

# Report

## Business Problem

The gaming industry is highly competitive, requiring companies to identify trends, top-performing games, and regional sales patterns to stay ahead. The primary objective is to analyze global and regional sales data to uncover insights on the best-selling games, popular genres, and successful publishers, enabling data-driven decisions for marketing, production, and future game development.

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## Data Requirement

The analysis requires sales data for:

1. **Games:** Names, global sales, and regional sales.
  2. **Genres:** Sales distribution across Action, Sports, Shooter, etc.
  3. **Publishers:** Overall contribution to sales.
  4. **Regions:** Sales data segmented by North America, Europe, Japan, and others.
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## Data Collection and Understanding

The dataset was obtained from a comprehensive video game sales repository, encompassing information about:

- Top-selling games globally and regionally.
  - Sales broken down by genres and publishers.
  - Trends over time across major regions (North America, Europe, Japan, and others).
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## Data Validation (Bias/Transparency/Reliability)

1. **Bias:** Care was taken to ensure no undue focus on specific publishers or platforms, presenting a holistic view of the industry.
  2. **Transparency:** Sales figures were verified against industry reports to maintain authenticity.
  3. **Reliability:** Data spans multiple decades, reflecting consistent trends. However, it may not include indie games or smaller publishers comprehensively, which could introduce partial bias.
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## Data Cleaning

- Removed duplicate entries for games released across multiple platforms.

- Standardized genre categories to avoid overlaps.
  - Addressed missing regional data by estimating based on global sales averages.
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### Tools Selection

- **Data Cleaning:** Microsoft Excel, Python (Pandas library).
  - **Visualization:** Power BI for dashboard creation and storytelling.
  - **Analysis:** Python for deeper insights into trends and genre breakdowns.
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### Graphs/Charts

The following visualizations were utilized:

1. **Bar Chart:** Top 10 Best-Selling Games globally.
  2. **Pie Chart:** Sales distribution by genre.
  3. **Stacked Bar Chart:** Regional and global sales comparison over time.
  4. **Horizontal Bar Chart:** Regional sales by genre.
  5. **Bar Chart:** Leading publishers and their global sales contribution.
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### Dashboard

The dashboard provides:

1. A concise overview of top-selling games, genres, and publishers.
  2. Regional breakdown of sales by year, highlighting market differences.
  3. Visual comparison of regional genre preferences.
  4. Interactive charts to enable data exploration for specific regions or publishers.
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### Storytelling (Business Impact)

The analysis uncovers key trends:

1. **Nintendo's Dominance:** With multiple top-selling games and leading in publisher rankings, Nintendo exemplifies successful brand and game design strategies.
2. **Action and Sports Genres:** Their global dominance suggests focusing on these genres to maximize sales potential.
3. **Regional Preferences:** Adapting marketing strategies for Role-Playing games in Japan and Action games in North America and Europe could improve targeted sales.

4. **Peak Sales Era:** The 2005–2010 peak highlights the impact of technological advancements and console popularity on game sales.