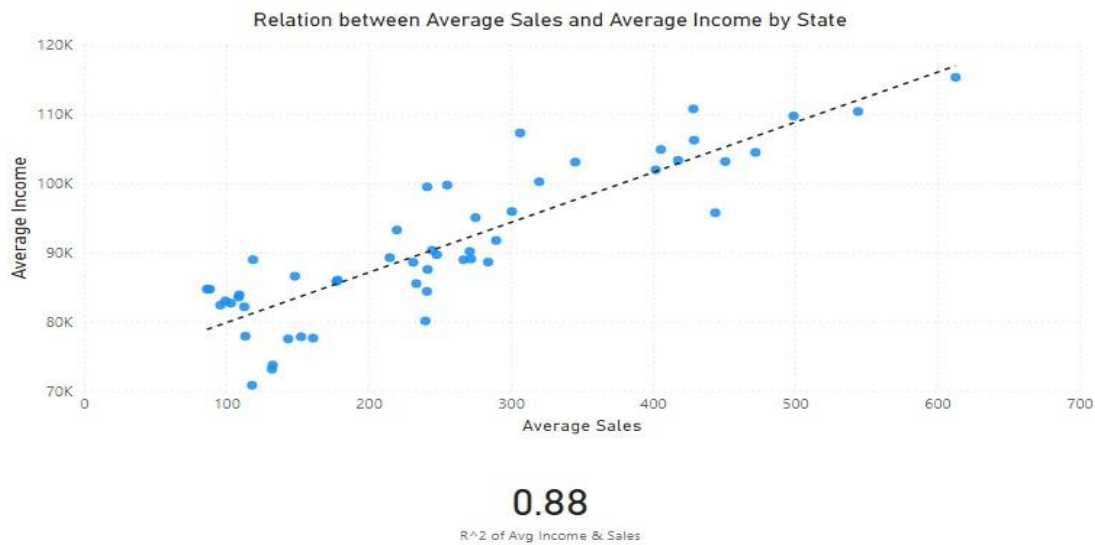


## Udacity: Data Analysis & Visualization with Power BI

### **Project:** Market Analysis Report for National Clothing Chain

Eleftherios Kokkinis

- As a first step in our analysis, it was found that there's a strong positive relationship between Average Sales and Income of  $R^2=0.88$ . In other words, the higher the average sales are in a specific state, the higher the average income of that state is going to be.

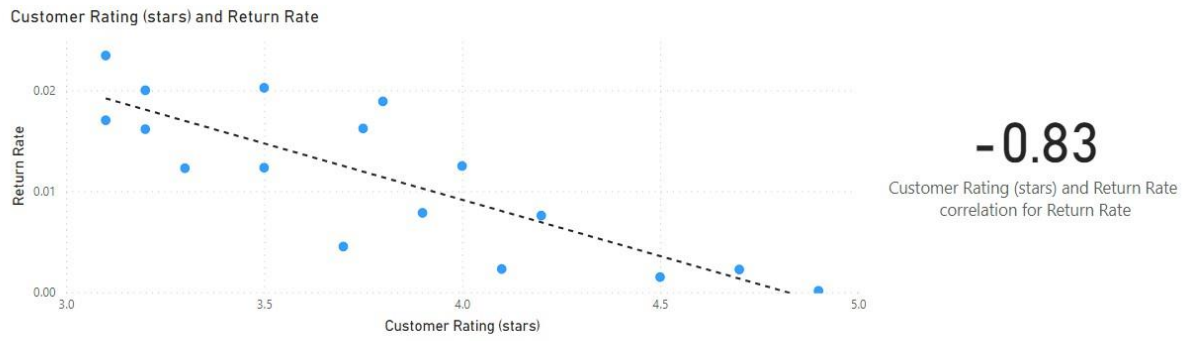


The linear regression formula that predicts a state's average income based on the average sales was found to be:

$$y = 72.43X + 72638.21$$

Formula

- On the other hand, the relation between Customers' ratings and Return Rate is a strong negative one. The higher the Ratings are, the lower the Return Rate is going to be.  $R^2 = -0.82$  in that case.



According to our findings, the customers with the highest predicted income are those from the District of Columbia, followed by those of Maryland as their average incomes equal to \$117.032 and \$112.059 respectively.

