Hadeel Ghurab

Data Analytics Portfolio

GitHub - LinkedIn -Tableau

About Me

Hello, my name is Hadeel Ghurab. I have a background in e-commerce and the tech sector, where I worked as a data analyst specialist. Recently, I made the decision to transition my career and start my own consultation firm. I am enthusiastic about analyzing patterns related to customer decisions and assisting companies in utilizing data for strategic and business decision-making.

I have underwent a data analyst program which has equipped me with the necessary technical knowledge. Combined with the soft skills I've developed over the years, my ability to analyze, tell a compelling story, and my passion for learning and problem-solving make me a valuable asset to any team. I am eager to further develop in this field, gain hands-on experience, bridge the gap between technical and business perspectives, and continue my learning journey.

Technical Skills

- Tableau
- SQL
- Python
- Excel + Google Sheets
- Powerpoint + Google Slides

Soft Skills

- Proactive with an analytical mindset
- Problem solving and teamwork
- Adaptability
- Strategic outlook and a critical thinker
- Communication

Projects

01

GameCo

Video Game Popularity Data Project

02

US Flu Season

Preparing for Influenza Season

03

Rockbuster

Movie Rental Relaunch Strategy

04

Instacart

Online Grocery Basket Analysis

05

Pig E. Bank

Bank's Compliance Department Analysis

06

Global Suicide Rates

Suicide Rates Analysis

01

GameCo

Video Game Popularity Data Project

Project 01: GameCo

Goal: GameCo, a hypothetical game company, wanted to use data to inform the development of new games.

Action: Performed descriptive analysis on their video game set and made use of visualizations in Microsoft Excel to get a better understanding of how GameCo's new games might fare in the market along with providing marketing strategy recommendations to the executives at GameCo.

Data Sets

- Data Set
- Data provided by VGChartz
- Data contains historical video game sales from 1980 - 2016

Skills

- Data Quality Checks
- Data Integrity
- Descriptive & Statistical Analysis
- Data Visualization
- Data Storytelling

Tools

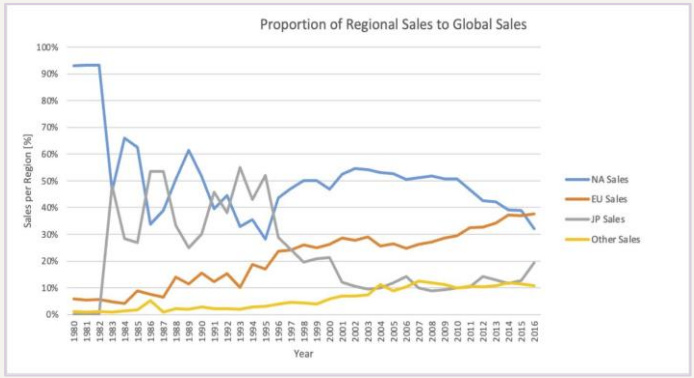
- Microsoft Excel

Key Insights

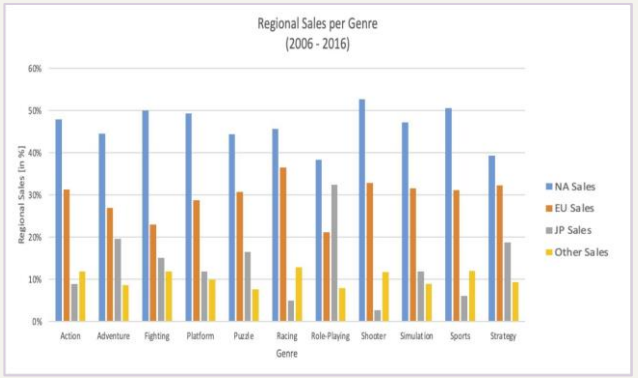
Details

- Sales figures have varied over geographic regions over the years
- North America and Europe are the the leading contributors to global sales, even with NA's declining sales. Japanese sales has fluctuated majorly with steady decline from mid 90's till the year 2015
- Action, Sports and Shooter are the most popular genres on a global level

