Data Management and Data Analytics Capstone Topic Approval Form

Capstone Topic Approval Form

The purpose of this document is to help you clearly explain your capstone topic, project scope, and timeline. Identify each of the following areas so you will have a complete and realistic overview of your project. Your course instructor cannot approve your project topic without this information.

Student Name: Ryan Shaw

Student ID: 001403583

Capstone Project Name: Retail Sales and Temperature

Project Topic: Retail Sales

Research Question: Does temperature affect brick and mortar retail sales?

Hypothesis: Does temperature affect brick and mortar retail sales?

Context:
Forty-five retail stores located in different region across the country. All with different weather conditions are looking to see if temperatures influence the total sales.

Data:
https://www.kaggle.com/datasets/manjeetsingh/retaildataset

Data Gathering:
I will download the raw CSV files clean the data with Python and Tableau Prep. Then load the data to Tableau Desktop for analysis.

Data Analytics Tools and Techniques:
Tools: Tableau Desktop, Tableau Prep, Tableau Public if needing to publish

Techniques:
I will be using a correlation test to analyze this data. First by finding the mean sales for each retail location. Then by finding the mean temperature for each location, after I will be comparing the sum of sales for each day that is above or below the mean temperature. This will allow us to see if the sales are higher or lower than the stores average sales day.

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Justification of Tools/Techniques:
Tableau is a powerful tool not only for running analysis on large data sets, but also for visualizing the results in an easy-to-read dashboard that can portray results in a strong manner.

Application Type, if applicable (select one):
☐ Mobile
☐ Web
X Stand-alone

Programming/Development Language(s), if applicable: Python, VizQL

Operating System(s)/Platform(s), if applicable:

Database Management System, if applicable:

Project Outcomes:
The deliverable will be neat dashboards highlighting the results of average temperature and sales. As well as diving into variables that do not fit the hypothesis.

Projected Project End Date: 11/25/2022

Sources:
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6639881/#:~:text=Two%20main%20statistical%20methods%20are,such%20as%20student's%20t%2Dtest.

Human Subjects or Proprietary Information
Does your project involve the potential use of human subjects? (Y/N):
No
Does your project involve the potential use of proprietary company information? (Y/N):
No

STUDENT SIGNATURE

Ryan Shaw

By signing and submitting this form, you acknowledge that any cost associated with the development and execution of your data analytics solution will be your (the student) responsibility.

Ryan Shaw

TO BE FILLED BY A COURSE INSTRUCTOR

The capstone topic is approved by a course instructor.

James L. Ashe
James Ashe, PhD

COURSE INSTRUCTOR'S NAME AND SIGNATURE:

COURSE INSTRUCTOR APPROVAL DATE: Monday, October 17, 2022

Project Compliance with IRB (Y/N): Y