CAREERFOUNDRY

Introduction to Data Analytics Project Brief:

Video Game Popularity Data Project

Objective

You're an analyst for a new video game company, GameCo, which wants to use data to inform the development of new games. As such, you've been asked to perform a descriptive analysis of a video game data set to foster a better understanding of how GameCo's new games might fare in the market.

Key Questions

GameCo executives are open to hearing any insights you can pull from the data but are specifically interested in these questions:

- Are certain types of games more popular than others?
- What other publishers will likely be the main competitors in certain markets?
- Have any games decreased or increased in popularity over time?
- How have their sales figures varied between geographic regions over time?

Context

As a professional data analyst, it's essential that you're able to understand a problem, map it onto a type of analysis, use data to confirm a hypothesis, and communicate any insights back to the client. Producing an end-to-end analysis will allow you to present the work you've done while displaying your hands-on technical skills.

Most analyses these days are done using computer software, which is exactly what you'll focus on throughout this course, developing the behind-the-scenes technical skills that form the core of any good analysis. While your project will involve data from a specific domain, the individual Tasks could be applied to any domain and will highlight your aptitude as a problem solver for a variety of clients.

The goal here is for the individual Tasks to help you work incrementally towards your final analysis. As well as helping break your final project into more manageable chunks, the Exercises are designed to introduce you to the ins and outs of the data analyst's workflow.

By the end of the course, you'll have a complete analysis that walks GameCo through a problem, including understanding the business problem, grouping and summarizing data, formulating hypotheses, using data to (dis)confirm those hypotheses, and visualizing and presenting the insights you've uncovered.

Target Audience

The audience for this project is the hypothetical company GameCo, specifically its executives who've asked you to gather insights. For a further sense of the "who," please refer to the hypothetical stakeholder quotes below:

- **Vice President of Marketing:** "We're always eager to know which genres of games are performing the best so we can allocate our marketing budget efficiently."

- **Chief Financial Officer:** "It's imperative that we keep tabs on competitors and what share of the market they're gaining or losing. Part of how we communicate our success to investors is by showing how we're able to grow our business in an area where a competitor's business is shrinking."

- **Senior Vice President of Sales:** "It's essential that we understand swings in the market. If one market becomes more dominant over time in terms of sales, we'll want to know so we can make sure we have a sufficient number of sales reps serving that market."

Final Analysis Criteria

- Must include summary stats on a number of variables.
- Must include 3 different types of visualizations.
- Visualizations must be clearly labeled.
- Final project needs to be professional (i.e., something you could show a potential employer).

Data Set

Throughout this course, you'll be using a data set that covers historical sales of video games (for games that sold more than 100,000 copies) spanning different platforms, genres, and publishing studios. This data was drawn from the website VGChartz.

Keep in mind the following important points regarding the data set:

- It tracks the total number of units of games sold (not financial figures) from 1980 to 2016.
- The numbers represent units sold in millions. When you see the number "1.2," for instance, this represents a total of 1.2 million units sold.

Download the video game sales data set.

To get a better sense of the approach used to gather and correlate this data, take a look at VGChartz's methodology.

Practical Work & Project Deliverables

Throughout this course, you'll work on your project from one Exercise to Exercise to the next. For each Task, you'll submit a deliverable that builds skills and competencies relevant to your final submission—that is, an end-to-end analysis. Below is a breakdown of your Tasks and deliverables by Exercise:

Exercise 1: Data Analytics in Practice

- Read from a selection of interviews and find out what it's like to work as a data analyst.
- Isolate your own areas of interest within the broad realm of data analytics.

Exercise 2: Introduction to Excel

- Use Excel to access, sort, and filter data.
- Build a pivot table.
- Create some basic visualizations to familiarize yourself with the data.

Exercise 3: Understanding your Data Set

- Get to know your video game sales data by asking questions and describing its dimensions.
- Categorize the types of data, characteristics, and potential bias in this data set.

Exercise 4: Cleaning Your Data

- Use the techniques discussed in the Exercise to clean a "dirty" version of the video game sales data.

Exercise 5: Grouping & Summarizing Your Data

- Use pivot tables to transform your video game sales data into something more usable and insightful.
- Create groups so that similar items can be analyzed together.
- Analyze sales in North America to get an idea of how games perform in this most-popular market.
- Filter your data to look at specific subsegments.
- Create new variables to glean as many insights as possible from your data.
- Isolate what you find most interesting about your data.

Exercise 6: Introduction to Analytical Methods

- Work through a series of hypothetical challenges facing GameCo.
- Decide which type of analysis to pursue in response to each challenge and explain your reasoning.

Exercise 7: Conducting a Descriptive Analysis

- Apply the techniques of understanding distribution to your project data set.

Exercise 8: Developing Insights

- Work with a business scenario and construct your own insights for allocating marketing budgets.

Exercise 9: Visualizing Insights

- Build bar and column charts, box and whisker plots, and scatter plots to understand how video game sales vary by different categories and how certain variables relate to one another.

Exercise 10: Storytelling with Data

- Produce a presentation that tells an analytical story.