Market Analysis Report for National Clothing Chain

Introduction

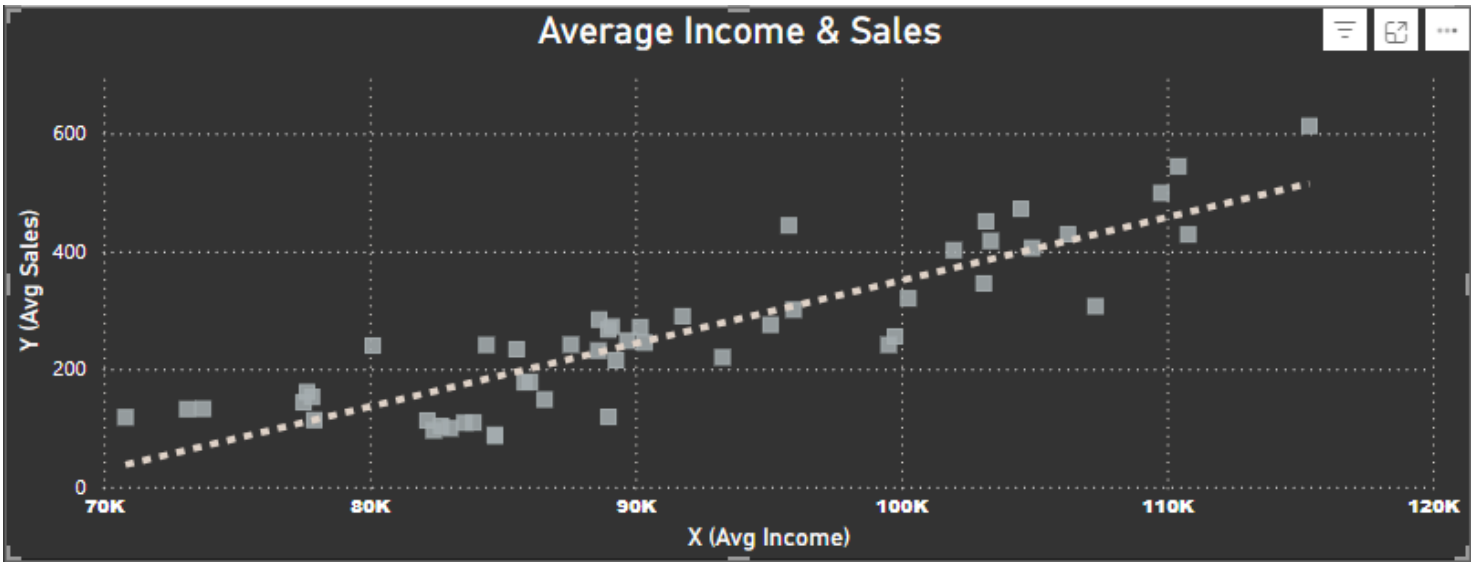
In an effort to optimize marketing strategies and enhance product offerings, this market analysis report utilizes Power BI to dissect and understand various demographics and economic factors affecting consumer behavior within the national clothing market. By integrating and analyzing data such as average income by state, customer purchase patterns, and product inventories, we aim to uncover insights that will not only help us understand current market dynamics but also forecast future trends. This report will guide our marketing initiatives, ensuring they are both data-driven and strategically aligned with our goal of enhancing customer satisfaction and maximizing profitability.

Questions Answering for the Project

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

  As we can see in our data & the regression model the **R^2** is **0.78,** This value suggests that about **78%** of the variability in sales can be explained by the variability in average income across the dataset, it's a good fit for the model.

  Also the correlation between sales and income is **0.88**, which means it's a strong positive relationship with **88%**.

