# Customer Demographics Report

There is a negative correlation between the age customers and the region where the transaction took place. Customers from the West region tend to be younger, then customers from the East, then the South, and the oldest customers tend to be in the North. (**See Graph 1**)

There is no correlation between the number of items bought and the amount spent. The linear relationship is very weak or non-existent. (**See Graph 1**)

**Graph 1**.

Chart, waterfall chart

Description automatically generated

When predicting the region, the model that provides the most accuracy is The Random Forest Classifier. It has an accuracy of 60% and the most important features to predict the region are the amount spent and whether the transaction was online or in-store, respectively. (**See Table 1**)

**Table 1.**

Table

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When predicting the age, the model that provides the most accuracy is The Gradient Boosting Classifier. It has an accuracy of 64% and the most important features to predict age are the region and the amount spent, respectively. (**See Table 2**)

**Table 2.**

Table

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