From Data to Decisions : Power BI Analysis for Steam Game

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COMPANY OVERVIEW

Steam Game is a data driven gaming company focused on enhancing player experience, optimizing product development, and driving strategic growth across the digital entertainment landscape. The company leverages advanced analytics to uncover behavioral patterns, market trends, and engagement opportunities.

PROBLEM STATEMENT

The company seeks to make strategic decisions in product development, marketing, and customer engagement to enhance its market share and profitability. To address this, the company want to perform exploratory data analysis (EDA) using Power BI or Tableau by integrating variables from game metadata, user behavior, and recommendation patterns. The goal is to uncover actionable insights and build interactive visualizations that help stakeholders identify trends, segment users, and prioritize strategic initiatives.

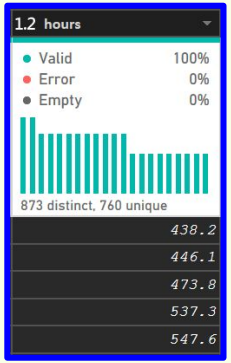
DATA OVERVIEW

Disclaimer :

- This analysis is for educational purposes and does not reflect the actual business metrics of Steam Game.
- Insights and recommendations are derived from the provided dataset and may not represent real market conditions.
- All insights, dashboards, and metric should be generated based on personal interpretation and visualization skill.

DATA CLEANING

TABLE RECOMMENDATIONS		
	Before	After
Check Data Type	Data type of hours is Decimal Number	The data type of hours column was converted from Decimal Number to Whole Number.



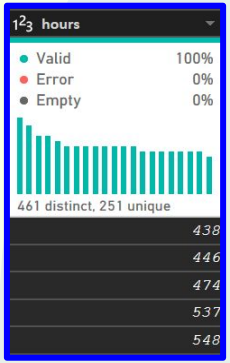
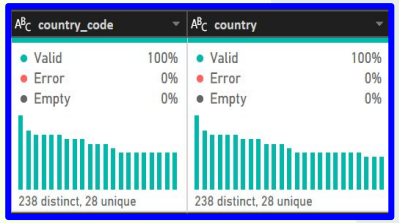
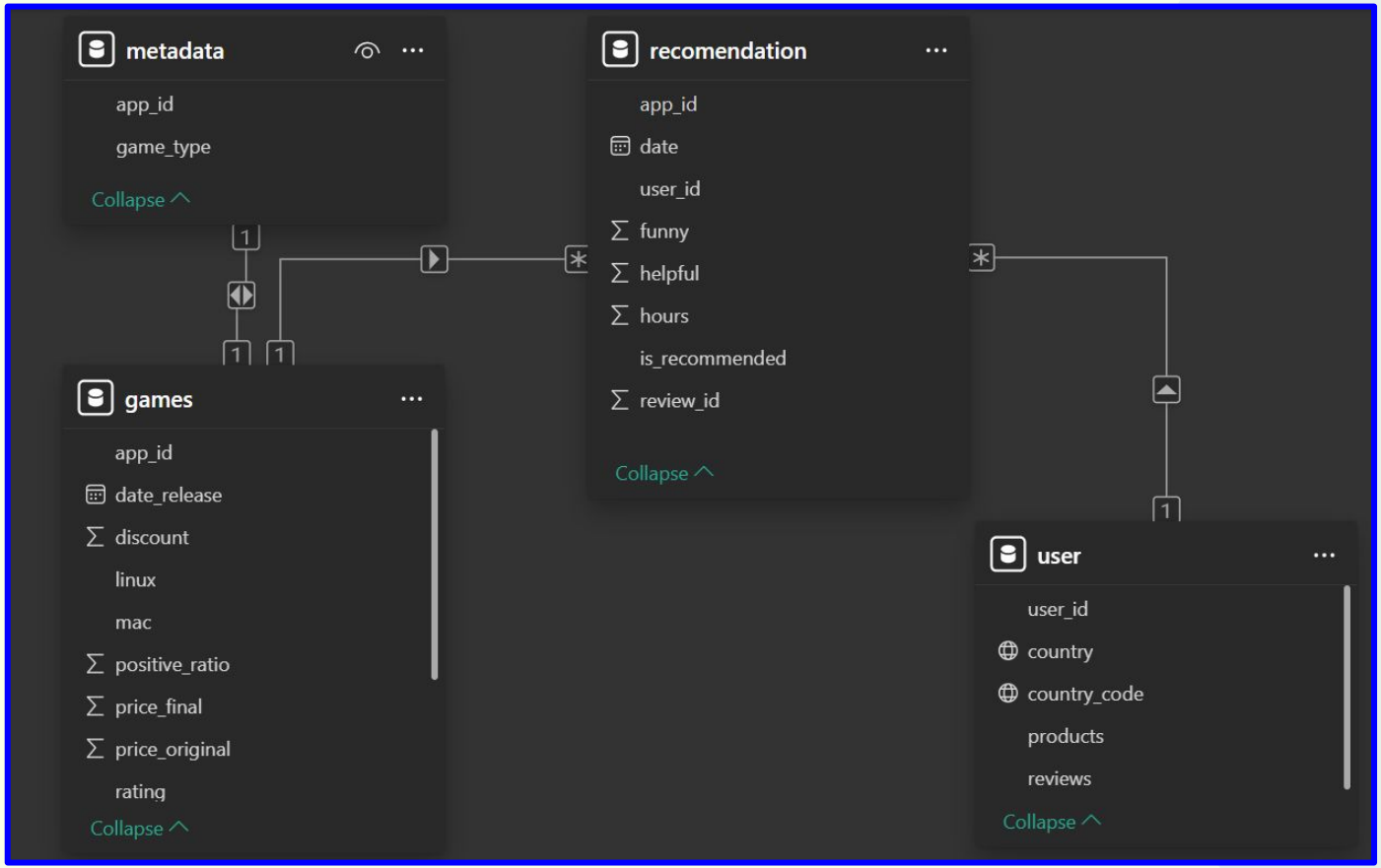


