

Exploratory Analysis of Global Video Game Sales and Ratings

Based on Kaggle Video Game Sales Dataset (as of Jan 2017)

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Motivation & Project Scope

Why Video Games?

- The video game industry is one of the largest global entertainment markets
- A personal interest in video games motivated the selection of this dataset, enabling a more engaged and meaningful exploration of sales and rating patterns.

Why This Dataset?

- Includes platform, genre, and publisher information
- Contains critic and user ratings, enabling quality vs sales analysis

Why Use an Older Dataset?

- Enables analysis of platform life cycles and genre evolution
- Suitable for studying structural patterns in the industry

Dataset Overview

Source

Kaggle: Video Game Sales and Ratings (as of January 2017)

Dataset Size

- 15 columns
- 17,416 rows

Key Attributes

- Metadata: Platform, Genre, Publisher, Year of Release
- Ratings: Critic Score, User Score, ESRB Rating

Q1 How have global video game sales evolved over time?

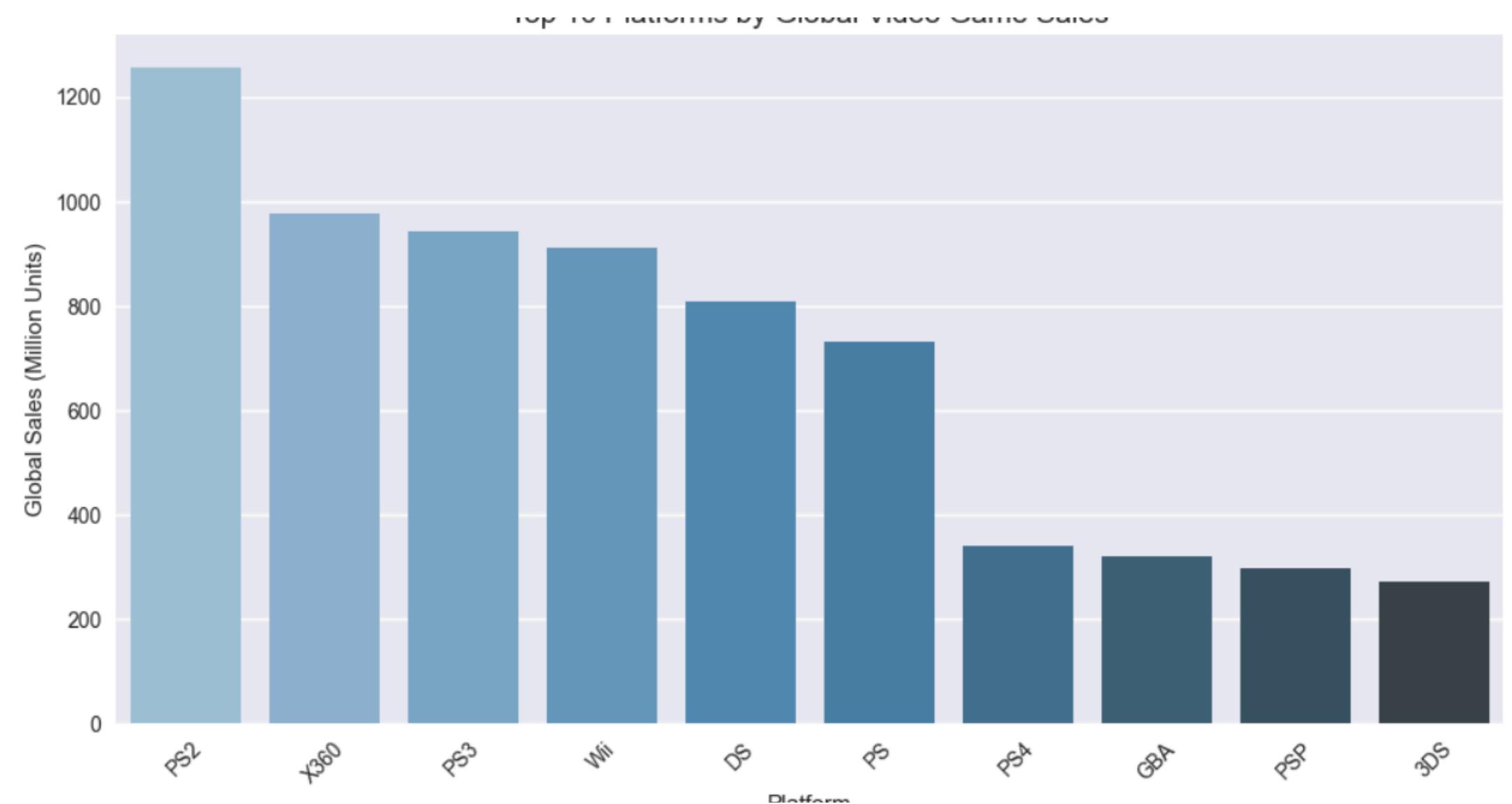
- Global video game sales increased steadily from the late 1970s and accelerated rapidly after the mid-1990s.
- Sales peaked around 2008–2009, corresponding to a major console generation and widespread market adoption.
- A decline in sales is observed after 2010, indicating market saturation and a shift in industry dynamics