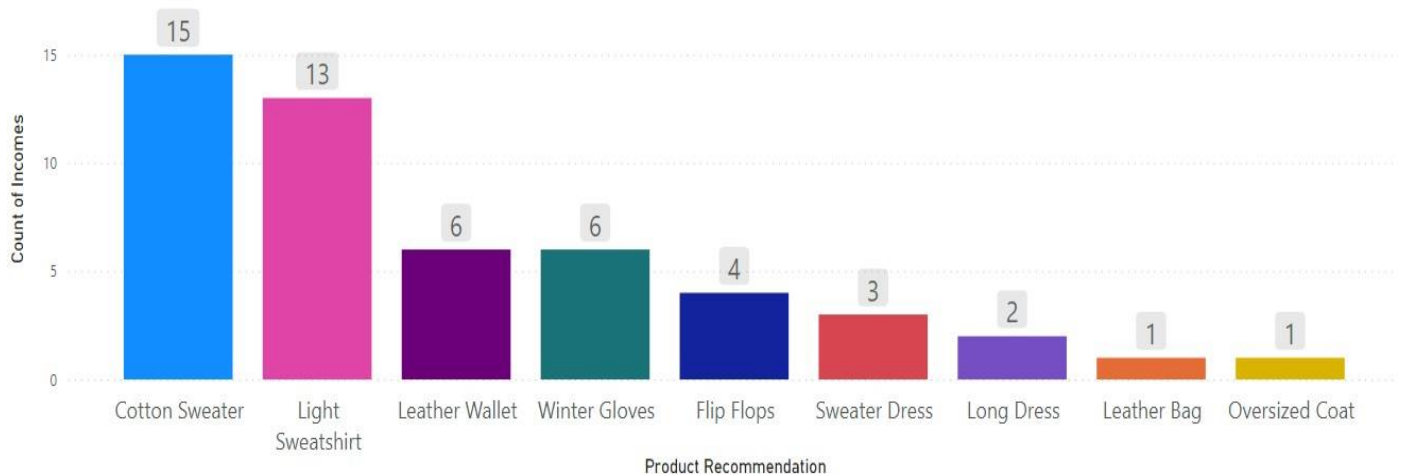
Finally, based on the analysis, the product that should be advertised the most is the Cotton Sweater, followed by the Light Sweatshirt, as it turned out that they are the most recommended ones for the largest income groups of the states.

It is to be noted that this recommendation was based on the income distribution across the US, which turned out to be right-skewed, with the majority of the states having average income up to 95K

