SuperStore Analysis

Preprint · October 2017

1 author:

Hafizhan Aliady
Universitas Islam Indonesia
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Sales	Profit	Profit Ratio
$2.297.201	$286.397	12,5%

Profit per Order	Sales per Customer	Avg. Discount	Quantity
$57.18	$2,896.85	15,62%	37.873
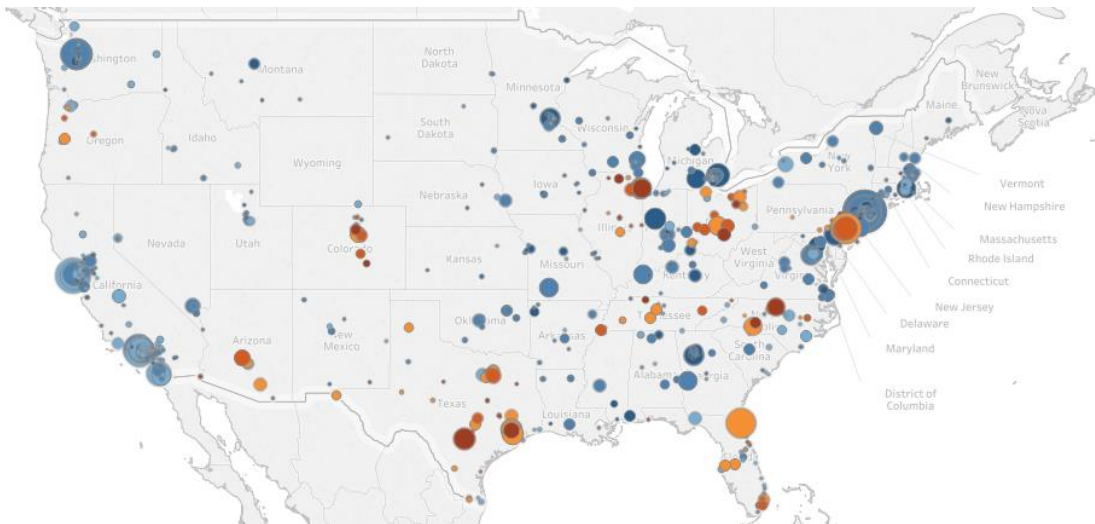
In maps figure above there is some customers acumulated in east region, the orange and blue colors show us profit ratio. Most profitable sales is on most east on states, and most west. And most non profitable sales acumulated in south region and south east region. So we can do priority sales based on region where customers orders.

Sales and Profit by Product Names
Year: All, Month: All, Product Category: All
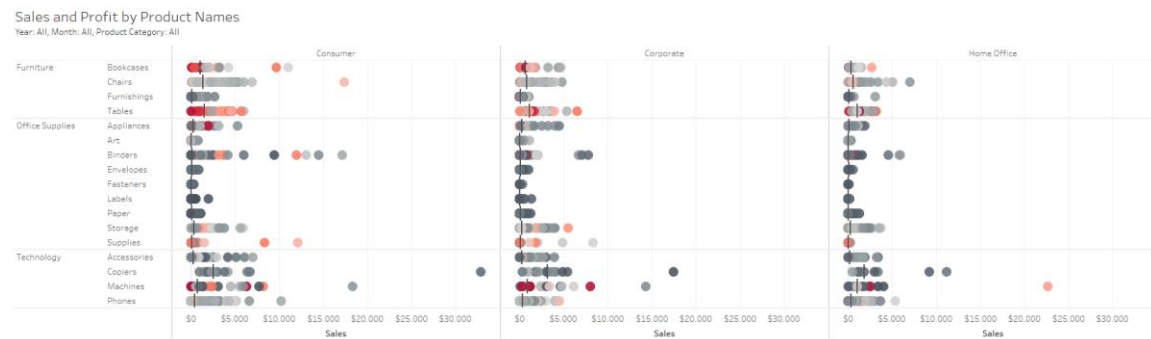
The figure above show us a comparison between sales and profit by the Product names, the most profitable category is copiers and binders, and most non profitable is Machine, chairs and tables. So from this figure we can find out what make they non profitable.
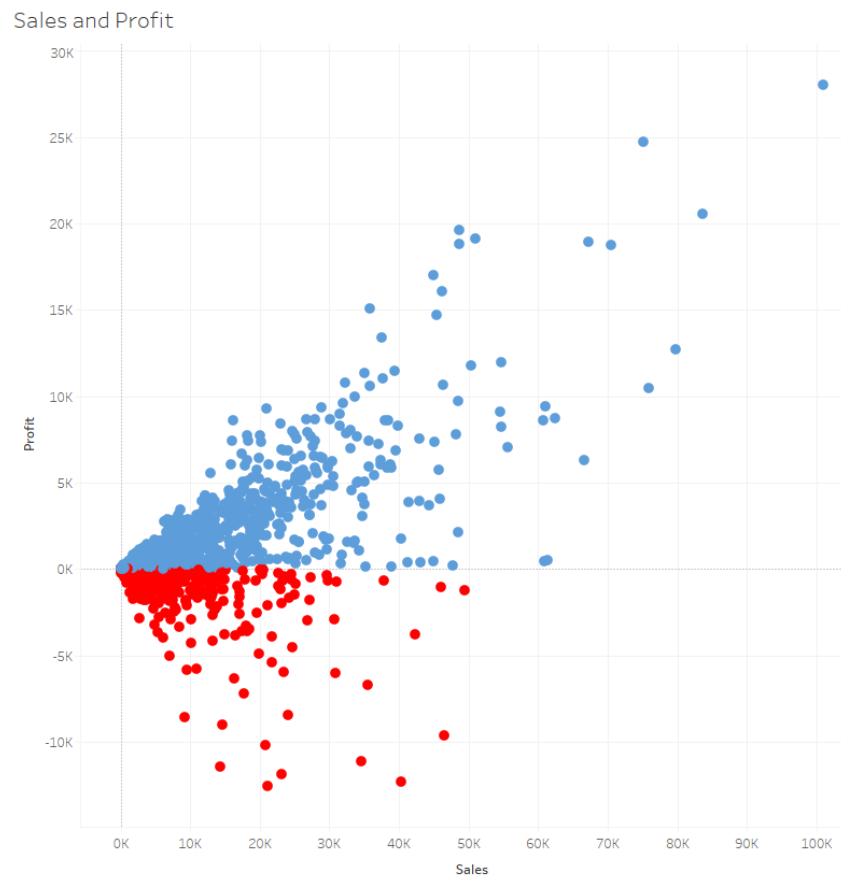
Sales and Profit