TABLE USERS		
	Before	After
Check Data Type	Data type of country_code and country is Text or String	The data type of country_code and country column was converted from Text or String to Geographical Type.



MODEL VIEW STEAM GAME



DATA ANALYSIS EXPRESSIONS (DAX)

a. Score Card

```
Total Games =
COUNTROWS(Games)
```

4983
Total Games

```
Total Active Games =
CALCULATE(
    COUNTROWS(Games),
    FILTER(
        Games,
        NOT(ISBLANK(Games[date_release])) &&
        Games[price_final] > 0
    )
)
```

3825
Total Active Games

```
Rating Number Games =
SWITCH(
    TRUE(),
    Games[rating] = "Overwhelmingly Positive", 6,
    Games[rating] = "Very Positive", 5,
    Games[rating] = "Mostly Positive", 4,
    Games[rating] = "Positive", 3,
    Games[rating] = "Mixed", 2,
    Games[rating] = "Negative", 1,
    Games[rating] = "Mostly Negative", 0,
    BLANK()
)
```

3.62
Average of Rating Number Games

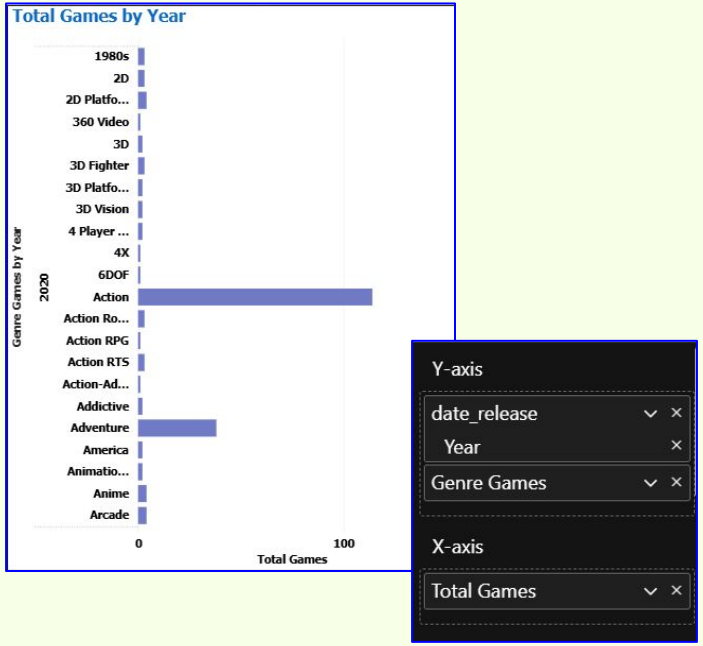
```
Total Active User =
CALCULATE(
    DISTINCTCOUNT(user[user_id]),
    FILTER(
        user,
        NOT(ISBLANK(user[user_id]))
    )
)
```