Sales Analysis



Popular Genres

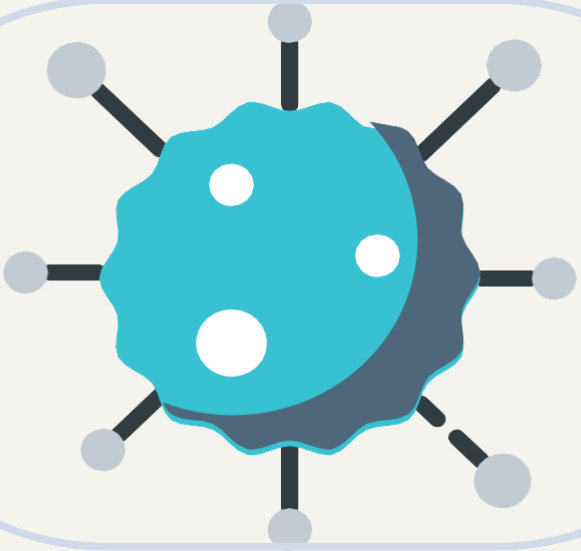


Recommendations

Marketing activities should be segmented as per the following regions:

- **North America & Europe**
  ->To make use of same marketing effort, invest in same genres and platforms for these two regions. (Genre: Shooter, Sports and Action |Platform: PS4 and Xone)
  ->Introduce app version of games to monetize on in-app purchases

- **Japan**
  ->Invest in genres that perform best such as Role-Playing, Strategy and Puzzle



02

US Flu Season

Preparing for Influenza Season

Project 02: US Flu Season

Goal: To help plan for flu season to a US medical staffing agency, that provides temporary workers to clinics and hospitals on an as-needed basis.

Action: Analyzed data to communicate insights to stakeholders by distilling business requirements and requests into questions to answer with an analysis. Sourced and curated data in Microsoft Excel and created visualizations in Tableau to present to stakeholders in an easily consumable data story to help proactively plan for medical staffing for flu season across the country.

Data Sets

- CDC Influenza Deaths Data set
- US Census Bureau Population Data set
- CDC Influenza Visits Data Set
- CDC Influenza Lab Tests Data set
- CDC Influenza Immunization Rates Data set

Skills

- Designing Research
- Data Profiling, Integrity & Quality Measures
- Data Manipulation & Analysis
- Statistical Analyses & Hypothesis Testing
- Data Visualizations
- Data Storytelling

Tools

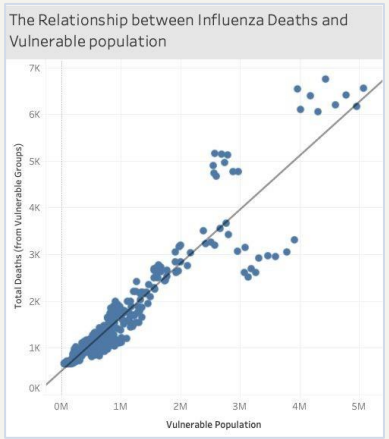
- Microsoft Excel
- Tableau

Key Insights

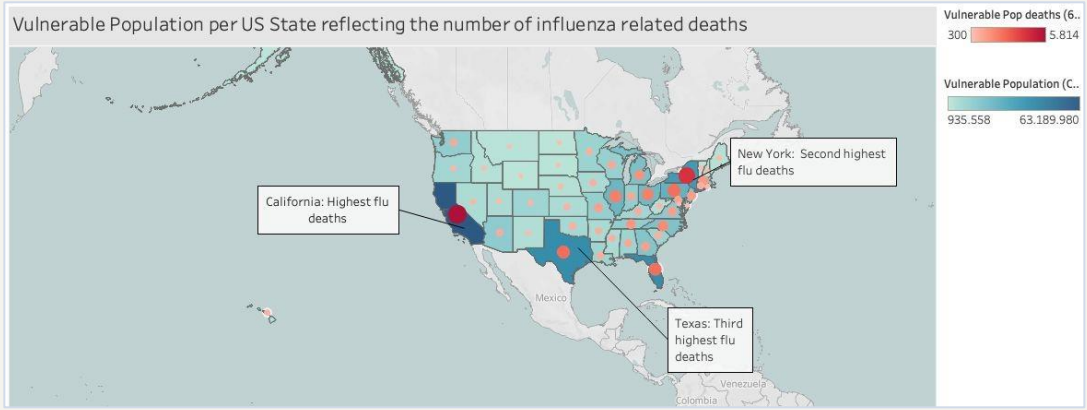
Details

- Flu is a seasonal virus with peak season in December and January
- Positive correlation between states with higher vulnerable population (age group of 65+ years) and flu deaths
- Top three states with highest vulnerable population and flu deaths:
  1. California
  2. New York
  3. Texas