Figures above show corelation betwen Sales and profit, we can see in the figue some sales have negative profit ratio. And in other case high sales means high profit so we think there

is no corelation between the sales and profit. High sales doesn't mean high profit, and low sales dosen't mean low profit

Sales by Product Category		Jan	Feb	Mar	Apr	Mei	Jun	Jul	Agu	Sep	Okt	Nov	Des
Furniture	2012	$5.952	$2.130	$14.574	$7.945	$6.913	$13.206	$10.821	$7.320	$23.816	$12.304	$21.565	$30.646
	2013	$11.740	$3.134	$12.500	$10.476	$9.375	$7.714	$13.674	$9.639	$26.273	$12.027	$30.881	$23.086
	2014	$7.623	$3.926	$12.473	$13.406	$15.031	$12.027	$13.199	$13.619	$26.739	$10.131	$33.659	$37.069
	2015	$5.964	$6.866	$10.597	$9.053	$17.267	$16.903	$13.882	$14.909	$29.598	$21.884	$32.927	$35.537
Office Supplies	2012	$4.851	$1.072	$8.606	$11.155	$7.136	$12.953	$15.121	$11.379	$27.423	$7.211	$26.862	$18.006
	2013	$1.809	$5.368	$15.883	$12.559	$9.114	$10.648	$4.720	$11.735	$19.306	$8.673	$21.218	$16.202
	2014	$5.300	$6.683	$17.458	$10.640	$13.007	$10.902	$12.677	$9.219	$23.286	$14.799	$21.428	$38.112
	2015	$21.704	$7.390	$14.317	$14.922	$14.138	$15.297	$10.699	$29.973	$32.759	$23.403	$30.070	$31.855
Technology	2012	$3.143	$1.609	$32.511	$9.195	$9.600	$8.436	$8.004	$9.210	$30.538	$11.938	$30.201	$20.893
	2013	$4.625	$3.449	$10.344	$11.161	$11.643	$6.435	$10.371	$15.525	$19.017	$10.705	$23.874	$35.632
	2014	$5.620	$12.259	$21.255	$15.203	$28.653	$16.502	$12.564	$10.427	$22.883	$31.533	$27.105	$22.057
	2015	$17.035	$6.027	$28.994	$16.138	$14.247	$16.060	$23.848	$16.634	$28.132	$32.507	$49.330	$23.083

At This figure show how sales going by month, sales increase on quarter 4 or last year. So we think there is seasonal trend on sales, so we can doing forecasting using the timeseries data for predicting upcoming sales.

