

Video Game Sales Analysis Project

Planning Phase Document

Project Overview

The goal of this project is to analyse global video game sales data to identify trends and patterns across different platforms, genres, regions, and time periods. Using tools such as Excel, Python, SQL, and Power BI, this project aims to answer key business questions and provide actionable insights through data visualisation and analysis.

Project Objective

To explore and visualise video game sales data to:

- Understand historical sales performance across different platforms and genres
- Identify regional preferences in video games
- Evaluate whether critic and user ratings correlate with sales success
- Provide an interactive dashboard for stakeholders to easily explore the data

Dataset information

Source

The dataset, Video Game Sales and Ratings created by KendallGillies on Kaggle, is a combined web scrape from VGChartz and Metacritic, originally coded by Rush Kirubi, with additional manual entries for missing release years. It contains video games released between 1976 and January 2017, with only titles sold more than 100,000 copies.

Content & Fields

- Name - The game's name
- Platform - Platform of the games release
- Year_of_Release - Year of the game's release
- Genre - Genre of the game
- Publisher - Publisher of the game
- NA_Sales - Sales in North America (in millions)
- EU_Sales - Sales in Europe (in millions)
- JP_Sales - Sales in Japan (in millions)
- Other_Sales - Sales in the rest of the world (in millions)
- Global_Sales - Total worldwide sales (in millions)
- Critic_score - Aggregate score compiled by Metacritic staff
- Critic_count - The number of critics used in coming up with the critic score
- User_score - Score by Metacritic's subscribers
- User_count - Number of users who gave the user score
- Rating - The ESRB ratings

Limitations

- Not all games have complete Metacritic data (missing critic/user scores).
- Dataset only includes games selling more than 100,000 copies, so niche/indie games are underrepresented.
- Covers releases up to January 2017 – newer platforms and games are not included.

Key Questions

Sales Trends

- How have global video games sales changed over time?
- Are there noticeable peaks or declines in sales during specific years?

Platform Analysis

- Which platforms (e.g., PlayStation, Xbox, Nintendo) have dominated the market?
- How has platform popularity shifted over the years?

Genre Analysis

- Which video game genres generate the highest sales globally?
- Do different regions prefer different genres?

Regional Insights

- How do sales differ across North America, Europe, and Japan?
- Which region contributes the most to global video game sales?

Ratings & Sales

- Is there a relationship between critic/user ratings and sales performance?
- Do higher-rated games consistently sell better?

Publisher Insights

- Which publishers have been the most successful over time?
- Are there publishers that dominate specific platforms or regions?

Deliverables

- **Clean Dataset:** Processed CSV file ready for analysis
- **Explanatory Data Analysis (EDA):** Python notebook with data cleaning and initial visualisations
- **SQL Queries:** Scripts to answer specific questions
- **Excel Report:** Pivot tables and charts for preliminary exploration
- **Power BI Dashboard:** Interactive visualisation with filters and KPIs
- **Documentation:** GitHub repository with all files, plus a project report

Tools & Technologies

- **Excel:** Data exploration, pivot tables, and charts
- **Python:** Data cleaning and EDA (pandas, matplotlib, seaborn)
- **SQL:** Querying structured data for deeper insights
- **Power BI:** Interactive dashboard creation and visualisation
- **GitHub:** Version control and portfolio documentation

Success Criteria

The project will be considered successful if:

- A clean and well-structured dataset is prepared
- Key business questions are answered with supporting visuals
- An interactive Power BI dashboard is built for non-technical stakeholders
- The project is fully documented and shareable on GitHub