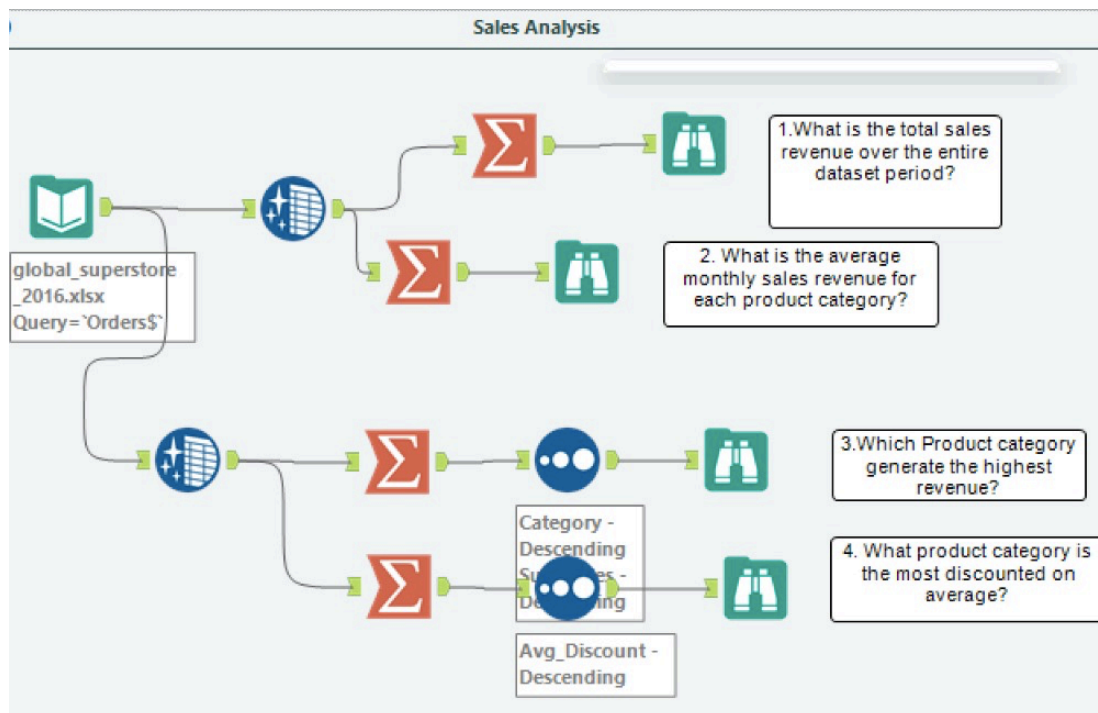


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Data analysis and business intelligence: An applied Alteryx Project

Global superstore dataset



Using Alteryx, you'd import the Global Superstore dataset, clean and transform the data, then analyze it (using tools such as Summarize, Filter etc).

The total sales revenue over the entire dataset period is calculated by summing the sales revenue column in Alteryx.

Alteryx computes the average monthly sales revenue for each product category by grouping the data by category and month, then calculating the mean sales revenue.

The product category generating the highest revenue is identified by summing the sales revenue for each category and finding the category with the highest total.

Alteryx determines the most discounted product category on average by calculating the discount rate for each product, grouping the data by category, and finding the category with the highest average discount rate.