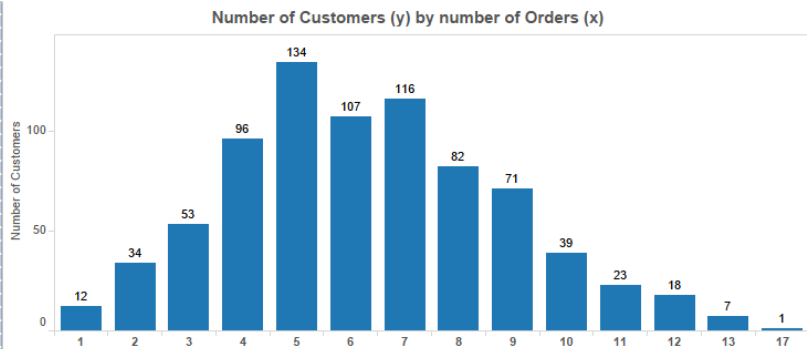| No	lhs	Way	rhs	support	confidence	lift	count
[1]	{Computer Peripherals}	=>	{Paper}	0.02015748	0.15094340	0.7283363	64
[2]	{Paper}	=>	{Computer Peripherals}	0.02015748	0.09726444	0.7283363	64
[3]	{Telephones and Communication}	=>	{Paper}	0.01795276	0.11924686	0.5753933	57
[4]	{Paper}	=>	{Telephones and Communication}	0.01795276	0.08662614	0.5753933	57
[5]	{Pens & Art Supplies}	=>	{Paper}	0.01448819	0.12637363	0.6097816	46
[6]	{Paper}	=>	{Pens & Art Supplies}	0.01448819	0.06990881	0.6097816	46
[7]	{Binders and Binder Accessories}	=>	{Paper}	0.01417323	0.09336100	0.4504881	45
[8]	{Paper}	=>	{Binders and Binder Accessories}	0.01417323	0.06838906	0.4504881	45
[9]	{Office Furnishings}	=>	{Binders and Binder Accessories}	0.01385827	0.10757946	0.7086406	44
[10]	{Binders and Binder Accessories}	=>	{Office Furnishings}	0.01385827	0.09128631	0.7086406	44
[11]	{Office Furnishings}	=>	{Paper}	0.01354331	0.10513447	0.5072978	43
[12]	{Paper}	=>	{Office Furnishings}	0.01354331	0.06534954	0.5072978	43
[13]	{Computer Peripherals}	=>	{Telephones and Communication}	0.01354331	0.10141509	0.6736254	43
[14]	{Telephones and Communication}	=>	{Computer Peripherals}	0.01354331	0.08995816	0.6736254	43
[15]	{Storage & Organization}	=>	{Paper}	0.01259843	0.12738854	0.6146787	40
[16]	{Paper}	=>	{Storage & Organization}	0.01259843	0.06079027	0.6146787	40
[17]	{Office Furnishings}	=>	{Telephones and Communication}	0.01259843	0.09779951	0.6496097	40
[18]	{Telephones and Communication}	=>	{Office Furnishings}	0.01259843	0.08368201	0.6496097	40
[19]	{Binders and Binder Accessories}	=>	{Telephones and Communication}	0.01165354	0.07676349	0.5098830	37
[20]	{Telephones and Communication}	=>	{Binders and Binder Accessories}	0.01165354	0.07740586	0.5098830	37

Based on apriori algirthm on figure above:

1. On the frist rule when somone order computer pheriperals they will order paper too, with 0.02 support levels and lift rasio 0.728. lifts ratio means items in rhs will be bought by customers if they are bought lhs items, in this rule paper will bought by customers if they bought comp peripherals and the probability is 72%. And the count is how much customers bought papers with comp peripherals, is 64 transaction

2. On second rule Vice versa with computers pheriperals and papers

3. All rule is same description with point 1.

So we can give sugestion to superstore company to doing bundling programs, so it can increase sales. in example, if customers bought a computers and pen&art supliees company can bundle it with papers. So paper sales will increase

Recency x Frequency
(% of Customers)

R ..	F Quartile			
	1	2	3	4
1	7%	8%	3%	7%
2	6%	7%	3%	8%
3	5%	7%	4%	9%
4	2%	2%	3%	17%

Number of Customers (y) by number of Orders (x)

Number of Customers vs number of Orders: 1: 12, 2: 34, 3: 53, 4: 96, 5: 134, 6: 107, 7: 116, 8: 82, 9: 71, 10: 39, 11: 23, 12: 18, 13: 7, 17: 1

of Customers / Segment

Best Customers	30
Big Spenders	94
Loyal Customers	77
Recent Customers	173
Almost Lost	15
Lost Customers	9
Lost Cheap Customers	121
Others	274

There is customers segmentation based on RFM (Recency, Frequency, Monetary), there is 8 group of customers. The frist is Best Customers, Bought recently, buy often and spend the most. So the suggestion for this customers segment is Reward them. Can be early adopters for new products. Will promote the product.

The Second Group is Big Spenders who Spend good money with us often. Responsive to promotions. So the suggestion for this customers segment is Upsell higher value products. Ask for reviews. Engage them.

Then the third group is a Loyal Customers who Recent customers, but spent a good amount and bought more than once. So the suggestion for this customers segment is Offer membership loyalty program, recommend other products.

Then the fourth group is Recent Customers who Bought most recently, but not often. Is mean this group is a new customers, we can give suggestion for this customers group to Provide on-boarding support, give them early success, start building relationship.

Then 5th group is Almost lost Customers is Above average recency, frequency and monetary values. May not have bought very recently though. So the sugestion for this customers segment is Make limited time offers, Recommend based on past purchases. To Reactivate them.

Then 6th Group is Lost customers who is Below average recency, frequency and monetary values. Will lose them if not reactivated. So sugestion for this customers segment is Share valuable resources, recommend popular products / renewals at discount, reconnect with them.