Transforming Dashboards on EDA Project – Google Play Store App Performance

Project Overview

This project focuses on transforming Exploratory Data Analysis (EDA) insights into an interactive Business Intelligence dashboard using **Power BI**.
The dashboard is designed to help **business stakeholders, app developers, and product managers** understand application performance, user preferences, and monetization strategies in the Google Play Store ecosystem.

Problem Statement

In the context of the Google Play Store ecosystem, how can Business Intelligence dashboards help stakeholders understand:

- App performance across categories
- User adoption patterns
- Monetization strategies (Free vs Paid)
- Factors influencing installs, ratings, and scalability

The objective is to enable **data-driven decisions** for improving app reach, quality, and revenue potential.

Dataset Information

- **Dataset Name:** Google Play Store Apps
- **Source:** Kaggle (Public Google Play Store Dataset)
- **Records:** ~9,600 Android applications
- **Tool Used:** Power BI

Key Attributes

- App
- Category
- Rating
- Reviews
- Size
- Installs
- Type (Free / Paid)
- Price
- Content Rating
- Last Updated

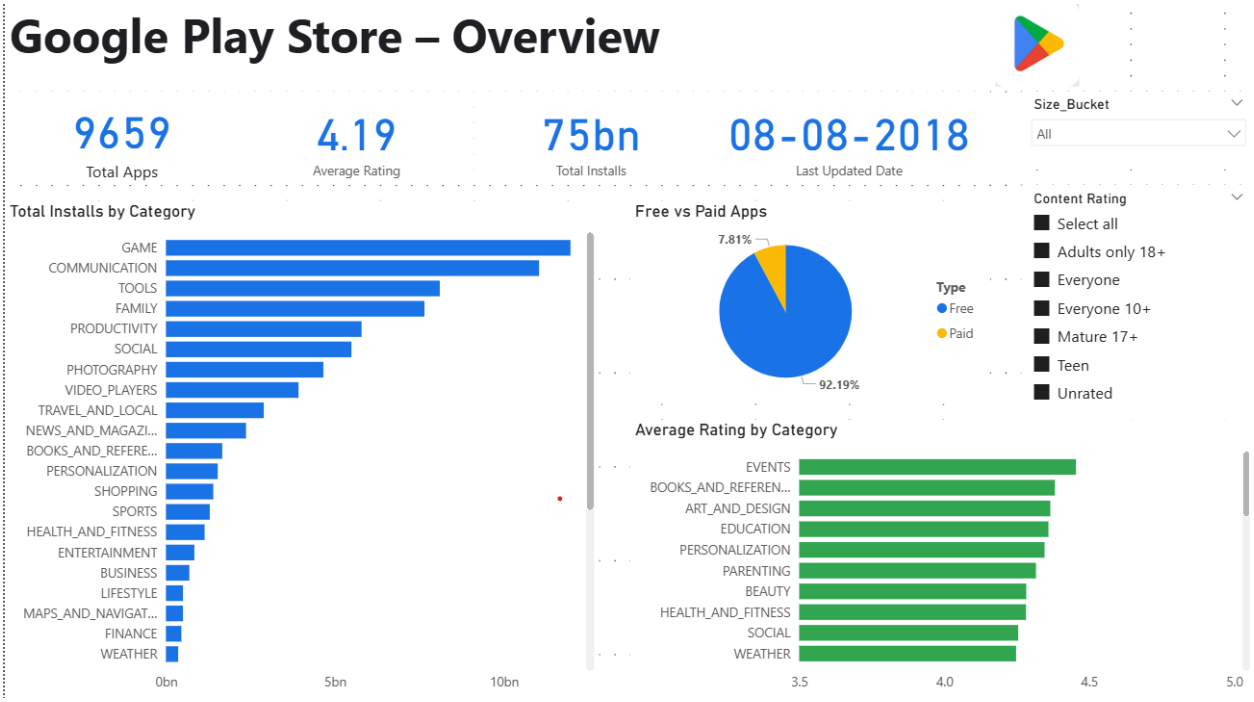
Dashboard Structure

Page 1: App Performance Overview

Purpose: High-level business summary

Visuals Included:

- KPI Cards:
    - Total Apps
    - Average Rating
    - Total Installs
    - Last Updated Date
- Total Installs by Category (Bar Chart)
- Free vs Paid Apps (Pie Chart)
- Average Rating by Category (Bar Chart)
- Interactive Slicers:
    - App Size Bucket
    - Content Rating



Business Questions Answered:

