

Capstone Project_Qing (Ray) Chang

Avocado & Health Analysis

Business Understanding Phase

Determine Business Objectives

- **Background**

In recent days, people believe avocado is the new “super” food. It is loaded with vitamins and minerals, including potassium, magnesium, vitamin C, vitamin E, vitamin K and lutein. It is also a good source of healthy fat and fiber. As we know, our body needs Vitamins C for the growth and repair of tissues in the body, Vitamin K for helping blood to clot, potassium to regulate blood pressure, and manganese that helps in the regulation of brain and nerve function. If Avocado has them all, does it really help us to become more healthier as we consume more?

A health conditions research was recently done by using Community Health Status Indicators (CHSI) which provides key indicators for people in the United States. The CHSI dataset includes more than 200 measures for most of United States counties.

As a Non-profit organization, our goal is to find the relationship between Avocado’s sale volume from 2015 -2017 and people’s health KPI(Stroke, Cardiovascular, Diabetes)

- **Business Objectives**

To prove if Avocado really help reducing the chance of people getting stroke, cardiovascular, or diabetes, and provide food recommendation to consumers.

- **Business Success Criteria**

Find the correlation between 2015 -2017 Avocados sale volume and the 3 types of diseases

Assess Situation

- **Resources Inventory**

Data from HASS Avocado Board

Data from Community Health Status Indicators (CHSI)

- **Requirements Assumptions, Constraints**

The datasets for the research were based on samples from each region in US. Not the entire US population.

- **Terminology**

CHSI - Community Health Status Indicators, provides key indicators for people’s health (the higher KPI means less chance to get the disease)

Total volume - Total number of avocados sold

Stroke- a medical condition in which poor blood flow to the brain results in cell death

Cardiovascular- is a class of diseases that involve the heart or blood vessels

Diabetes- a chronic condition associated with abnormally high levels of sugar in the blood

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- **Risks & Contingencies**

This research is not a health claim, it is a representation that states a relation exists between a food or component of that food and health. It is for reference only.

- **Costs & Benefits**

Both documents are provided by Government Site and NFP organization with no charge.

Purpose of this research is to provide a better understanding of the relation between avocado and diseases in US.

Determine Analytic Modeling Goals

- **Model Goals**

To find the correlation between each variables by using analytic model, which involves Univariate Analysis and Multivariate Analysis

- **Model Success Criteria**

Variable Names: Types, Total Volume, Total Bags, Region, year, states, cancer, cardiovascular, stroke, obesity, diabetes

Produce Project Plan

- Understand what the Stakeholders (Consumers) need, and provide useful food recommendation for stakeholders
- Prioritizing goals by identifying the relation between years and total volume, years and each diseases, then find out what relation between total volume and diseases.
- Project Schedule: (one week)
 - 2 days for Data: Collect Initial Data, Describe Data, Explore Data, Verify Data Quality
 - 2 days for: Select Data, Clean Data, Construct Data, Integrate Data, Format Data
 - 2 days for: Select Modeling Technique, Generate Test Design, Build Model, Assess model
 - 1 day for: Evaluate Results, Review Process, Determine Next Steps
 - 1 day for: Create Deployment Plan, Monitoring Plan, Produce Final Report, Review project