year analysis

Using Matillion for Year on Year and Month on Month analysis.

Year On Year (also 'Year Over Year' or 'YOY') analysis is a popular method used to estimate the health of a business or investment through understanding whether its financial performance is improving, worsening or stagnating.

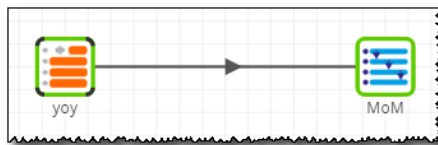
Matillion's Lead/Lag Component provides the functionality to do Year on Year or Month on Month analysis out of the box. To illustrate how this is done, we first introduce an example table with revenue from products 'A' and 'B' by month and year, below:

Properties	Export	Sample	Metadata	SQL	Plan	Help	
Data	Row Count						Filter Not Set
year	month	product	revenue				
2015	9	B	250				
2015	8	B	250				
2015	7	B	250				
2015	6	B	250				
2015	5	B	250				
2015	4	B	250				
2015	3	B	250				
2015	2	B	250				
2015	12	B	250				
2015	11	B	250				
2015	10	B	250				
2015	1	B	250				
2015	9	A	100				
2015	8	A	100				
2015	7	A	100				
2015	6	A	100				
2015	5	A	100				

The Lead/Lag Component can be easily used to compare one month's revenue to the previous month's revenue. This is done by configuring the Component to partition the data by product and then within each partition order by year and then month. This component utilises Windows functions – Lead and Lag. The functions work on a given partition, or window, of data and

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a result is returned for every row in that window.



In the case of this example, the data window is the product as every product needs to be treated separately. Then, within each product, the data needs to be ordered first by year and then by month so the product revenue is in chronological order. Matillion ETL will then create a new column with a name as specified to be equal to the revenue for the previous row:

Edit Properties			
Window Function	Input Column	Offset	Output Column
Lag	revenue	1	last_month_revenue

In the same way it is possible to do year on year analysis by specifying the lag value to be 12 months:

Properties	Export	Sample	Metadata	SQL	Plan	Help
Lead/Lag		OK				
Name	Value		Status			
Name	YoY	...	OK			
Include Input columns	Yes	...	OK			
Partition Data	product	...	OK			
Ordering within partitions	year, Asc, month, Asc	...	OK			
Functions	Lag, revenue, 12, last_year_revenue	...	OK			

A calculator component can then be used to build on this and calculate the percentage increase:



In the calculator a new column can be created to calculate the % increase in revenue from last year:



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	percent_increase
1	$((\text{"revenue"} - \text{"last_year_revenue"}) * 100) / \text{"revenue"}$

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