1. What is the total sales revenue over the entire dataset period?

The total sales revenue for the entirely dataset period is 12,642,501,91

2. What is the average monthly sales revenue for each product category?

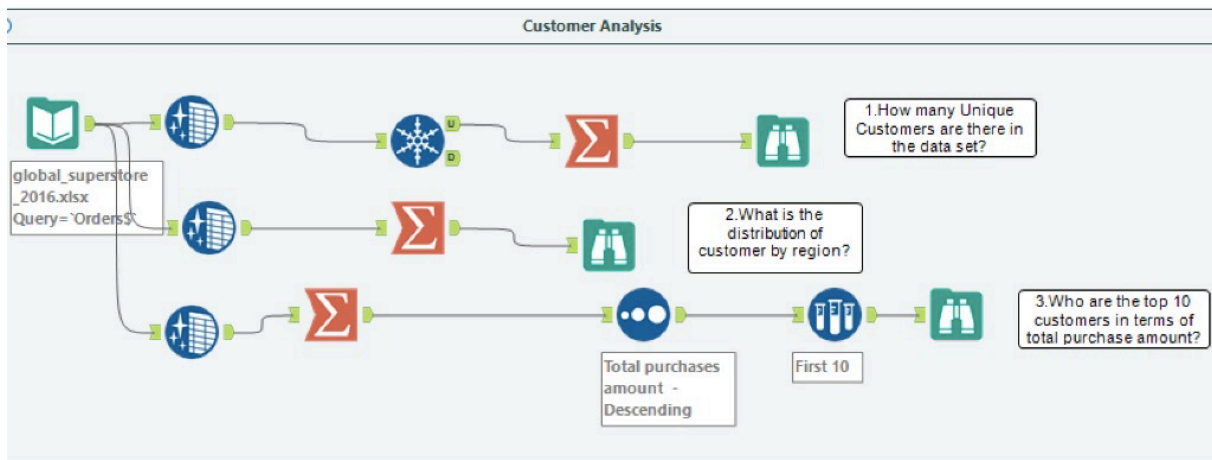
1. Furniture : 416.881531267746
2. Office Supplies : 121.048691664799
3. Technology : 467.858938771327

3.Which Product category generate the highest revenue?

Technology is the product category with the biggest revenue, with a total of 467.858938771327

4.What product category is the most discounted on average?

The product category with the highest average discount rate is furniture with a discount rate of 0.16797464503043, meaning 16.80% approximately.



Alteryx calculates the number of unique customers in the dataset by counting the distinct customer IDs.

Analyzing the data in Alteryx reveals the distribution of customers by region through grouping the data by region and counting the number of unique customers in each region.

In Alteryx, the top 10 customers in terms of total purchase amount are determined by grouping the data by customer name/id and summing the purchase amounts, then selecting the top 10 customers based on their total purchase amounts.

1. How many Unique Customers are there in the data set?

790 records in the dataset is found

2.What is the distribution of customer by region?

We can observe a diverse distribution of customers across different regions below:

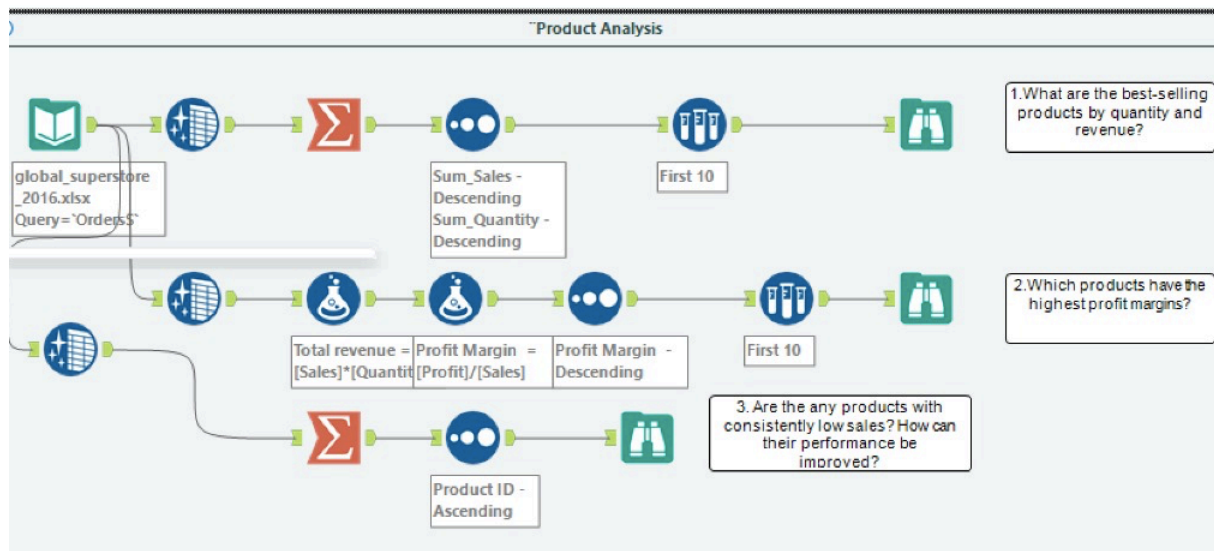
Region	count
Central US	2323
Southern Asia	2655
Western Africa	1460
Eastern Asia	2374
Eastern Africa	728

