



Household Major Purchase Decision in Nebraska

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Motivation

There are many different elements that will help shaping the household spending and purchasing decision such as policies, finances, and economic expectation.

- Income play an important role in household finance conditions.
- Income levels might lead to different attitudes for households in current major purchasing.

Objective

To understand if different level of income will impact the household making a current major purchase decision in Nebraska.

Data

- The data came from the Consumer Confidence Survey in 2019. The survey asked five questions about the household consumptions and collected demographic data form respondents.
- Overall, there were about 28.556% of people think it is a good time to household major purchase in the survey.

Model

Using Logistic Regression to estimate the factors that will impact the chances that household will make a current major purchase decision.

- Logistic Regression Equation

$$E(y) = \frac{e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p}}{1 + e^{\beta_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \beta_p x_p}}$$

- The dependent variable
 - 1 represents people think it is a good time to make a major purchase
 - 0 represents people who do not think it is not a good time to make a major purchase

- Independence variable:
 - Household Income (< 50K, 50-100K, >100K)
- Control variables include:
 - Gender (male-1, female-0)
 - Total number of people in the household
 - Age of the survey respondents
 - Age Square
 - Quarters (Q1,Q2,Q3,Q4)
 - Text Sentiment (positive-1, negative & neutral-0)

Regression Result

Regression results for purchase decision

Variable	Std. error	P - value
Income < 50K	0.1585787	2.63e-08 ***
Income 50 - 100K	0.1369165	0.020188 *
Q2	0.1567567	0.345580
Q3	0.1548142	0.471945
Q4	0.1583238	0.160844
Gender	0.1242741	0.000607 ***
Number of people	0.0398644	0.905498
Age square	0.0002163	0.005955 **
Age	0.0262326	0.003302 **
Text Sentiment	0.1219571	0.263878

***Significant at the 0.001 level

**Significant at the 0.01 level

*Significant at 0.05 level

Margin Effect

Variable	AME
Income < 50K	-0.1752
Income 50 – 100K	-0.0632
Q2	0.0294
Q3	0.0221
Q4	0.0441
Gender	0.0846
Number of people	-0.0009
Age square	-0.0001
Age	0.0153
Text Sentiment	-0.0271

Reference

Curtin, Richard. (2011). The Stagnation Two-Step: Consumer Pessimism and Consumer Spending. *Economic Outlook Conference*.

Conclusion

Household current major purchase decision can depend on their age, income, and gender. The elements that will increase the chance for households to make a current major purchase decision include:

- Lower income respondents
- Older age respondents
- Male respondents

Limitation

- The surveys are only come from 2019.
- The survey is relatively short which do nor contain too much information.
- The definition for “major purchase” might be different for each household.