IDEA 2:

"Analyzing Trends in Vietnam College Entrance Scores and University Admissions: Insights from 2010–2023"

Project Overview:

This project aims to analyze the trends and patterns in Vietnam’s college entrance exam scores over the years, focusing on how different factors affect students' performance and university admission rates. Using publicly available data on exam scores from different regions, subject performance, and admission thresholds from 2013 to 2023, the project seeks to understand the following:

1. Score Distribution Trends: How have the average and median scores for different subjects (Math, Literature, English, Physics, Chemistry, etc.) changed over time?

2. Regional Performance Differences: Are there notable differences in performance between different regions of Vietnam? Which provinces consistently perform better or worse?

3. Impact of Education Reforms: How have education policy changes (e.g., curriculum reforms, changes in exam format) affected overall exam performance over the years?

4. University Admission Thresholds: What are the trends in minimum admission scores (cut-off points) for top universities? Have these thresholds risen or fallen over the years?

Data Sources:

- College Entrance Exam Results (from the Ministry of Education and Training of Vietnam, local education departments, or publicly available datasets)

- University Admission Threshold Data (from individual universities and colleges)

- Education Reform Information (policy documents or government reports on education reforms in Vietnam)

Key Analytical Techniques:

- Descriptive Statistics: To visualize score distributions, mean, median, and standard deviation across subjects and years.

- Time Series Analysis: To identify trends in entrance scores and admission thresholds over the years.

- Geospatial Analysis: To map performance differences across regions.

- Regression Analysis: To study the impact of different factors on entrance scores.

- Cluster Analysis: To group regions based on performance similarities.

Expected Outcomes:

- A comprehensive report highlighting the trends and factors affecting college entrance exam scores in Vietnam.

- Visual dashboards showing performance differences by region, subject, and gender.

- Policy recommendations on how to improve student performance and reduce regional or gender disparities.

IDEA 3:

“Analysis of Product Performance on Sephora”

Objectives

1. Analyze product ratings and reviews to identify top-performing brands and categories.

2. Investigate the relationship between pricing strategies and customer love/engagement.

3. Evaluate the effectiveness of marketing flags and limited offers on sales performance.

Methodology

1. Exploratory Data Analysis (EDA):

- Visualize the distribution of ratings and reviews.

- Identify the most popular categories and brands.

- Analyze price trends in relation to ratings and number of reviews.

2. Statistical Analysis:

- Conduct correlation analysis between pricing and customer engagement (love, reviews).

- Compare average ratings and reviews for products with marketing flags versus those without.

4. Machine Learning (optional):

- Build predictive models to forecast product ratings based on features like price and marketing flags.

Expected Outcomes

- Insights into what drives product success on Sephora’s platform.

- Recommendations for brands on pricing strategies and marketing approaches.

- Visualizations to showcase findings.