South America	2988
Eastern US	2848
Southern US	1620
Western US	3203
Eastern Europe	1529
Southeastern Asia	3129
Central America	5616
Central Asia	217
Southern Europe	2113
Western Europe	5883
Canada	384
Southern Africa	478
Oceania	3487
Central Africa	643
Caribbean	1690
North Africa	1278
Northern Europe	2204
Western Asia	2440

3. Who are the top 10 customers in terms of total purchase amount?

Based on the analysis of total purchase amounts, the top 10 customers with the highest purchase amounts are as follows:

Customer name	Total purchase
Tom Ashbrook	40488.0708
Tamara Chand	37457.333
Greg Tran	35550.95428
Christopher Conant	35187.0764
Sean Miller	35170.93296
Bart Watters	32310.4465
Natalie Fritzler	31781.2585
Fred Hopkins	30400.67452
Jane Waco	30288.4503
Hunter Lopez	30243.56658



Alteryx identifies the best-selling products by quantity and revenue by analyzing the dataset to find the products with the highest sales volume and total revenue.

The products with the highest profit margins are determined by calculating the profit margin for each product, which is the difference between the selling price and the cost, divided by the selling price.

Alteryx analyzes the sales data to identify products with consistently low sales, and recommendations can be made to improve their performance, such as adjusting pricing strategies, enhancing marketing efforts, or discontinuing products with consistently poor performance.

1. What are the best-selling products by quantity and revenue?

The best-selling products in terms of quantity and revenue are:

Products	Revenue	Quantity
Apple Smart Phone, Full Size	86935.7786	171
Cisco Smart Phone, Full Size	76441.5306	139
Motorola Smart Phone, Full Size	73156.303	134
Nokia Smart Phone, Full Size	71904.5555	147
Canon image CLASS 2200 Advanced Copier	61599.824	20
Hon Executive Leather Armchair, Adjustable	58193.4841	169
Office Star Executive Leather Armchair, Adjustable	50661.684	141
Harbour Creations Executive Leather Armchair, Adjustable	50121.516	142
Samsung Smart Phone, Cordless	48653.46	108
Nokia Smart Phone, with Caller ID	47877.7857	96

2. Which products have the highest profit margins?

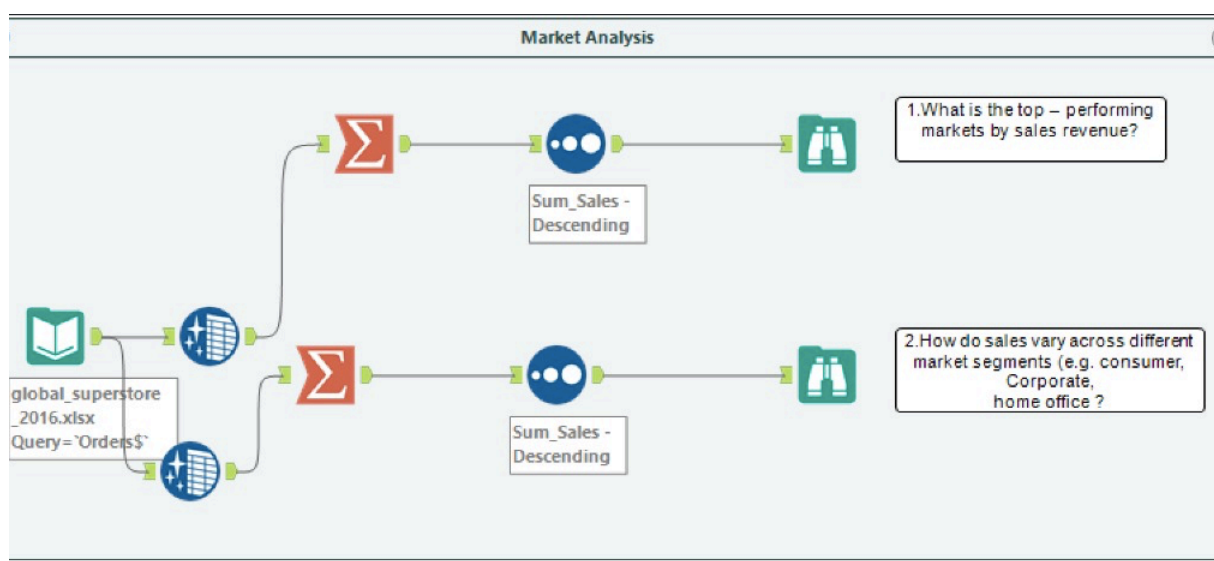
The products with the highest profit margins are:

Products	Total Revenue	Profit Margins
KitchenAid Refrigerator, White	2104.32	0.5
KitchenAid Refrigerator, White	526.08	0.5
Belkin Memory Card, Ergonomic	1801.92	0.5
Tenex Trays, Wire Frame	479.52	0.5
Tenex Trays, Wire Frame	53.28	0.5
Belkin Memory Card, Ergonomic	450.48	0.5
Tenex Trays, Wire Frame	1918.08	0.5
Tenex Trays, Wire Frame	3409.92	0.5
Tenex Trays, Wire Frame	852.48	0.5
Fellowes Folders, Blue	3801.6	0.5

3.Are there any products with consistently low sales? How can their performance be improved?

There are 3,788 products with low sales.

Recommendations can be made to improve their performance, such as adjusting pricing strategies, enhancing marketing efforts, or discontinuing products with consistently poor performance.



Alteryx identifies the top-performing markets by sales revenue by aggregating the data based on market location and summing the sales revenue for each market, then determining the markets with the highest total sales revenue.

Sales variations across different market segments, such as consumer, corporate, and home office, are analyzed in Alteryx by grouping the data by market segment and calculating the

total sales revenue for each segment, providing insights into how sales differ across various market segments.

1.What are the top-performing markets by sales revenue?

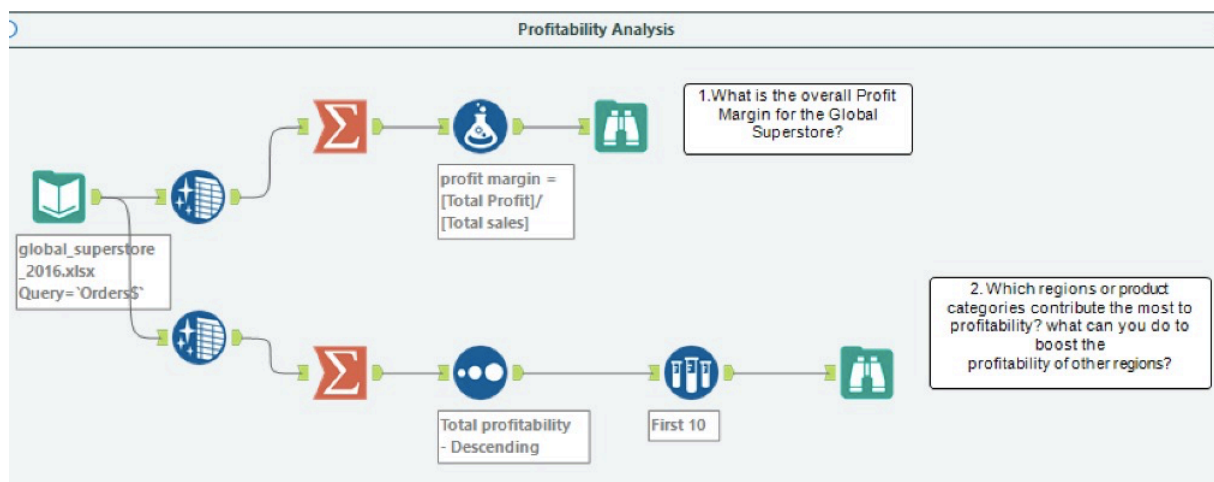
The top-performing markets based on sales revenue are:

Markets	Total sales
Asia Pacific	4042658.26799998
Europe	3287336.23349999
USCA	2364129.03029995
LATAM	2164605.16707999
Africa	783773.210999997

2.How do sales vary across different market segments (e.g. consumer, Corporate, home office)?

Sales across different market segments:

Consumer	6507949.41786009
Corporate	3824697.52145999
Home Office	2309854.97055998



Alteryx computes the overall profit margin for the Global Superstore by analyzing the dataset to calculate the aggregate profit margin, which is the total profit divided by the total revenue.

