North Wind Traders Analysis

NORTH-Wind-Trader is B2B sales data

Sales & order data for Northwind Traders, a fictitious gourmet food supplier, including information on customers, products, orders, shippers, and employees.

And in this document, we present analysis results, insights and recommendations

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--CUSTOMER DISTRIBUTION
--Frist step is to extract the best Market countries and cities
--count customers per CITY OR COUNTRY

⊞ Results ⊠ Messages

	country	CUST_Count	Total_sales
1	USA	13	245584.6105
2	Germ...	11	230284.6335
3	France	10	81358.3225
4	Brazil	9	106925.7765
5	UK	7	58971.31
6	Mexico	5	23582.0775
7	Spain	4	17983.20
8	Vene...	4	56810.629

--It seems that USA, Germany and France have The highest number of customers

--Revenue per country
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98 % ▾ ◀

⊞ Results ⊠ Messages

	country	avg_ship	Total_sales
1	USA	131.152897727273	245584.6105
2	Germany	116.374237804878	230284.6335
3	Austria	221.85152	128003.8385
4	Brazil	71.8373399014779	106925.7765
5	France	68.6227173913043	81358.3225
6	UK	62.8928148148148	58971.31
7	Venezuela	66.715593220339	56810.629

⊞ Results ⊠ Messages

	country	avg_ship	Total_sales
1	Poland	28.845625	3531.95
2	Norway	56.065625	5735.15
3	Argentina	52.1373529411765	8119.10
4	Portugal	58.3176666666667	11472.3625
5	Italy	39.7903773584906	15770.155
6	Spain	44.8009259259259	17983.20
7	Finland	53.2238888888889	18810.0525

✅ Query executed successfully.   ✅ Query executed successfully.

1--USA, Germany and Austria represents best markets with sales as
--((245584.6105) for USA,230284.6335 for Germany and 128003.8385 for Austria
--Prioritize markets based on total sales, giving special attention
--to the USA, Germany, Austria, and Brazil.

2-Poland,Norway, and Argentina have the least sales
--We can think about challenges facing us in such countries.

--Most popular category in best market countries

	Tatal_sales	country	total_cat_sales	best_category	percentage_of_sales
1	245584.6105	USA	27659.18	Meat & Poultry	11.26
2	230284.6335	Germany	36216.43	Beverages	15.72
3	128003.8385	Austria	24496.46	Dairy Products	19.13
4	106925.7765	Brazil	20084.15	Beverages	18.78
5	81358.3225	France	5368.58	Seafood	6.59
6	58971.31	UK	4807.70	Confections	8.15
7	56810.629	Venezuela	7360.83	Dairy Products	12.95

--After this analysis we can identify best-selling category in best market
countries
--**Germany's** ((2nd Best market)) best category is **"Beverages"** accounting for
15.72% of total sales.
--**Austria's** top category is **"Dairy Products"** with a significant
contribution of 19.13%.
--we can pay attention to promote these category in best markets
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--Small numbers in France and UK means that these markets
--have varying preferences for product categories
--we can notice that France is the 3rd in customer number and have varying
preferences

--Customer Rank per Orders & Sales

--this query will show FREQUENCY baes on number of orders and Monetary based on
total sales for each country

-- Monetary

	companyName	country	Total_Orders	Total_revenue
1	QUICK-Stop	Germany	86	110277.305
2	Ernst Handel	Austria	102	104874.9785
3	Save-a-lot Markets	USA	116	104361.95
4	Rattlesnake Canyon Grocery	USA	71	51097.8005
5	Hungry Owl All-Night Grocers	Ireland	55	49979.905
6	Hanari Carnes	Brazil	32	32841.37
7	Königlich Essen	Germany	39	30908.384

--FREQ

	companyName	country	Total_Orders	Total_revenue
1	Save-a-lot Markets	USA	116	104361.95
2	Ernst Handel	Austria	102	104874.9785
3	QUICK-Stop	Germany	86	110277.305
4	Rattlesnake Canyon Grocery	USA	71	51097.8005
5	Hungry Owl All-Night Grocers	Ireland	55	49979.905
6	Berglunds snabbköp	Sweden	52	24927.5775
7	Frankenversand	Germany	48	26656.5595

--QUICK-Stop, Ernst Handel and Save-a-lot Markets are the most paying clients
--with total revenue 110277.305, 104874.9785 and 104361.95

-- Save-a-lot Markets, Ernst Handel and QUICK-Stop are most ordering clients.