Correlation between vulnerable population & flu deaths

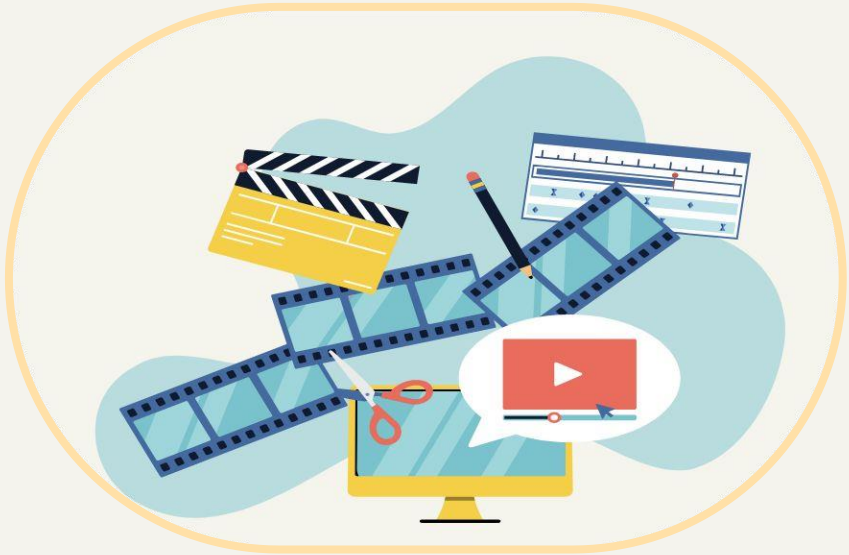


States with high vulnerable population and flu deaths



Recommendations

- Plan on sending staffing resources to states with a higher vulnerable population so the focus for the top three states should be Califomia, New York and Texas
- Encourage flu shots for vulnerable population (age group of 65+ years)
- Increase awareness regarding the timing of flu season



03

Rockbuster

Movie Rental Relaunch Strategy

Project 03: Rockbuster

Goal: Rockbuster Stealth LLC, a movie rental company wants to launch an online video rental service in order to stay competitive. They want data-driven answers to key business questions to use for their 2020 company relaunch strategy.

Action: Analyzed Rockbuster's data in a relational database management system (RDBMS) by using SQL. Created an Entity Relationship Diagram and Data Dictionary to better understand relationships between tables. Performed complex SQL queries such as inner joins, subqueries, and common table expressions to understand the data.

Data Sets

- Rockbuster Stealth Data set
- Data contains 15 tables including customer data, film data and transactional data

Skills

- Relational Database (RDBMS)
- Data Modeling
- Data Wrangling
- SQL queries
- Database Visualizations

Tools

- Microsoft Excel
- Tableau
- PostgreSQL Database
- pgAdmin4
- SQL

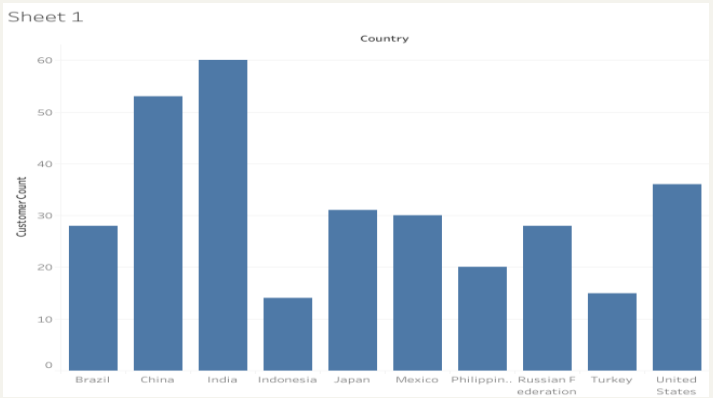
Key Insights

Details

- Rockbuster customers are spread across the globe, with the followi five countries generating the highest sales:
  1)India
  2) China
  3)US
  4) Japan
  5) Mexico
- Sports, Sci-Fi, Animation, Drama and Comedy are the top performing genres
- Countries such as Turkey and Indonesia have high paying customers but demand is low

Customer distribution globally

Top ten countries in term of customer count



Recommendations

- Focus on markets with a high customer count (e.g. India, China, US, Japan and Mexico, etc.) by introducing referral programs and discount offers for loyal customers
- Explore countries (such as Turkey or Indonesia) where there are high paying customers but demand is low
- Reduce costs of physical stores with an online streaming portal along with localizing content for popular movie genres (such as Sports, Sci-Fi, Animation, etc.)

04

Instacart

Online Grocery Basket Analysis

Project 04: Instacart

Goal: Instacart, an online grocery store that operates through an app, wants to use customer orders to identify sales pattern and be able to customize marketing campaign for different customers.

Action: Performed an initial data and exploratory analysis of some of Instacart's data in order to derive insights and suggest strategies for better segmentation for their customers.

