Video Games Sales Analysis

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Abstract—**This project summerizes region specific impact of genre on the video games sales and the impact of exclusivity on gaming platform sales. In the first stage of the project report, we aim to exhibit problem statement synopsis, explain the databases and relations among them by an Exploratory Data Analysis.**
In the latter stage, we further explore the dataset and get a thorough understanding, which will help us create a better model for prediction of the sales.

Index Terms—**video games, sales, consoles, exclusivity, genre, region, sales prediction**

I. INTRODUCTION

The video game industry has grown from niches to mainstream in past few years, having a significant contribution on the global sales market. The number of video games being developed, is showing an exponential growth. Data analysis for video game business can become large saled, personalized and real-time. The statistical processing and Exploratory Data Analysis (EDA) are mainly performed on the data of game platforms, years of distribution and genres.
There are number of factors that can potentially affect the sales. Some of them would be:

- Popularity of respective consoles
- Region
- Marketing budget
- Genre
- Number of positive reviews
- Required technical specifications
- Popularity of respective platform

In our project, we will be estimating the sales of video games and the sales of consoles (platforms). The analysis of video games sales, we will consider Region and Genre and for the sales of respective platforms, we will conduct a special analysis for which, exclusive games will be a primary factor for the sales.
The reason for considering exclusive games is because a very popular game being exclusive to a certain platform can potentially drive a lot of console sales since the primary use of a console is to play video games.
In the latter stage, we will infere the resultant statistics from the predictions made and make various conclusions such as prioritizing genres or regions for high sales. Which could help optimize marketing strategy and can potentially decrease marketing budget.
This project demonstrates that it is a worthwhile direction to analyse the sales for the investigation of business strategies for the publishers in conjunction with the market.

II. LITERATURE REVIEW

Before you begin to format your paper, first write and save the content as a separate text file. Complete all content and organizational editing before formatting. Please note sections II-A–**??** below for more information on proofreading, spelling and grammar.

Keep your text and graphic files separate until after the text has been formatted and styled. Do not number text heads—LaTeX will do that for you.

A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, MKS, CGS, ac, dc, and rms do not have to be defined. Do not use abbreviations in the title or heads unless they are unavoidable.

B. Units

- Use either SI (MKS) or CGS as primary units. (SI units are encouraged.) English units may be used as secondary units (in parentheses). An exception would be the use of English units as identifiers in trade, such as "3.5-inch disk drive".
- Avoid combining SI and CGS units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: "Wb/m^2" or "webers per square meter", not "webers/m^2". Spell out units when they appear in text: ". . . a few henries", not ". . . a few H".
- Use a zero before decimal points: "0.25", not ".25". Use "cm^3", not "cc".)

C. Figures and Tables

a) Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert

figures and tables after they are cited in the text. Use the abbreviation "Fig. 1", even at the beginning of a sentence.

TABLE I
TABLE TYPE STYLES

Table Head	Table Column Head		
	Table column subhead	*Subhead*	*Subhead*
copy	More table copy[a]		

[a]Sample of a Table footnote.

Fig. 1. Example of a figure caption.

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity "Magnetization", or "Magnetization, M", not just "M". If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write "Magnetization (A/m)" or "Magnetization $\{A[m(1)]\}$", not just "A/m". Do not label axes with a ratio of quantities and units. For example, write "Temperature (K)", not "Temperature/K".

III. DATASET

The datasets used in this project were scraped from "vgchartz.com".

- vgsales - Video Games Sales
- console - Console Sales

TABLE II
VIDEO GAMES SALES

Field Name	Description
Rank	Ranking of overall sales
Name	The games name
Platform	Platform of the games release (i.e. PC,PS4, etc.)
Year	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.

TABLE III
CONSOLE SALES

Field Name	Description
ConsoleID	Console Name corresponding to vgsales
Console_Name	Actual console names
Manufacturer	Console manufacturer
Release_Year	Console Release Year
Sales	Number of units sold
Type	Type of console: home or handheld

Here, the ConsoleID is used as a foreign key for joining the video games sales dataset to this dataset and the number of sales are aquired from wikipedia.

REFERENCES

[1] Statistical yearbook: cinema, television, video, and new media in Europe, Volume 1999. Council of Europe. 1996. p. 123. ISBN 9789287129048.