--we can inform decision-making around creating targeted offers or promotions
--to incentivize these customers to make additional purchases

-- Calculating Recency – (the time from the last order for each company)

customerid	companyName	last_transaction_date	recency_month
BONAP	Bon app'	2015-05-06 00:00:00.000	104
DRACD	Drachenblut Delikatessen	2015-05-04 00:00:00.000	104
ERNSH	Ernst Handel	2015-05-05 00:00:00.000	104
LEHMS	Lehmanns Marktstand	2015-05-05 00:00:00.000	104
LILAS	LILA-Supermercado	2015-05-05 00:00:00.000	104
PERIC	Pericles Comidas clásicas	2015-05-05 00:00:00.000	104
QUEEN	Queen Cozinha	2015-05-04 00:00:00.000	104

--Now, let's calculate RFM Score and make CUSTOMER SEGMENTATION
--Based in RFM Score

customerId	companyName	Recency	Total_Orders	Total_revenue
ALFKI	Alfreds Futterkiste	105	12	4273.00
ANATR	Ana Trujillo Emparedados y helados	106	10	1402.95
ANTON	Antonio Moreno Taquería	108	17	7023.9775
AROUT	Around the Horn	105	30	13390.65
BERGS	Berglunds snabbköp	106	52	24927.5775
BLAUS	Blauer See Delikatessen	105	14	3239.80
BLONP	Blondesddsl père et fils	108	26	18534.08

▦ Results ▣ Messages

	customerId	companyName	Recency	F_M_score
1	SAVEA	Save-a-lot Markets	5	1
2	ERNSH	Ernst Handel	5	1
3	QUICK	QUICK-Stop	4	1
4	RATTC	Rattlesnake Canyon Grocery	5	1
5	HUNGO	Hungry Owl All-Night Grocers	3	1
6	BERGS	Berglunds snabbköp	2	1
7	FRANK	Frankenversand	3	1

--We categorize our customers into groups based in their history and RFM score
--Result

▦ Results ▣ Messages

	customerId	companyName	Recency	F_M_score	Segment
43	GODOS	Godos Cocina Típica	3	3	B-Loyal Customers
44	WOLZA	Wolski Zajazd	3	2	B-Loyal Customers
45	BLAUS	Blauer See Delikatessen	3	2	B-Loyal Customers
46	ALFKI	Alfreds Futterkiste	3	2	B-Loyal Customers
47	WILMK	Wilman Kala	3	2	B-Loyal Customers
48	ROMEY	Romero y tomillo	5	1	C-Recent Custo...
49	THECR	The Cracker Box	5	1	C-Recent Custo...
50	RANCH	Rancho grande	4	1	E-Promising
51	NORTS	North/South	4	1	E-Promising
52	CACTU	Cactus Comidas para llevar	4	1	E-Promising
53	FRANS	Franchi S.p.A.	3	1	E-Promising
54	BERGS	Berglunds snabbköp	2	5	F-Customers Ne...
55	VAFFE	Vaffeljernet	2	4	F-Customers Ne...
56	WANDK	Die Wandernde Kuh	2	3	F-Customers Ne...
57	MAGAA	Magazzini Alimentari Riuniti	2	3	F-Customers Ne...
58	WELLI	Wellington Importadora	2	3	F-Customers Ne...
59	SPLIR	Split Rail Beer & Ale	2	3	F-Customers Ne...
60	ISLAT	Island Trading	2	3	F-Customers Ne...
61	FURIB	Furia Bacalhau e Frutos d...	2	3	F-Customers Ne...
62	QUEDE	Que Delícia	2	3	F-Customers Ne...

--WE can think about Making offers for our **<u>Super and loyal customers.</u>**
--We can look at the reasons why customers have low score from their purchases and address them so as not to lose them
--Also we can see performances for <u>recent customers</u> and care about them so that they will be loyal customers in the future.

--By answering this question, we can see customers with positive growth and negative growth

	companyName	2013	2014	2015
1	Ernst Handel	15568.065	48096.2635	41210.65
2	QUICK-Stop	11950.08	61109.91	37217.315
3	Save-a-lot Markets	10338.265	57713.575	36310.11
4	Hanari Carnes	2997.40	6022.77	23821.20
5	Rattlesnake Canyon Grocery	10475.78	19383.75	21238.2705
6	Hungry Owl All-Night Grocers	9123.38	20454.405	20402.12
7	Königlich Essen	1661.40	9664.21	19582.774
8	White Clover Markets	2938.20	9146.505	15278.90
9	Folk och fä HB	2608.825	13314.67	13644.0675

✅ Query executed successfully.