Data Sets

- Open-sourced customer's Data set provided by Instacart
- Data Dictionary

Skills

- Coding with Python
- Data Wrangling & Subsetting
- Data Consistency & Quality Checks
- Data Interpretation
- Data Visualizations

Tools

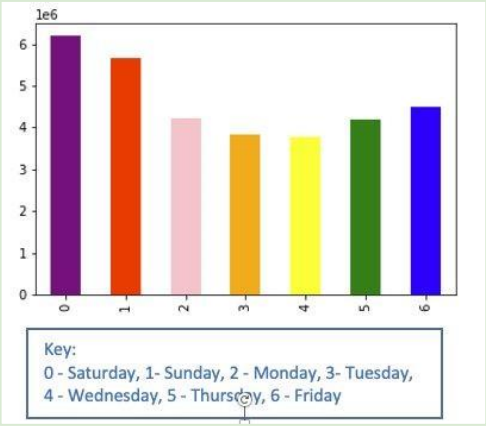
- Microsoft Excel
- Python
- Anaconda
- Jupyter Notebook with libraries such as panda, NumPy, seaborn, Matplotlib, SciPy
- GitHub

Key Insights

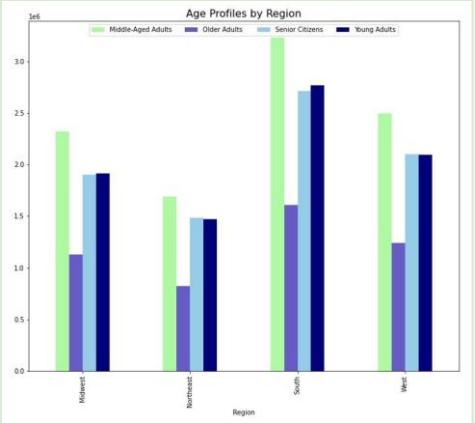
Details

- Saturday and Sunday are the busiest days with the busiest time of day between 10 am - 11 am and post 5pm
- Majority(51%) of Instacart's customer base comprises of regular customers, meaning they spend around >$10 and <=$40 as their maximum order
- Majority of the customer base across all fours regions belongs to the middle-aged (35 - 54) group
  Age profile has been categorized as follows:
  * Young Adults (18 - 34)
  * Middle-Aged Adults (35 - 54)
  * Older Adults (55 - 64)
  * Senior Citizens (65+)

Busiest day of the week



Customer Profile Analysis



Recommendations

- Place ads on days and time when orders are at lowest (Tuesday and Wednesday during 12pm - 4pm) to boost sales
- Offer bundled offers via in-app notifications to retain regular customers and to convert them into loyal customers early on in their customer journey
- Tailor ads for products based on the type of demographic information (e.g. in South, the majority of customers are of 18-25 yrs)

05

Pig E. Bank

Bank's Compliance Department Analysis

Project 05: Pig E. Bank

Goal: Pig E. Bank, a hypothetical bank, needs analytical support for it's anti-money-laundering compliance department to help assess client and transaction risk along with help with reporting metrics

Action: Carried out steps in the data mining process, including data cleaning and descriptive statistics on Pig E.Bank's data to leverage data insights to advance the effectiveness and efficiency of Pig E. Bank anti-money laundering (AML) models.

Data Sets

- Pig E. Bank's client data set

Skills

- Data Mining
- Data Bias, Security and Privacy
- Predictive Analysis
- Time-series Analysis & Forecasting

