

The Effect of Environmental Consciousness on Restaurant Success

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Abstract

We are currently experiencing an environmental revolution; vegetarianism, veganism and organic local produce, along with many other environmentally conscious practices have become much more prevalent in the past decade. Many restaurants have adopted environmentally friendly practices such as using recyclable packing materials, having designated receptacles for trash, recycling, and composting and using organic or local ingredients. What we wish to find out is whether eco-friendliness affects restaurants' success rates. Can environmental-friendly decisions in the restaurant business drive customer satisfaction and increase the chances for a restaurant to succeed? To find this out, we must measure how environmentally conscious a restaurant is, as well as determine how to measure a restaurant's success. We plan on determining a restaurant's environmental rating through data collected from the Green Restaurant Association (1), which gives restaurants a green rating based on a variety of factors. However, this data source is limited so we also intend to search for keywords such as "recycle", "reusable", "compost", "organic", "local" in Yelp's restaurant dataset(2). To determine a restaurant's success rating, we plan on using the customer ratings on Yelp as well as the restaurant's inspection results (3). We plan to compare and analyze features of various restaurants including: presence of a recycling program, compost bins, surrounding greenery of the area. Some features we wish to look at are a restaurant's green rating, type of food, price range, inspection grade, number of locations, and opening hours. Alternative data sources that we wish to explore are complaints around the area (rat complaints)(4) and crime rate in a restaurant's neighborhood (5). We plan on joining the datasets together through restaurant name (1 and 2) and through latitude and longitude or neighborhood (2 and 3,4,5). A restaurant is a business like any other, trying to minimize costs and maximize profits. Because the restaurant business is consumer centric and very competitive, they often look towards increasing customer loyalty and customer ratings to increase profits. Although being more environmentally conscious can be more expensive for restaurants, we hypothesize that these restaurants are still able to be successful. If our findings show this, perhaps more restaurants will be incentivized to go green. Our tentative timeline for this project is business understanding (reading related works, solidifying problem and plan) by March 13, data understanding and preparation by April 10, modeling and evaluation by April 24 followed by deployment and preparing for publishing and presentation by May 15. We will all participate in every step of the analytics process and divide the work at each stage.

Data Sources:

1. <http://www.dinegreen.com/find-restaurants>
2. <https://www.yelp.com/dataset>
3. <https://data.cityofnewyork.us/Health/DOHMH-New-York-City-Restaurant-Inspection-Results/43nn-pn8j>
4. <https://data.cityofnewyork.us/Health/Rodent-Inspection/p937-wjvj>
5. <https://data.cityofnewyork.us/Public-Safety/NYPD-Complaint-Data-Historic/qgea-i56i>