

Video Game Sales Analysis Project

Advanced Insights (SQL Analysis)

Using MySQL, I performed additional structured queries to validate and extend the exploratory findings.

Dataset Overview

- Total games: 17,408
- Platforms: 31
- Genres: 12
- Publishers: 627
- Ratings: 9
- Year range: 1976 – 2017

Top Games

- Wii Sports dominates with 82.5M sales, over double the next top game (Super Mario Bros, with 40.2M).
- Nintendo titles make up most of the top 10 best-selling games, reflecting their market influence.

Top Platforms

- PlayStation 2 leads with ~1.26B sales.
- Xbox 360 ranks second despite fewer total games, showing high average sales per title.
- Nintendo Wii and DS also performed exceptionally well.

Regional Sales

- North America: ~49% of global sales, with the highest average sales per game (~0.25M).
- Europe: ~27% of global sales.
- Japan: ~15%, but strong influence due to RPG dominance.
- Other regions: ~9%.

Genre Insights

- Action is the leading genre (1.76B sales). However, it had the lowest average critic score (~68.6) among the top genres – suggesting commercial appeal doesn't always match critical reception.
- Shooter ranks 3rd by global sales despite not being top 5 in number of games.

- Adventure is the top 5 genres by number of games but not in top 10 sales.
- Role-Playing Games (RPGs) receive the highest user ratings (75.5), reinforcing their strong niche popularity despite being behind Action and Sports in sales.

Publisher Insights

- Nintendo dominates with ~1.8B total sales, far surpassing competitors. They also had a much higher average user score (~76.8) compared to its critic score (~73), and higher than any other top publisher.
- Take-Two Interactive, while ranked only 6th in global sales, had the highest average critic score (~73.8), showing that quality recognition doesn't always translate into the highest total sales.
- Electronic Arts and Activision follow by rely on a much larger number of games.

Trends Over Time

- Peak sales occurred between 2006-2011, coinciding with the rise of Wii, DS, Xbox 360, and PS3.
- Sales declined post-2011, likely due to the transition toward digital distribution.
- 1990s: Platformers and RPGs were dominant.
- 2000s: Action and Sports surged.
- 2010s: Action and Shooters led, with RPGs maintaining strength.

Scores vs Sales Relationship

- Positive correlation observed:
 - Critic Scores 90+ -> avg. 2.8M sales
 - Scores 80-89 -> avg. 1.2M sales
 - Scores below 50 -> avg. <0.3M sales
- While high critic scores correlate with more sales, franchises and brand power sometimes override reviews (e.g., Call of Duty, FIFA). This shows that critical acclaim is a driver, but not the sole predictor.

Platform Lifespan

- Atari 2600 (1976) is the earliest-released platform, while PSV (2017) and PS4/XOne are among the latest.
- The PCFX (1996) and TG16 (1995) had the shortest lifespans, only lasting a single year.
- PC (1985-2016) and DS (1985-2014) had exceptionally long spans of releases.
- The 2000s-2010s saw overlapping lifecycles (PS2, Xbox 360, PS3, Wii), explaining the sales boom during that era.
- These timelines help explain the broader peaks and trends in game output and sales over the years.

- Longer console lifespans (e.g., DS, PC, PS2) contributed significantly to higher sales totals, while shorter-lived platforms struggled to leave a major mark.

Regional Genre Preferences

- Action dominates in North America, Europe, Other regions.
- Japan prefers Role-Playing games – consistent with its cultural and industry history.
- Supports earlier visual and Excel findings, now confirmed in SQL.
- Publishers tailoring genres to regions (Action globally, RPGs in Japan) were more successful in capturing diverse markets.

High Sales-to-Score Games

- Many blockbuster titles combined both high critical acclaim and high sales (e.g., Grand Theft Auto V, Super Mario Galaxy, Halo 3).
- Interestingly, some Call of Duty games reached very high sales despite relatively lower user scores (e.g., Modern Warfare 3 with User Score – 34).
- JRPGs (Final Fantasy VII, Dragon Quest IX) stood out in both high critic/user scores and consistent global performance, reinforcing Japan's preference for RPGs.
- Nintendo has a consistent balance of high reviews and high sales compared to other publishers.

Summary

The SQL analysis confirms and enriches the Python-based insights.

- Nintendo is the clear sales leader combining both strong sales and the highest user reception, despite not producing the largest number of games.
- Shooters and RPGs outperform their share of total games in terms of sales, with RPGs particularly strong in Japan.
- Strong critical reception is a key driver of commercial success, though brand power can sometimes outweigh reviews.
- Longer console lifespans (e.g., DS, PS2, PC) played a major role in sustaining high sales.
- Global sales peaked in the late 2000s, driven by new console and blockbuster franchises.