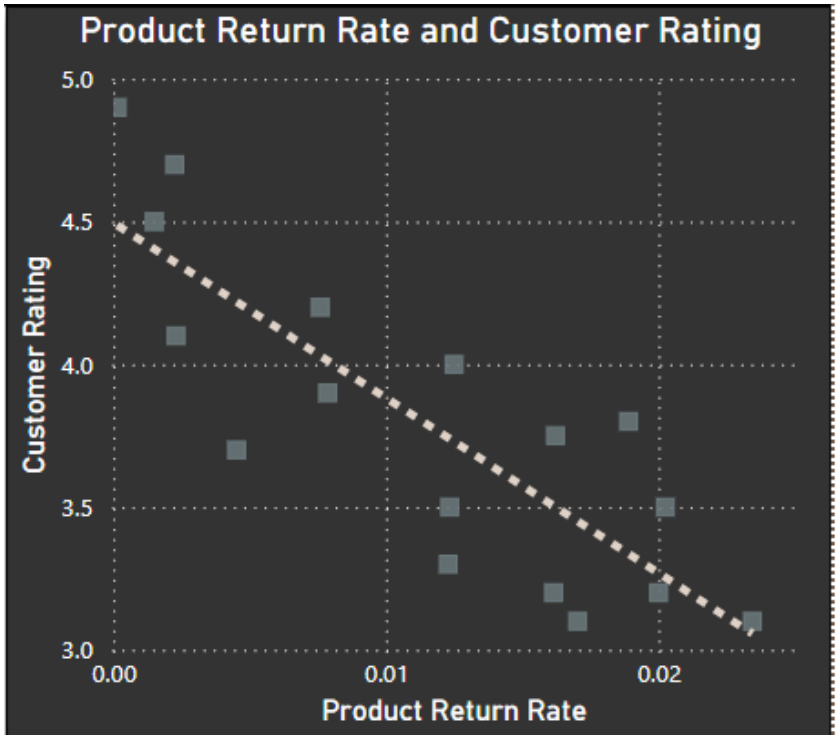


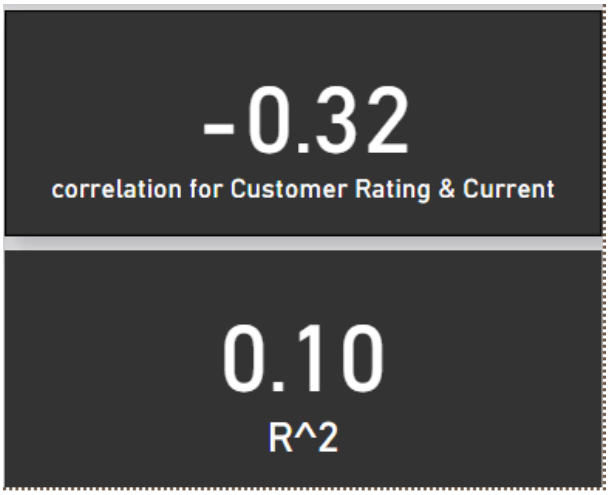
0.78	0.88
R^2 (Sales & Income)	correlation Avg(Sales & Income)
X = (-722.14 - Y) / (-0.0107)	
Income Formula	
Y(Sales) = 0.0107 X(Income) + (-722.14)	
Sales Formula	

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

  The correlation **R^2** between customer ratings and product return rate is **0.10**, which meaning that only **10%** of the variability in customer ratings can be explained by the variability in product return rates.

  The correlation coefficient for between customer ratings and product return rate is **-0.32,** which means it's an inverse relationship & not strong.





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

X = (-722.14 - Y) / (-0.0107)

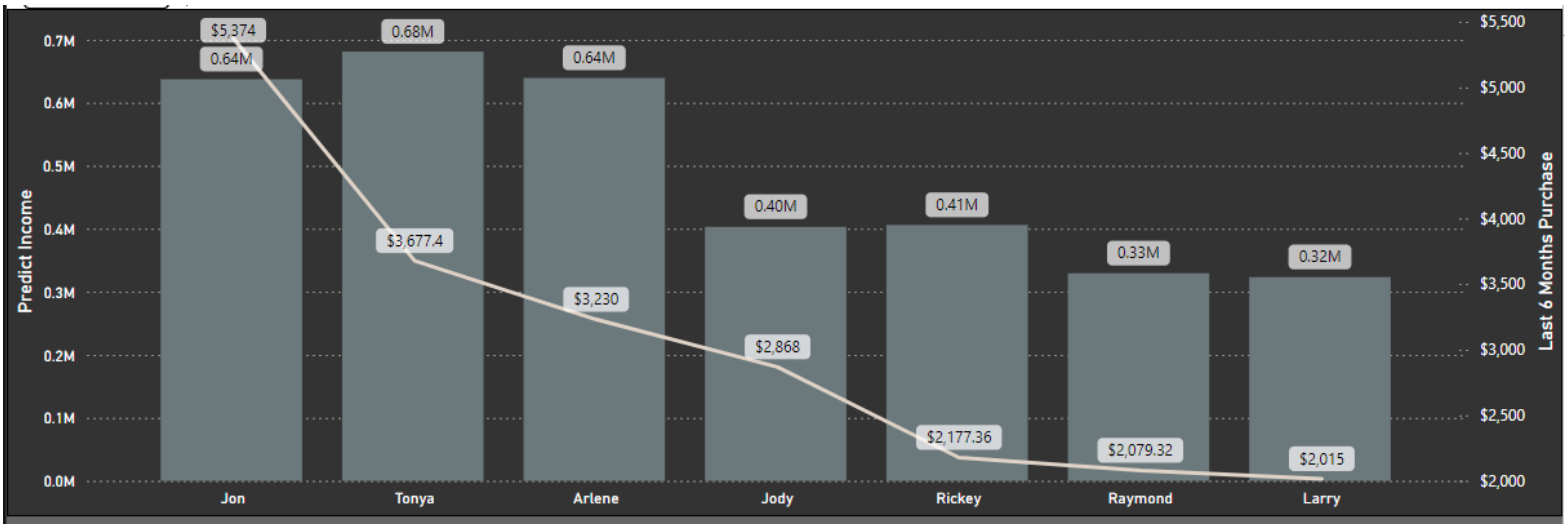
Income Formula

Y(Sales) = 0.0107 X(Income) + (-722.14)

Sales Formula

- Which customer do you predict has the highest income?

  As we can see here in this chart, it seems that Jon has the highest income with **0.64M** , **637,222** of predicted Income, since he's last purchases is **$5,374** , but Tonya has the highest predicted Income with **681,130.**



First Name	Sum of Predict Income	Sum of Last 6 Months Purchases
Jon	637,222.43	$5,374
Tonya	681,130.84	$3,677.4
Arlene	639,317.76	$3,230
Jody	403,016.82	$2,868
Rickey	405,960.75	$2,177.36
Raymond	329,308.41	$2,079.32
Larry	323,297.20	$2,015

- Which product will be advertised the most?

  As we can see in this visuals that the product will be advertised the most is "**Sweater**", since it's the highest purchased last 6 months, also we can see here that most of the people who has Range Income with 80000 is buying the most "**Sweater**", so we should focus on developing this cloth.