3091
Total Active User

```
User Positive Ratio (%) =
DIVIDE(
    SUM(Games[positive_ratio]),
    SUM(Games[user_reviews]),
    0
)
```

5.04
User Positive Ratio (%)

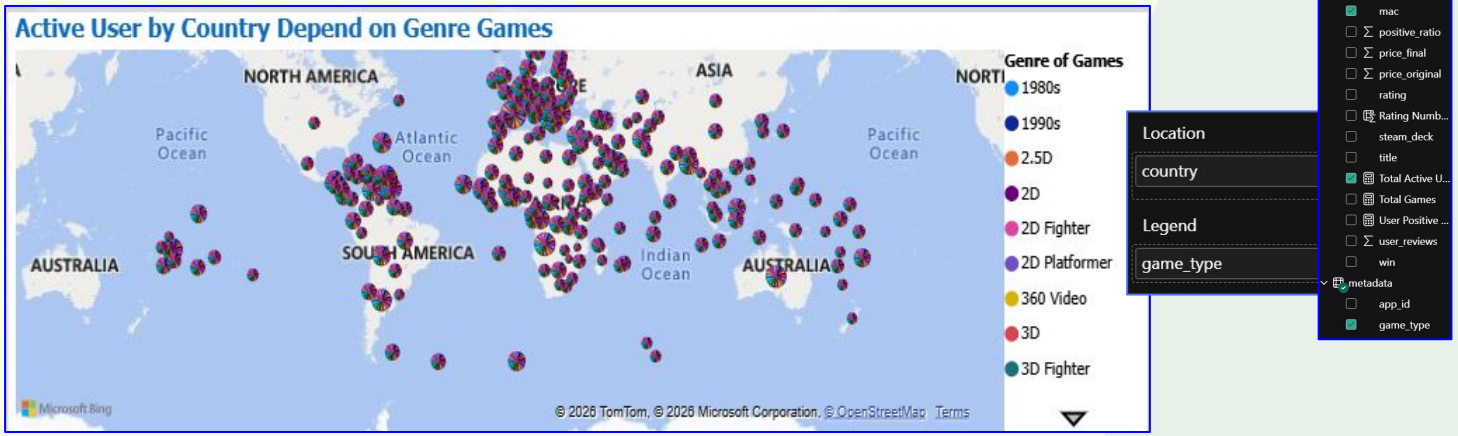
b. Bar Chart Visualization “Total Games by Year”



Focus of Measurement from this Bar Chart :

- Provide an overview of the popularity and production trends of games by genre.
- Identify which genres were most developed by the gaming industry in that year.
- Support market analysis, player preferences, and the direction of game development.

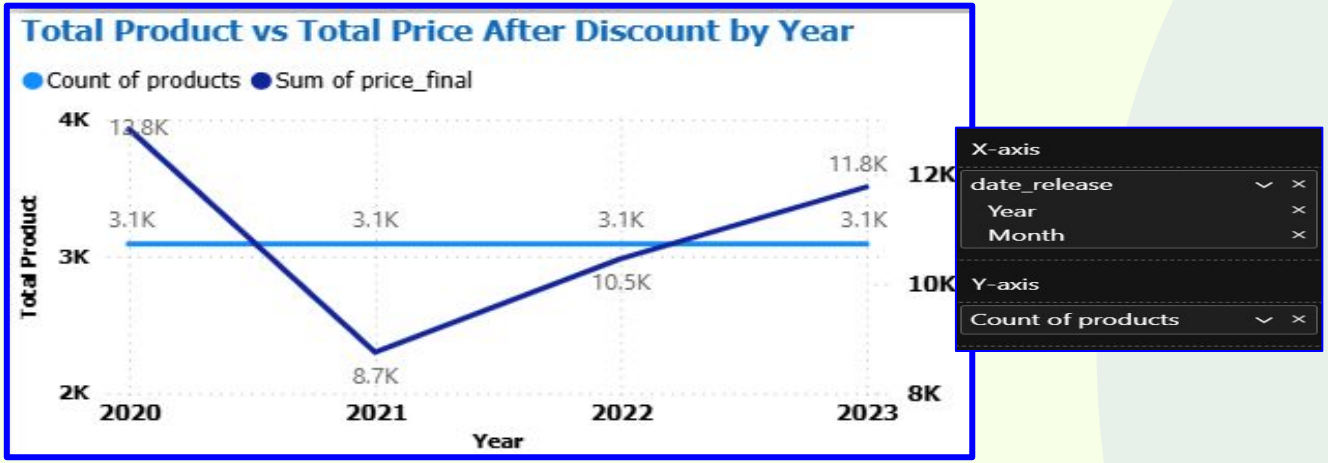
c. Map Visualization “Active User by Country Depend on Genre Games”