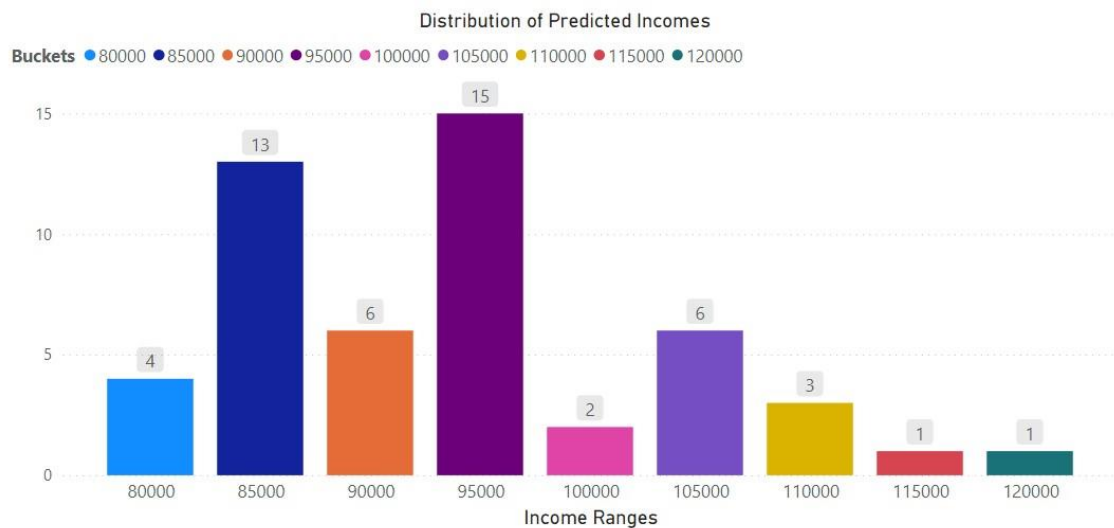
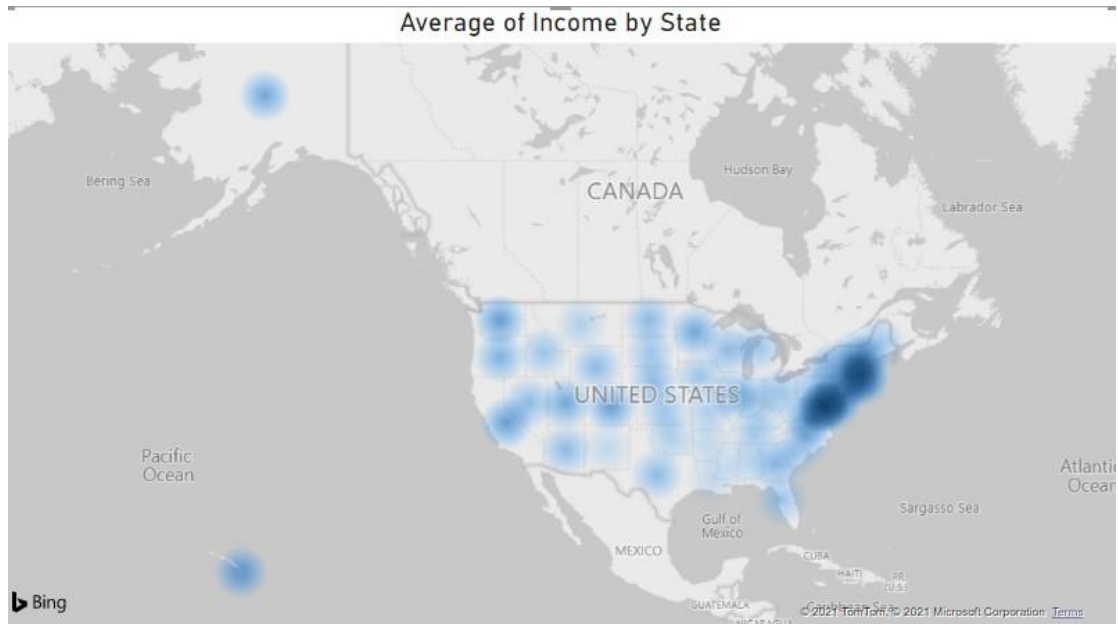
### Product Recommendations:

#### Product Recommendations

Product Recommendation ● Cotton Sweater ● Light Sweats... ● Leather ... ● Winter Gloves ● Flip Flops ● Sweater Dr... ● Long Dress ● Leather Bag ● Oversized ...