Tools

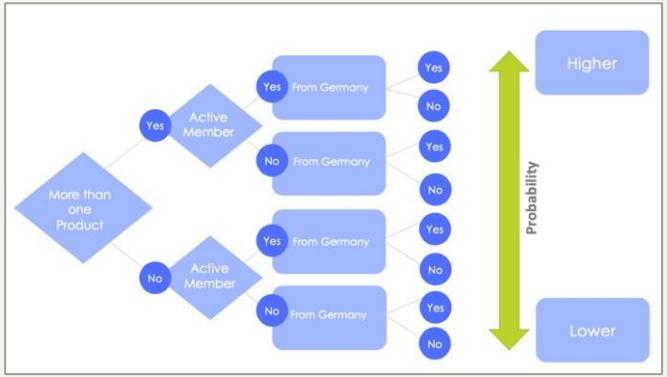
- Microsoft Excel
- GitHub

Key Insights

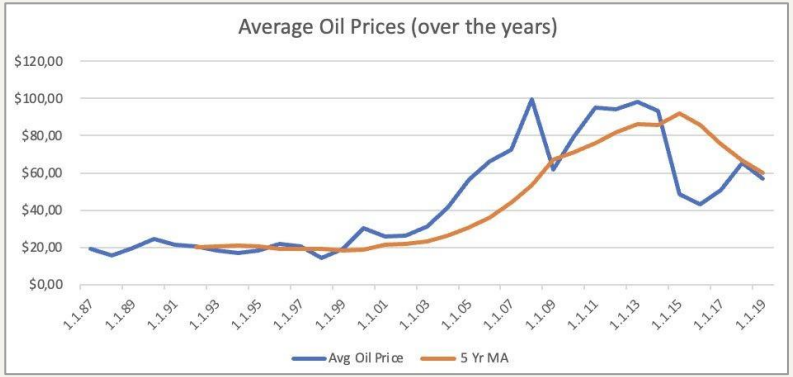
Details

- Customers with only one product are more inclined to leave
- Inactivity status of customers and those based Germany are more likely to exit the bank
- The average oil prices caught up with the 5yr moving average(MA) in the year 2018-2019, and is on the decline.

Decision Tree



Time series analysis & forecasting to analyze oil price movements



Recommendations

- For the sales team to to increase customer retention and minimize client loss, it should focus on the client attributes such as activity status, customers having a certain amount of products and the location of the customer.

- Pig E. Bank should consider investing when the oil prices surpass the 5 yr moving average mark.

06

Global Suicide Rates

Suicide Rates Analysis for Suicide Prevention

Project 06: Global Suicide Rates

Goal: To find main reasons influencing suicide rates over the years 1985 - 2016 in order to prevent suicides

Action: Carried out steps in the data mining process, along with the use of core Python visualization libraries and a deep dive into machine learning and regression analysis, developed key insights for suicide prevention.

Data Sets

- Suicide Rates Overview 1985 - 2016 from Kaggle

Skills

- Data Cleaning
- Data Wrangling
- Data Merging
- Regression Analysis (Supervised Machine Learning)
- Clustering (Unsupervised Machine Learning)
- Time-series Analysis & Forecasting
- Data Visualization

Tools

- Python
- Excel
- Tableau

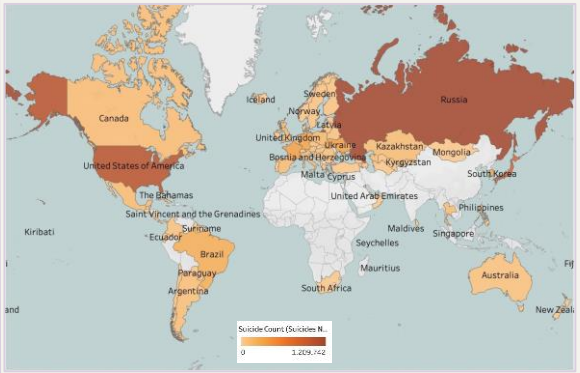
Key Insights

Details

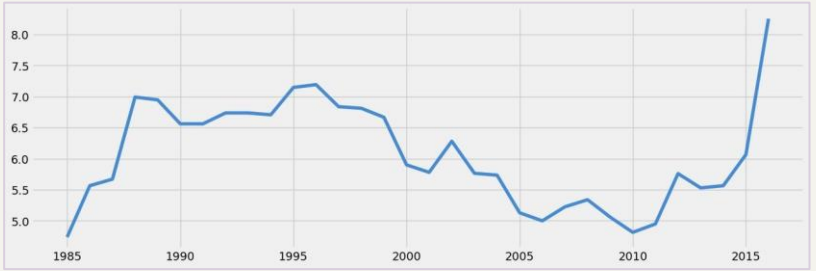
- Following three countries have the highest suicide count obver the years 1985 - 2016:
  1. Russia
  2. United States
  3. Japan

- Despite the recession post 2008, we see a decrease in suicide rate. Another key insight is the spike in global suicide rate after the year 2015.
  Possible reasons behind increase in numbers:
  -Increase in mental health problems
  -Increase in social media usage which can, in some cases, lead to psychological problems due to the unrealistic standards and images portrayed by digital influencers

Suicides in the world (1985 - 2016)



Global Suicide Rates Trend (1985 - 2016) as per time-series analysis



Recommendations

- Increase public awareness of suicide prevention on a country level
- Increase mental health awareness especially amongst younger generation
- Make use of emerging and evolving technology to effectively communicate to and reach at-risk populations

Thanks!

Do you have any questions?

hadeelghurab@hotmail.com

https://public.tableau.com/app/profile/hadeel.ghurab

GitHub - LinkedIn -Tableau