Insight can we see from this Map Visualization :

- Measuring the distribution of active users across different countries based on the game genres they play.
- Highlighting geographic dimensions (location of users) and genre dimensions (types of games).
- The main purpose is to map global gaming preferences and identify regional trends and market potential.

d. Line Chart Visualization “Total Product vs Total Price After Discount by Year”



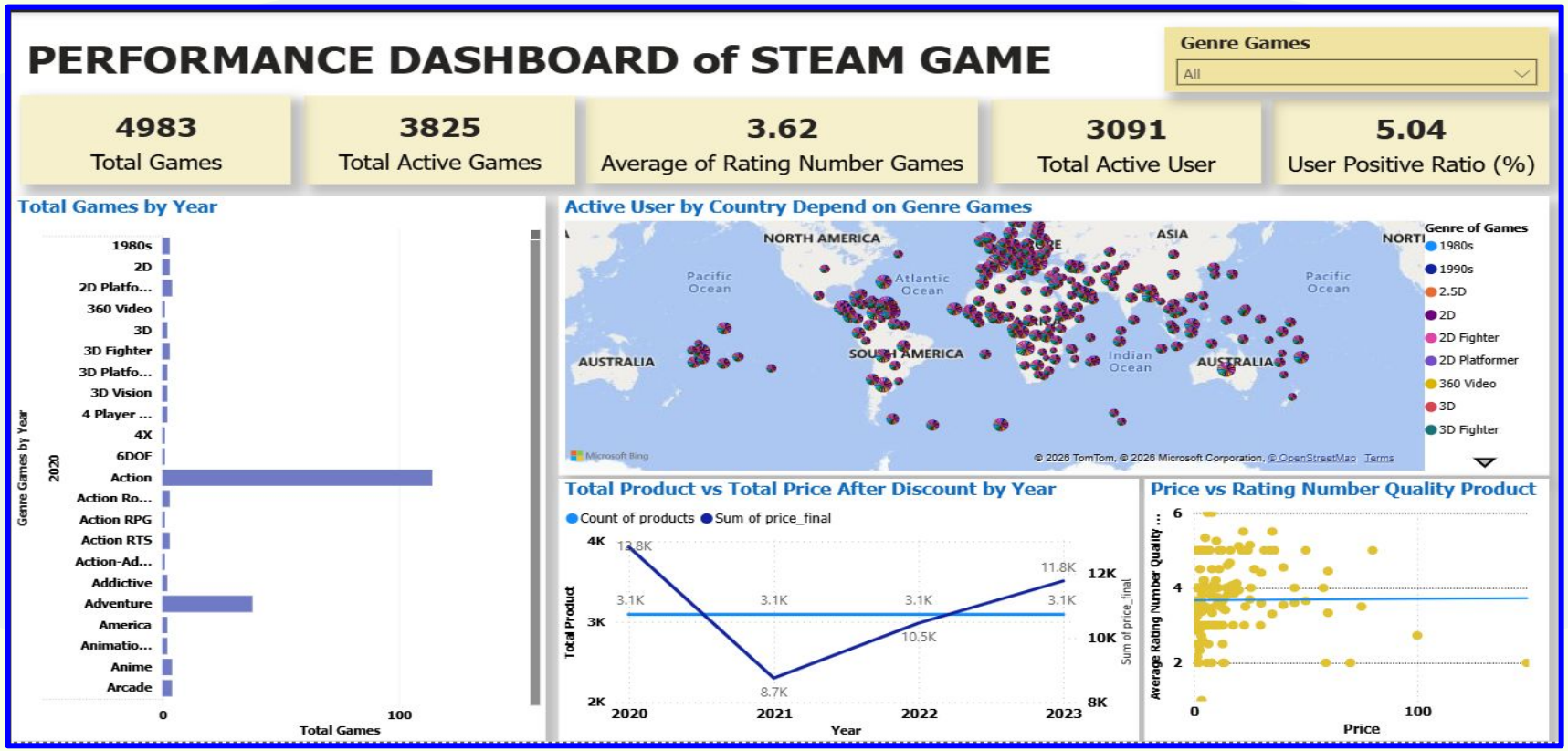
This graph highlights that **product quantity alone doesn’t determine business performance** . The variation in final prices after discounts reveals deeper insights into pricing strategies, consumer trends, and market dynamics over time.

