Multicollinearity Analysis
Given the estimated model is a non-linear model we specifically examine the variance covariance matrix of the estimated model. The variance covariance matrix did not reveal any high covariance values between the different independent variable specific parameters. Further, we conducted a Pearson correlation coefficient analysis to illustrate that the independent variables employed in the final specification do not exhibit significant correlation. The results are plotted in Figure 1. From the comparison, we can clearly observe that apart from the quarter time period variables all other variables exhibit correlation below acceptable levels (about 0.5 maximum). For quarter variables, as the different quarters are part of the same temporal variable, the correlations observed are expected. Overall, from our variable analysis we can conclude that multicollinearity is not a major factor in our final model results.

FIGURE 1 Pearson Correlation between the Variables

Legend:
V1 = Quarter 2 and 4
V2 = Quarter 3
V3 = Top 10 tourist attraction state
V4 = Bottom 10 tourist attraction state
V5 = No. of airports in 50-mile buffer
V6 = South region
V7 = North-East region
V8 = Pacific region
V9 = Low education status
V10 = Median Income
V11 = Out of state employment
V12 = Population