Conclusion - The video game industry experienced strong long-term growth followed by a peak and gradual decline, reflecting a mature market undergoing structural changes.

Q2 Which platforms generate the highest total global sales?

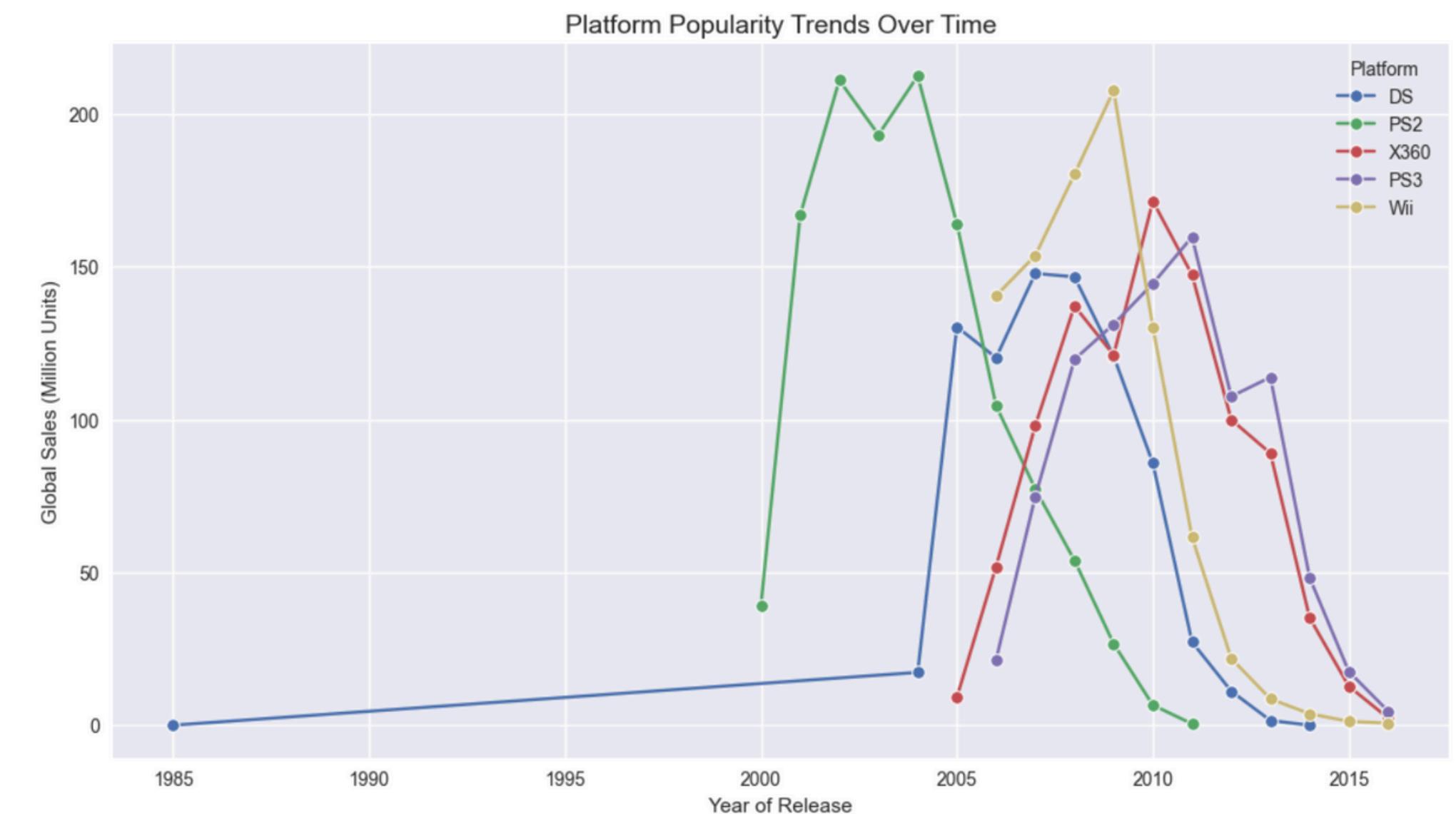
- The PlayStation 2 (PS2) is the highest-selling platform by a clear margin.
- Console platforms dominate the top rankings, while handheld systems contribute in comparatively lower total global sales.