1. **Stable Product Count**
   - From 2020 to 2023, the number of products remained constant at **3.1K**.
   - This indicates that the volume of products offered did not change, even though the total sales value fluctuated.
2. **Fluctuating Final Prices**
   - **2020 :** Highest total price after discount **(13.8K)**.
   - **2021 :** Sharp drop to **8.7K**, possibly due to aggressive discounting, promotional strategies, or market price reductions.
   - **2022–2023 :** Gradual recovery **(10.5K** then **11.8K)**, suggesting improved sales value or reduced discount intensity.

e. Scatter Plot Visualization “Price vs Rating Number Quality Product”

This scatter plot reveals that price is not the sole indicator of quality. Low priced products can be highly favored, while expensive ones do not necessarily receive high ratings. This insight is valuable for pricing strategies, product positioning, and customer satisfaction analysis.

DASHBOARD VISUALIZATION



KEY INSIGHT&RECOMMENDATION *using OBIPR Framework*

OBJECTIVE

1. To analyze trends and data distribution from four perspectives (Number of games by genre. Distribution of active users by country and genre, Comparison of product count vs. final price after discount by year (2020–2023), Relationship between product price and rating quality.
2. To provide a comprehensive overview supporting business strategy, pricing, and product/game development.

BUSINESS CONTEXT

- The gaming and digital product industries are growing rapidly, with diverse genres and user preferences across regions. Price and product ratings are key indicators for understanding customer satisfaction.
- Data visualizations are used to identify trends, patterns, and market opportunities.

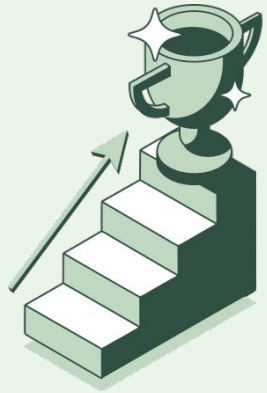
INSIGHTS

- Game Genres : Action and Adventure dominated releases in 2020, while niche genres still existed though in smaller numbers.
- User Distribution: Highest concentration of active users in North America, Europe, and East Asia, with different genre preferences by region.
- Products & Pricing : Product count remained stable (3.1K), but final prices after discounts fluctuated, reflecting changes in sales strategies.
- Price vs Rating : Price is not always an indicator of quality, low priced products can receive high ratings, while expensive ones are not always favored.

PROBLEM STATEMENT

- Genre imbalance : Heavy focus on mainstream genres may overlook niche market potential.
- Regional gap : Different genre preferences across countries, yet global strategies often fail to adapt.
- Price fluctuation : Sharp drop in 2021 indicates discount strategies that were not optimal.
- Price perception : Expensive products are not automatically seen as high quality, requiring careful pricing strategies.

RECOMMENDATIONS (ACTIONABLE)

- Diversify genres : Encourage development of niche genres to capture new market segments.
- Optimize pricing : Reassess discount strategies to avoid drastic value drops.
- Value based pricing : Focus on product quality and user experience rather than relying on high prices.
- Continuous monitoring : Use data visualization regularly to detect trends and adjust business strategies.

Thank You