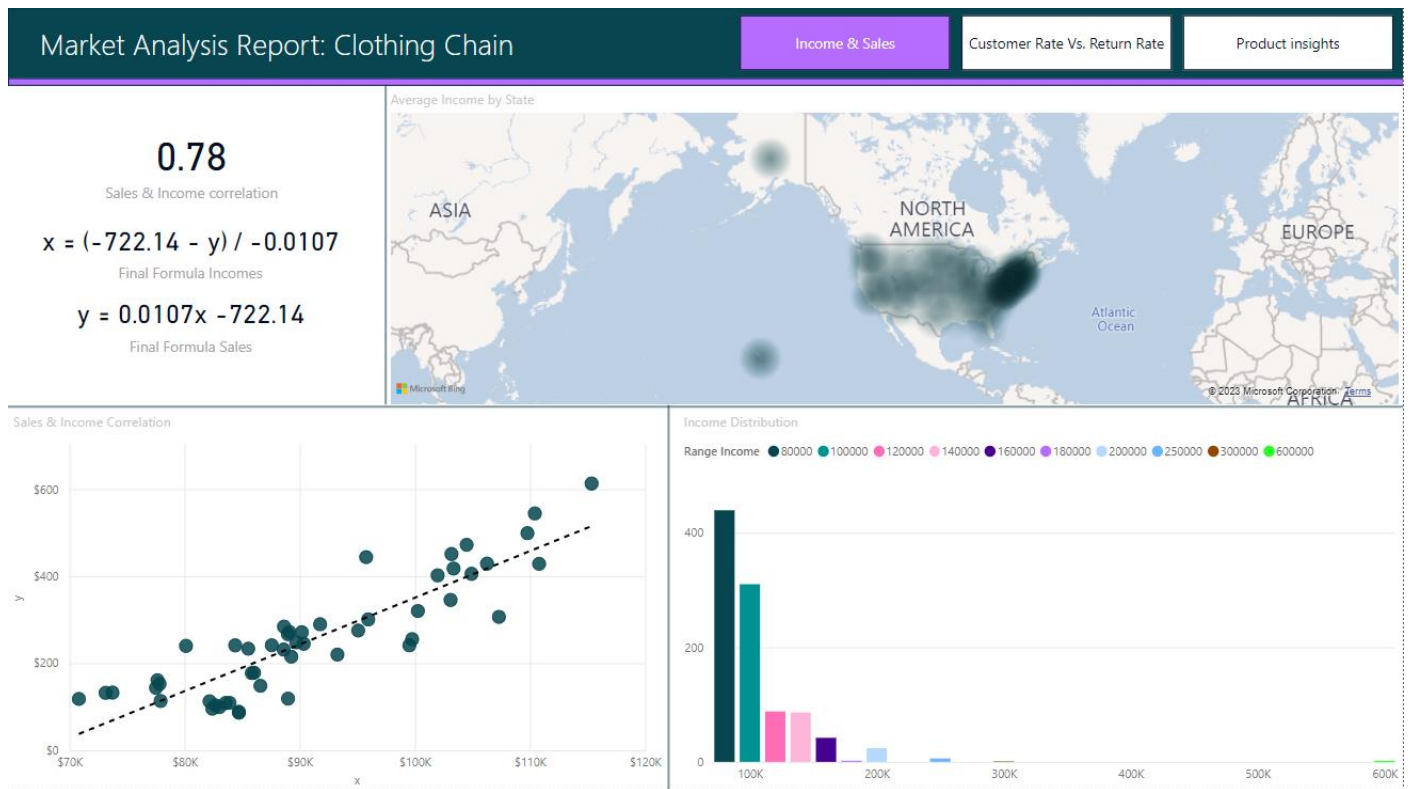


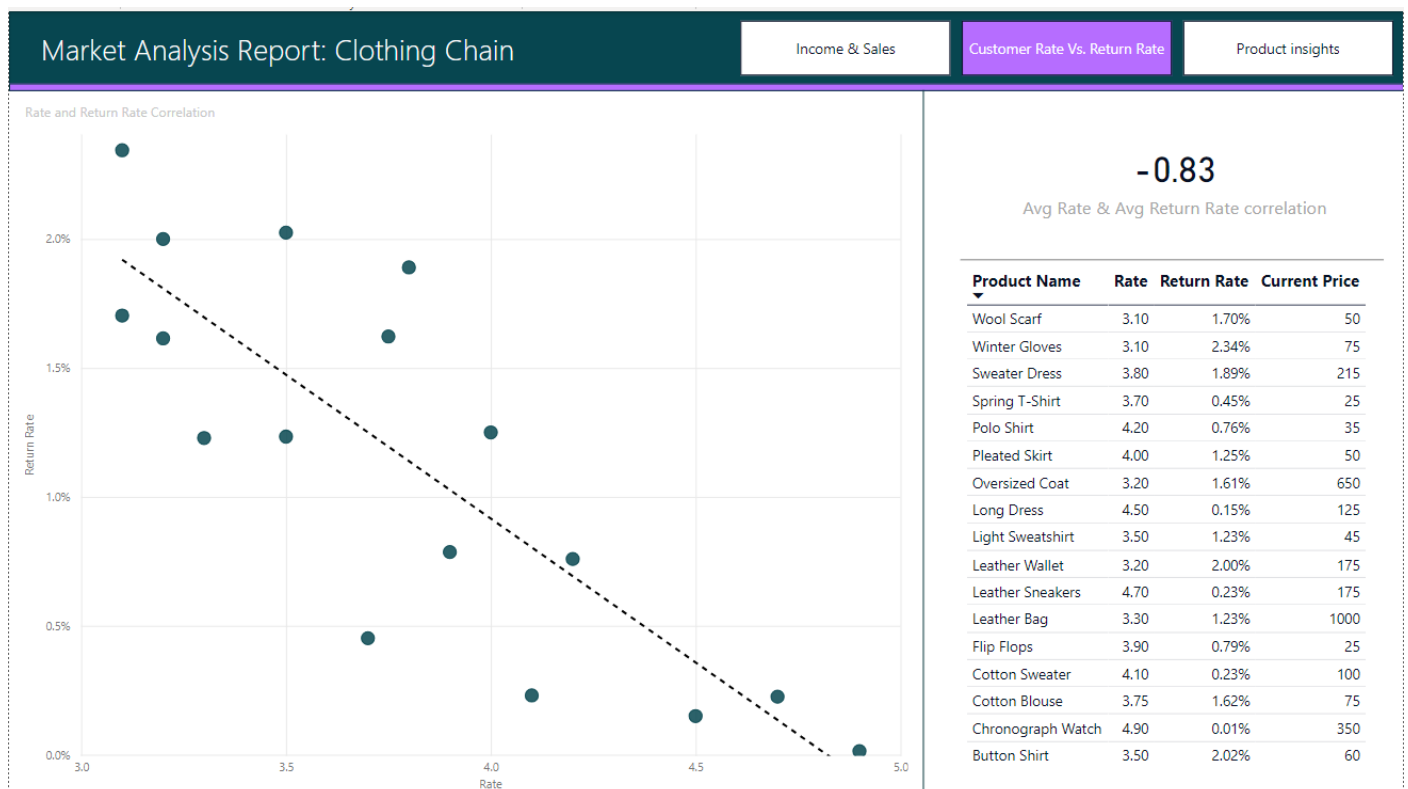
1. What is the correlation (R2 value) between sales and income?

There is a strong positive correlation ($R^2 = 0.78$) between customers' income and sales. This means that as customers' income increases, their sales also tend to increase. The scatter plot in Figure 1 visually represents this relationship.



2. What is the correlation (R2 value) between customer ratings and product return rate?

There is a strong negative correlation ($R^2 = -0.83$) between customer ratings and product return rate. This indicates that as the rating of a product decreases, the return rate tends to increase. Figure 2 illustrates this negative relationship.



3. What are the linear regression formulas to predict customer income from customer sales?

To predict customer income from their sales, a linear regression formula was derived from the analysis. The formula is as follows:

$$\text{income}(x) = \frac{-722.14 - \text{sales}(y)}{-0.0107}$$

4. Which customer do you predict has the highest income?

Jon Little from Illinois is predicted to have the highest income, with purchases totalling \$5250 in the last 6 months.

Customer ID	First Name	Last Name	State	Date of Birth	Last 6 Months Purchases	Predicted Income	Range Income	Recommended Product
JLit30836	Jon	Little	Illinois	03 June 1984	5250	\$558,143.93	600000	Leather Bag
JFos32095	Jody	Foster	Illinois	14 November 1987	2500	\$301,134.58	600000	Leather Bag
TRod22397	Tonya	Rodriguez	Illinois	26 April 1961	2350	\$287,115.89	300000	Leather Bag
EBar31302	Edna	Barnett	New Jersey	12 September 1985	1773.52	\$233,239.25	250000	Leather Bag
LCai31982	Larry	Cain	New Jersey	24 July 1987	1736	\$229,732.71	250000	Leather Bag
FQui29785	Floyd	Quinn	New Jersey	18 July 1981	1484	\$206,181.31	250000	Leather Bag

5. Which product will be advertised the most?

Sweaters emerged as the most recommended product, as depicted in Figure 3, which presents a donut chart illustrating the product insights.