Conclusion - Global video game sales are highly concentrated among a small number of console platforms, highlighting the importance of platform longevity and ecosystem strength in steering commercial success.

Q3 How has platform popularity changed over time?

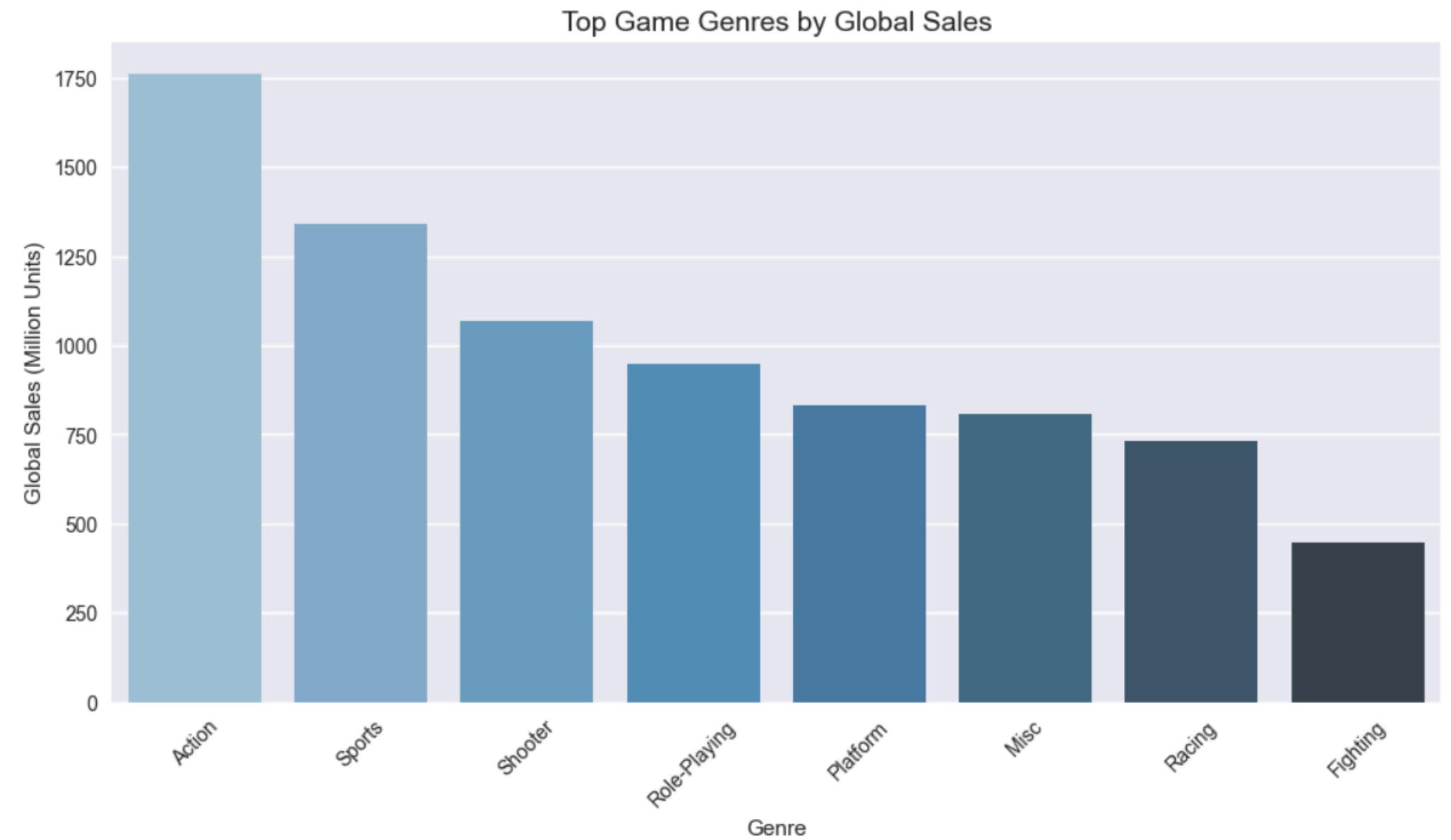
- Each major platform exhibits a clear life cycle, with sales rising rapidly after launch, peaking, and then declining over time.
- Market leadership shifts between platforms across console generations, with PS2 peaking earlier, followed by Wii, Xbox 360, and PS3 in later years.



conclusion - Platform popularity in the video game industry is dynamic, with commercial success driven by generational leaps rather than one single platform dominance.