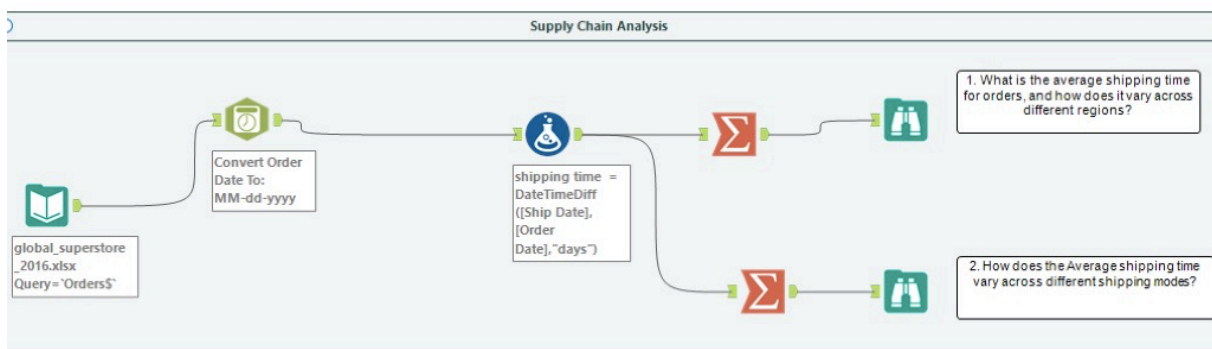
Alteryx analyzes the contribution to profitability by regions or product categories by grouping the data accordingly and calculating the profitability for each region or category. To boost profitability in other regions, strategies such as targeted marketing campaigns, pricing adjustments, or operational improvements can be implemented based on the analysis findings.

1.What is the overall profit margin for the global superstore?

The Global Superstore has achieved an overall profit margin of \$2432.66415287777, with an average profit margin of 4.74% approximately.

2.Which regions or product categories contribute the most to profitability? What can you do to boost the profitability of the other regions?

Office Supplies	Western Europe	97267.395
Technology	Western Europe	82091.2740000001
Technology	Central America	74679.54216
Technology	Eastern Asia	72805.0949999999
Technology	Southern Asia	67998.765
Furniture	Southern Asia	56306.982
Technology	Oceania	54734.022
Office Supplies	Central America	54706.376
Office Supplies	Western US	52685.0178
Furniture	Eastern Asia	52263.4109999999



Alteryx calculates the average shipping time for orders by analyzing the dataset and computing the mean shipping time. It then assesses how this average varies across different regions by grouping the data by region and calculating the average shipping time for each region.

Alteryx examines how the average shipping time varies across different shipping modes by grouping the data based on shipping mode and calculating the mean shipping time for each mode, providing insights into the shipping efficiency of various modes.

1.What is the average shipping time for orders, and how does it vary across different regions?

The average shipping time for orders across different regions are:

Region	Average Shipping Time	StdDev_Shipping Time
Central US	4.05811450710288	1.68863487586524
Southern Asia	3.9939736346516	1.62055183068255
Western Africa	3.92328767123288	1.7025981474797
Eastern Asia	3.91575400168492	1.74708845755554
Eastern Africa	3.85851648351648	1.80188927207912
South America	3.95850066934404	1.73705495614149
Eastern US	3.90976123595506	1.72888522749056
Southern US	3.95987654320988	1.7369280556789
Western US	3.93006556353419	1.80691422114355
Eastern Europe	3.90385873119686	1.77181009611055
Southeastern Asia	4.03163950143816	1.66099642018004

Central America	4.02403846153846	1.73188395958143
Central Asia	3.61290322580645	1.82762225482514
Southern Europe	3.90960719356365	1.67814254250899
Western Europe	4.00152983171851	1.76149193315987
Canada	3.67708333333333	1.77593305254918
Southern Africa	3.72803347280335	1.86023394724961
Oceania	3.93289360481789	1.72510545825189
Central Africa	3.89269051321928	1.67517872083783
Caribbean	3.97396449704142	1.73782739998972
North Africa	4.00234741784038	1.6722416968475
Northern Europe	4.08666061705989	1.75307884563449
Western Asia	3.9922131147541	1.72039499468968

2.How does the average shipping time vary across different shipping modes?

Ship Mode	Average Shipping Time
Standard Class	4.99801787164907
Second Class	3.23018721505481
First Class	2.181745502998
Same Day	3.73935579415031e-02