**STEAM PROJECT REPORT**

**Introduction**

The STEAM gaming platform operates on a hybrid model, allowing users to either purchase games outright or play them before committing to a purchase. Understanding user behavior, purchasing trends, and game performance is crucial for enhancing profitability, improving user engagement, and optimizing marketing strategies.

This project leverages data analytics to uncover key insights that can drive strategic decision-making. By analyzing user interactions, game popularity, and purchasing behaviors, we aim to provide actionable recommendations that will help STEAM increase revenue, retain high-value users, and improve the discoverability of lesser-known games.

**Key Business Questions & Analytical Objectives**

This analysis seeks to address the following critical questions:

User Purchasing Behavior: How many games does each user purchase, and what is the average purchase rate per user?  
Game Popularity: Which games attract the most purchases, and what are the top 10 most popular games?  
High-Value Users: Who are the top purchasers, and what insights can we gain from their buying patterns?  
Customer Retention & Growth: How can low-purchasing users be converted into high-value customers?  
Revenue Optimization: How can STEAM increase sales of low-purchased games through better pricing, promotions, or bundling strategies?

**Dataset Overview**

This analysis utilizes a structured dataset that captures user interactions with games on the STEAM platform. The dataset comprises three variables:

* Users – A unique identifier assigned to each individual user.
* Games – The title of the game associated with the user interaction.
* Action – A categorical variable indicating whether the game was "played" or "purchased" by the user.

**Data Preparation & Cleaning**

Before conducting the analysis, it was essential to perform rigorous data preprocessing to ensure accuracy, consistency, and reliability in our findings. The following steps were undertaken:

Filtering Unnecessary Data: Instances marked as "played" were removed to concentrate on purchase actions.

Ensuring Data Integrity: The games column was checked for anomalies, eliminating non-game-related or corrupted values.

Checking and Ensuring no Missing Values

Dropping Redundant Fields: The action column was discarded after filtering for purchases to eliminate redundancy.

**Data Analysis**

This section provides a detailed analysis of user behaviors and purchasing patterns within the dataset, aiming to identify key opportunities for enhancing business strategies and increasing revenue.

**Figure 1 :Users Per Game – Game Popularity**

**A screenshot of a computer

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**Insight:**  
The number of unique users per game highlights popular games and strong brand loyalty.  
**Actions:**

* Offer in-game rewards to retain users.
* Bundle popular games with underperformers to boost sales.

**Figure 2: Top 10 Most Popular Games – Sales Optimization**

**A screenshot of a computer

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**Insight:** Although the genre of the 10 top games are not provided, it gave hint that the most popular games are predominantly multiplayer-focused, particularly within the shooter and action genres.

**Actions:**

* Increase visibility of top games on the homepage.
* Offer limited-time events to maintain momentum.

**Figure 3:** **Games Purchased Per User – Customer Segments**

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**Insight:**  
High-purchasing users are the most valuable, while many users buy only a few games.  
**Actions:**

* Introduce loyalty rewards.
* Target low-purchasing users with tailored promotions.

**Average Games Purchased Per User – Monetization Strategy**

**Insight:**  
A low average purchase rate of 10 games per user suggests room for increased engagement.  
**Actions:**

* Introduce subscription services for low-purchase users.
* Run flash sales to boost impulse purchases.
* Offer discounts to returning customers.

**Key Visualisations & Insights**

Diagram 1: display games and numbers of users

This chart shows the range from top-performing games to those with the fewest purchases, which allows STEAM to understand what games they might need to look into if they consider developing a certain type of games.

**A graph of a game

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**Diagram 2 : Highlights STEAM’s revenue drivers.**

**A graph of a number of people

Description automatically generated with medium confidence**

**Diagram 3: Reveals purchase patterns and Identifies STEAM’s most profitable customer**

**A screenshot of a computer

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**Diagram 4: Average Games Purchased Per User (Mean)**

**A blue sign with black numbers

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**Next Steps for Further Research**

* Incorporate games that were played but not purchased for more analysis
* Analyze seasonal trends to see how discounts impact sales.
* Study the impact of game reviews on purchases to refine recommendation process.
* Evaluate regional purchasing behavior to optimize international marketing campaigns.

**Summary**

This analysis has provided good insights into user behavior and game purchases, helping STEAM maximize revenue, optimize user engagement, and improve marketing strategies. By implementing the recommended strategic business actions, STEAM can boost sales and drive long-term profitability.

**Reference**

Tools: Python, Power BI, Google Colab

Data Source: [https://docs.google.com/spreadsheets/d/1jIla2fCpkdMYgh9rq0icScURjMravr7nUHFCXvV-rXE/edit?usp=drive\_link](https://www.google.com/url?q=https%3A%2F%2Fdocs.google.com%2Fspreadsheets%2Fd%2F1jIla2fCpkdMYgh9rq0icScURjMravr7nUHFCXvV-rXE%2Fedit%3Fusp%3Ddrive_link)