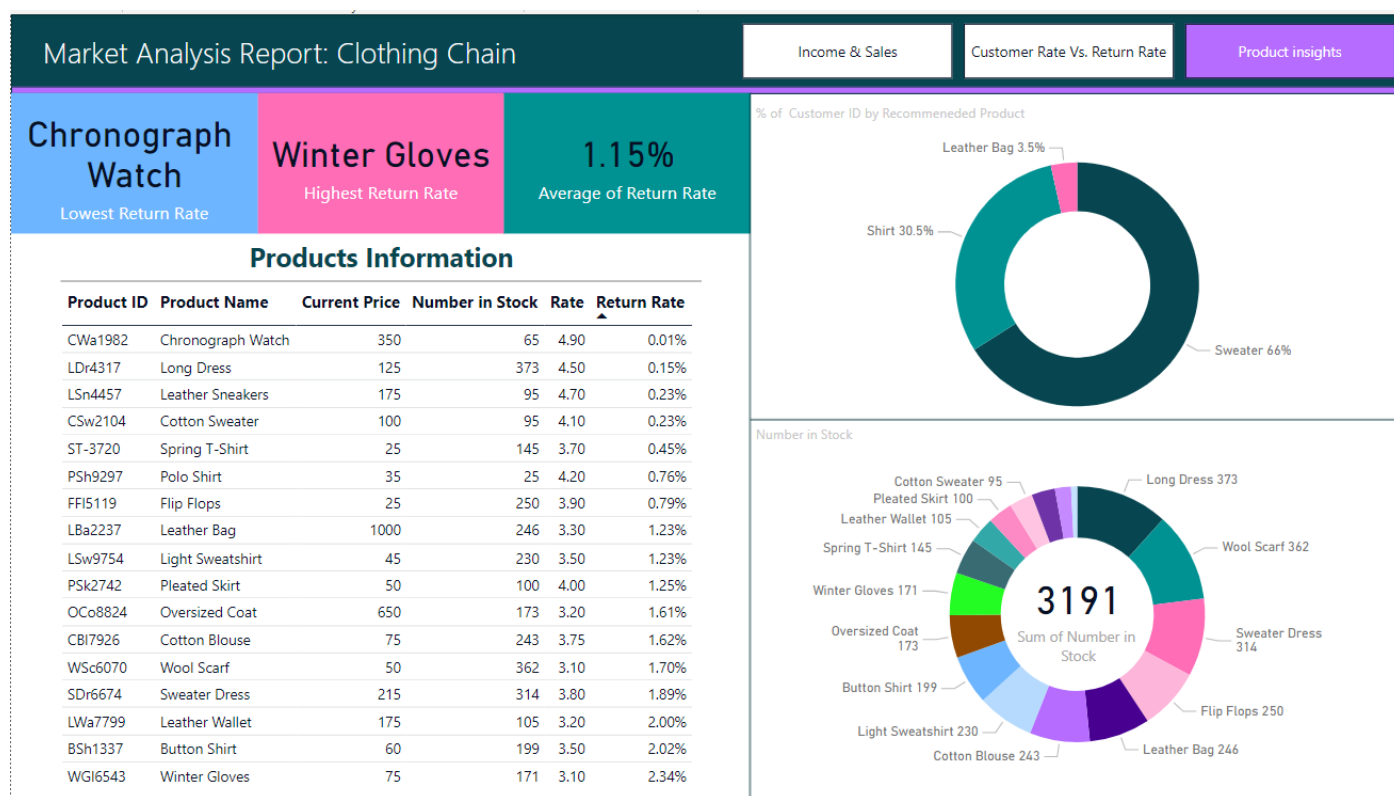


Figure 3 A screenshot from the Power BI report, displaying Products Insights.

In conclusion, the statistical analysis provides valuable insights for the marketing strategy. By understanding the positive correlation between income and sales, the company can target customers with higher incomes for specific marketing campaigns. Additionally, the negative correlation between ratings and return rate suggests the need for improving product quality and addressing customer concerns. Based on the results of the analysis, it is recommended to focus marketing efforts on promoting Sweaters to maximize advertising impact.