

Executive Summary: Google Play Store Data Analysis

This analysis examines **10,357 mobile applications** from the **Google Play Store**, focusing on app categories, pricing, ratings, and user engagement. Data cleaning, transformation, and visualization were performed to uncover key business insights.

Key Findings & Insights

1. Data Cleaning & Pre-processing

- **Missing values handled:** Ratings, price, type, and content rating were filled using **median and mode** values.
 - **Duplicates removed:** **483 duplicate records** were dropped.
 - **Outliers detected and handled:**
 - One app had a **rating above 5**, which was removed.
 - **Price outliers** were capped at the **95th percentile** to prevent extreme values from skewing the analysis.
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2. Univariate Analysis

General App Trends

- **92.61%** of apps are **free**, while only **7.39%** are paid.
- The **average app rating** is **4.20**.
- The **most common app category** is **"Family"** with **18.8%** of all apps, followed by **Games (10.8%)**.

Content Ratings

- **Everyone (E) rating dominates**, accounting for **58.7%** of apps.
- Teen-rated apps make up **16.2%**, while **Mature 17+** represents **5.1%**.

App Prices

- **Most apps are free (0 USD)**.
 - **Few apps cost more than \$5**, with the **highest price capped at \$4.30** after outlier removal.
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3. Bivariate Analysis (Comparing Variables)

Paid vs. Free Apps

- **Paid apps have a slightly higher average rating (4.27) than free apps (4.20).**

- **Paid apps receive fewer installs** on average (**90,491 installs**) compared to **free apps (15.2 million installs)**.
- The **Games, Medical, and Family categories** have the most paid apps.

Ratings & Installs Relationship

- **No strong correlation between installs and ratings**—popular apps don't always have the best ratings.

Category-Wise Ratings

- **Events (4.39) and Education (4.37) categories** have the highest average ratings.
- **Game apps (4.28) are highly rated but also have high variation in ratings.**

App Pricing & Ratings

- **Expensive apps don't necessarily have better ratings**—free apps and low-cost apps often receive high ratings.

Business Recommendations

- **Invest in Free Apps:** Since **92.61% of apps are free**, businesses should focus on monetization strategies like **in-app purchases and ads**.
- **Focus on High-Rating Categories:** Consider developing apps in **Events, Education, and Personalization**, which receive **higher ratings**.
- **Leverage Install Trends:** **Free apps dominate installs**, so offering a **freemium model** may be more effective than charging upfront.
- **Target "Everyone" Content Rating:** Since **58.7% of apps cater to all ages**, ensuring **broad accessibility** can help reach a larger audience.

Conclusion

This analysis provides **valuable insights for app developers and marketers**, helping them optimize pricing, category selection, and audience targeting for better engagement and profitability.

Thankyou