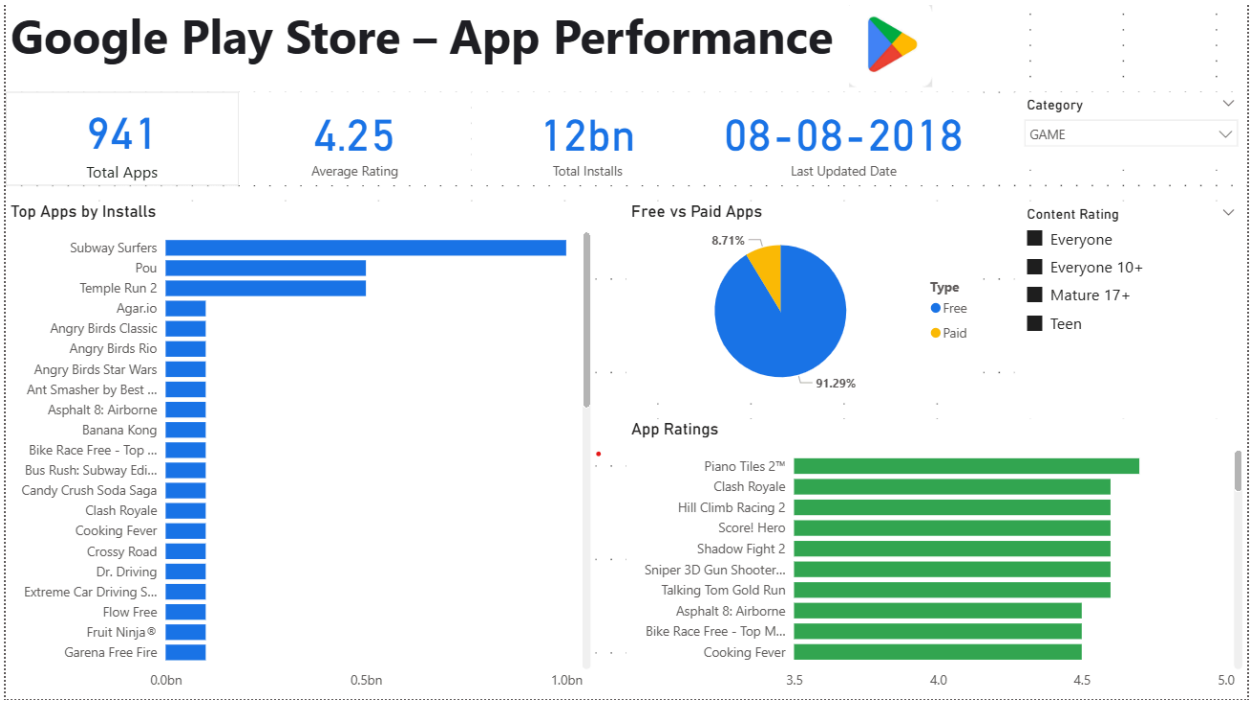
- Which categories dominate installs?
- Are free apps more scalable than paid apps?
- Do highly rated categories always generate high installs?

Page 2: Category & App-Level Performance

Purpose: Drill-down analysis for dominance and competition

Visuals Included:

- Category-level KPIs (filtered dynamically)
- Top Apps by Installs (within selected category)
- Free vs Paid split for the category
- App Ratings comparison within the category
- Category slicer for interactive analysis



Business Questions Answered:

- Which apps dominate a category?

- Are top-install apps also top-rated?
- Is market leadership driven by scale or quality?

Data Preparation & Transformation

1. Data Cleaning

- Removed duplicate app records
- Handled missing ratings and sizes
- Converted installs into numeric format
- Standardized categorical values

2. Data Transformation

- Created **Size Bucket** (Small / Medium / Large)
- Derived measures:
    - Total Apps
    - Average Rating
    - Total Installs
- Applied consistent formatting for better performance

Key Insights

1. Optimize App Size

- Small and medium-sized apps achieve higher installs
- Large apps face adoption friction

Recommendation:
Optimize assets and reduce app size for better scalability.

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2. Freemium Dominates the Market

- Over **90% of apps are free**
- Free apps achieve significantly higher installs than paid-only apps

Recommendation:
Adopt freemium or ad-based monetization strategies.

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3. Content Rating Impacts Reach

- Apps rated **Everyone / Everyone 10+** reach broader audiences
- Restrictive content ratings limit scalability

Recommendation:
Keep content accessible unless the app is niche by design.

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4. Ratings Alone Don’t Guarantee Scale

- Most categories have average ratings above **4**
- Example: **Events category** has high ratings but low installs

Key Insight:
High quality does not automatically translate into adoption.

Recommendation:
Combine app quality with:

- Marketing
- Discoverability
- Visibility strategies

Conclusion

This dashboard successfully converts EDA insights into an interactive BI solution that enables stakeholders to:

- Identify high-performing categories
- Understand monetization trends
- Analyze competitive dominance within categories
- Make strategic decisions in a competitive app marketplace