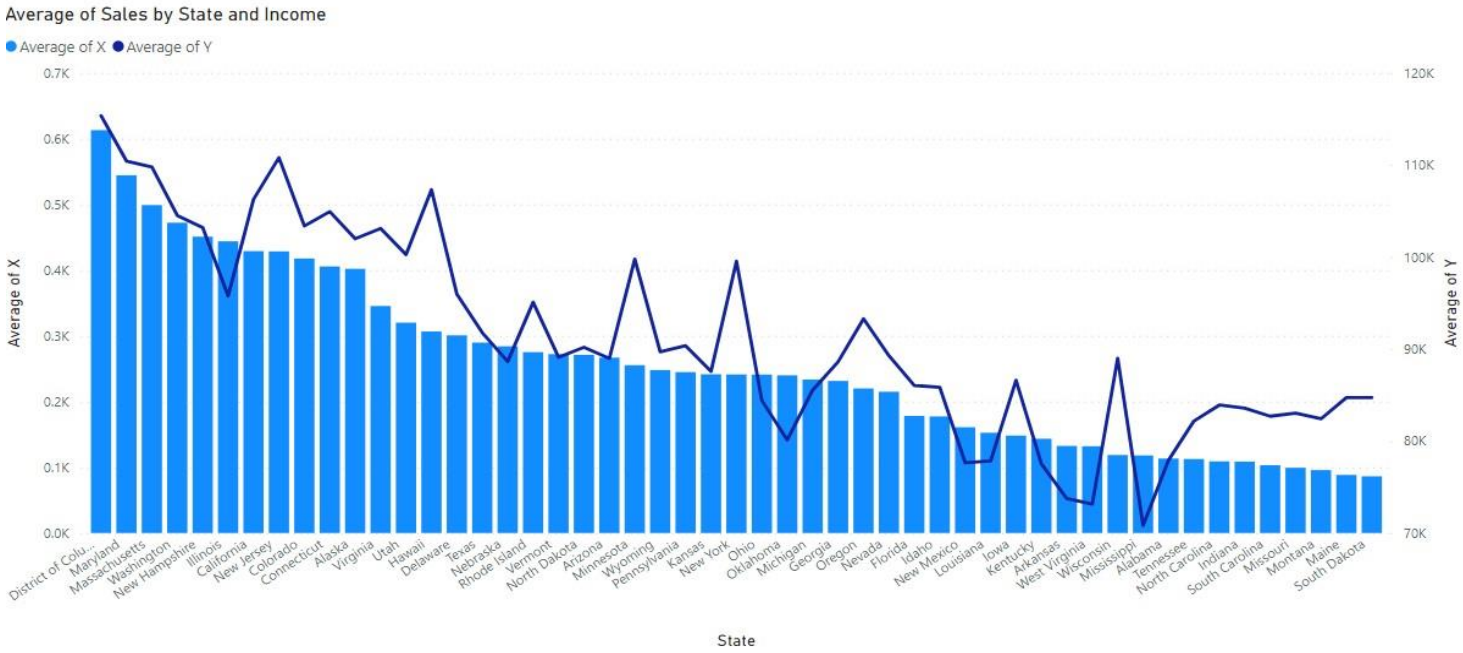


## Distribution of Income across the US:



Although the Cotton Sweater and the Light Sweatshirt are ones that suit better the majority of the states based on their average income, specific products could get targeted for individual states with higher income.

Specifically, since states of higher income seem to be making high sales, that's an indication that there's potential target audience for more expensive products like the Leather Bag that could be advertised to states like the District of Columbia.



Customer ID	Customer Name	State	Income Predictions	Product Recommendation	Last 6 Months Purchases
AQui38942	Angelina Quinn	District of Columbia	117,032.49	Leather Bag	400.00
CBri33495	Casey Briggs	District of Columbia	117,032.49	Leather Bag	225.00
DRob35522	Delia Robertson	District of Columbia	117,032.49	Leather Bag	692.00
ELun31807	Elaine Luna	District of Columbia	117,032.49	Leather Bag	601.00
FMey30422	Frederick Meyer	District of Columbia	117,032.49	Leather Bag	125.00
LMax26400	Louis Maxwell	District of Columbia	117,032.49	Leather Bag	225.00
MSta28374	Mercedes Stanley	District of Columbia	117,032.49	Leather Bag	1,422.96
PMay27664	Pedro May	District of Columbia	117,032.49	Leather Bag	890.00
RGra26815	Regina Gray	District of Columbia	117,032.49	Leather Bag	625.00
WMor17936	Wesley Morton	District of Columbia	117,032.49	Leather Bag	750.00
WSan20745	Wendell Sanders	District of Columbia	117,032.49	Leather Bag	786.00
ARee38169	Angel Reed	Maryland	112,059.93	Oversized Coat	667.00
ASch35042	Archie Schwartz	Maryland	112,059.93	Oversized Coat	921.60
CEst33981	Charlie Estrada	Maryland	112,059.93	Oversized Coat	400.00
JSpe32648	Jessie Spencer	Maryland	112,059.93	Oversized Coat	750.00
KAus31090	Kate Austin	Maryland	112,059.93	Oversized Coat	325.00
LLit27310	Leonard Little	Maryland	112,059.93	Oversized Coat	225.00
RBar28137	Robyn Barker	Maryland	112,059.93	Oversized Coat	325.00
RFar28661	Rhonda Farmer	Maryland	112,059.93	Oversized Coat	790.40
TBro23401	Tony Brown	Maryland	112,059.93	Oversized Coat	932.80
TRey20667	Tyler Reynolds	Maryland	112,059.93	Oversized Coat	425.00
VDav21915	Verna Davis	Maryland	112,059.93	Oversized Coat	225.00
AHar38504	Andy Harvey	Massachusetts	108,774.13	Sweater Dress	225.00
CWal33485	Chad Wallace	Massachusetts	108,774.13	Sweater Dress	325.00

To conclude, the company's product stock looks relatively high enough in Leather Bags to accommodate a shift towards it, while the stock on Cotton Sweaters and Light Shirts seem to be shrinking.

Number in Stock by Product Name