--We can notice customers with positive growth
--EX: Ernst Handel, QUICK-Stop, Save-a-lot Markets
--Companies with Negative Growth:
--Great Lakes Food Market,LINO-Delicateses,France restauration
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--PRUDCTS—ORDERS

--Total Revenue---Gross Revenue
--1265793.0395

--Total Orders per country

	country	Num_of_Orders
1	Germany	122
2	USA	122
3	Brazil	83
4	France	77
5	UK	56
6	Venezuela	46
7	Austria	40
8	Sweden	37
9	Canada	30
10	Italy	28
11	Mexico	28

-- Germany, USA, Brazil and France, These countries have the most order numbers
--So we can Provide best ship cost and good offers.

Then we can find Best-selling products.

	ProductID	ProductName	TotalSales	Salesrank
1	38	Côte de Blaye	141396.735	1
2	29	Thüringer Rostbratwurst	80368.672	2
3	59	Raclette Courdavault	71155.70	3
4	62	Tarte au sucre	47234.97	4

Côte de Blaye, Thüringer Rostbratwurst and Raclette Courdavault
--represents highst sale revenue

--Chocolade, Geitost,Genen Shouyu are lowest

-- MOST Trendy and popular products and LESS

	ProductName	categoryName	Total_quantity
1	Chang	Condiments	1057
2	Chai	Beverages	828
3	Uncle Bob's Organic Dried Pears	Produce	763
4	Chef Anton's Cajun Seasoning	Dairy Products	453

--Chang, Chai and Uncle Bob's Organic Dried Pears are most trendy products

--Chef Anton's Gumbo Mix, Grandma's Boysenberry Spread and Aniseed Syrup
represent less trendy products

--Best trendy categories

	categoryName	Total_orders
1	Beverages	9532
2	Dairy Products	9149
3	Confections	7906
4	Seafood	7681
5	Condiments	5298
6	Grains & Cereals	4562

--**Beverages, Dairy Products and Confections**

-- WE can make offers in these categories specially they are also trendy in
Best-selling countries

--Average Revenue VS Average Shipment cost (by Country)

	country	Avg_Revenue_perOrder	AVG_ship_cost	Shipp_Percentage
1	Switzerland	609.4742	75.2503846153846	0.123467711373811
2	Canada	669.2838	84.292	0.125943583275137
3	Belgium	604.0152	76.2683928571429	0.126268995974179
4	Poland	220.7468	28.845625	0.130672902166645
5	Denmark	710.0222	93.184347826087	0.131241456712321
5	Italy	297.55	39.7903773584906	0.133726692517192
7	Spain	333.0222	44.8009259259259	0.134528346536435
3	Brazil	526.7279	71.8373399014779	0.136384155655089
	Maxico	227.5200	44.05420555555556	0.126047660500200

--**Switzerland** and **Canada** represent the best business Scenario
--as ship cost is low compared to average order cost.

--Average ship_cost and time per country

	country	AVG_Ship_Time	AVG_ship_cost
1	Poland	16	25.1057142857143
2	Italy	20	30.8728571428572
3	Argentina	16	37.41125
4	Spain	18	37.4734782608696
5	Mexico	18	40.0992857142857
6	Finland	23	41.4040909090909
7	Norway	18	45.9166666666667

--**Poland** has less shipment cost We can think about haw to
promote ads in such market

--**Austria**, **USA**, **Ireland** and **Germany** Has highest Average ship cost
--These countries have the highest sales and highest orders number.

SO, we can Consider negotiating better deals with shipping providers

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Shippers

	companyName	AVG_Ship_Time	AVG_ship_cost
1	Federal Shipping	19	80.4412156862744
2	Speedy Express	19	65.0013253012048
3	United Package	18	86.6406441717791

--**Speedy Express** is the lowest ship company we can deal with it more in the future

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--Employees
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	employeename	employeeid	Num_of_orders
1	Margaret Peacock	4	156
2	Janet Leverling	3	127
3	Nancy Davolio	1	123
4	Laura Callahan	8	104
5	Andrew Fuller	2	96
6	Robert King	7	72
7	Michael Suyama	6	67
8	Anne Dodsworth	9	43
9	Steven Buchanan	5	42

--EMPs (**Margaret Peacock), (Janet Leverling) and (Nancy Davolio)**
achieve most orders target.
--We can reward them to achieve more success

--**Michael Suyama**, **Anne Dodsworth**, **Steven Buchanan**

Made lower order counts, consider implementing performance improvement plans
--additional training, or mentorship to enhance their sales or order processing skills.

	city	Num_of_orders
1	London	224
2	New York	606

--we can think about challenges with London team and provide additional training, or mentorship to enhance their sales or order processing skills.