Q4 Which game genres generate the highest global sales?

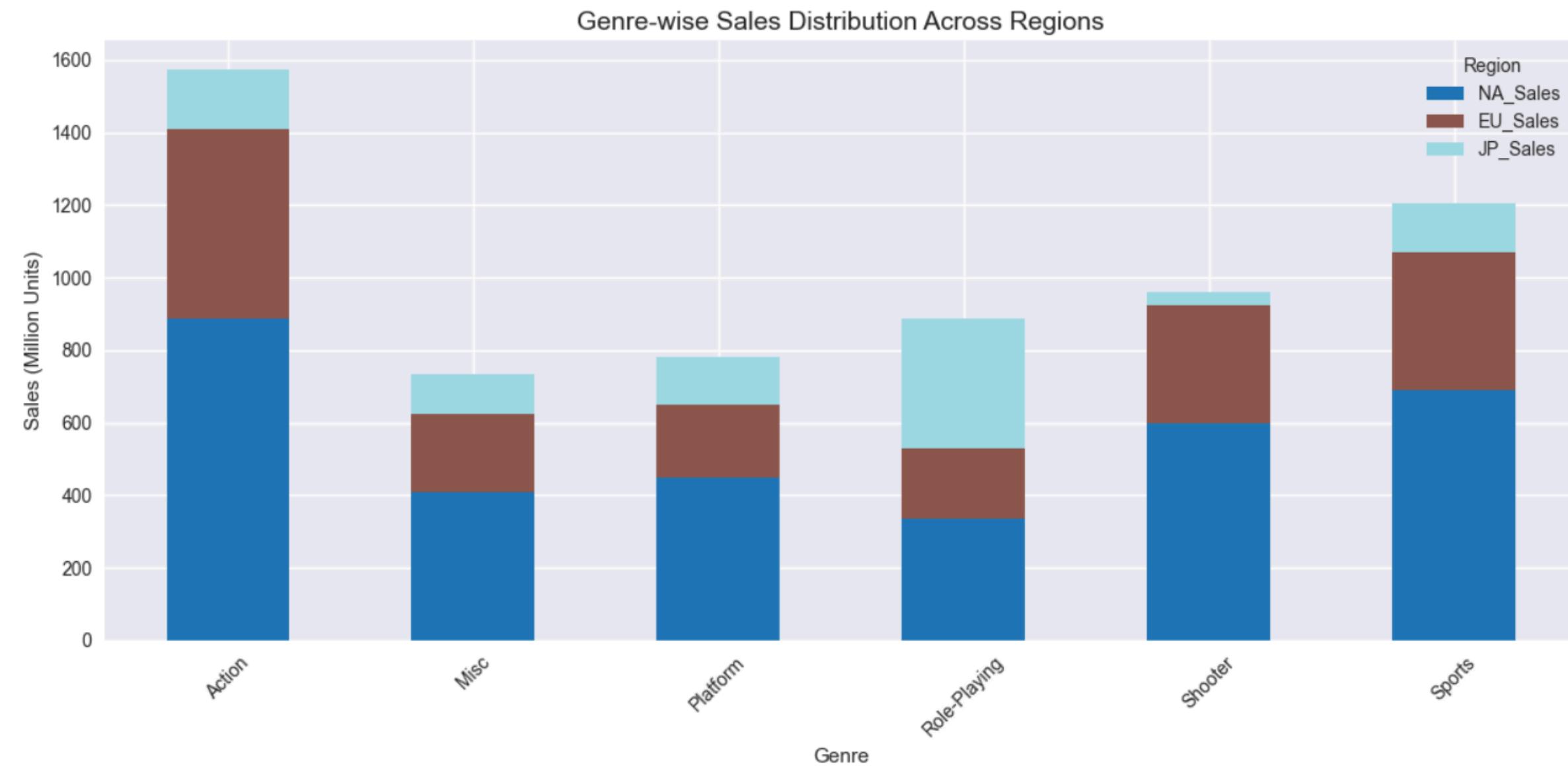
- Action games genre generate the highest global sales, significantly outperforming all other genres.
- Sports and Shooter genres also show strong sales, indicating broad market appeal.



Conclusion - Global video game sales are heavily concentrated into a specific set of genres, emphasizing the importance of content type in driving commercial success.

Q5 How do different game genres perform across regions?

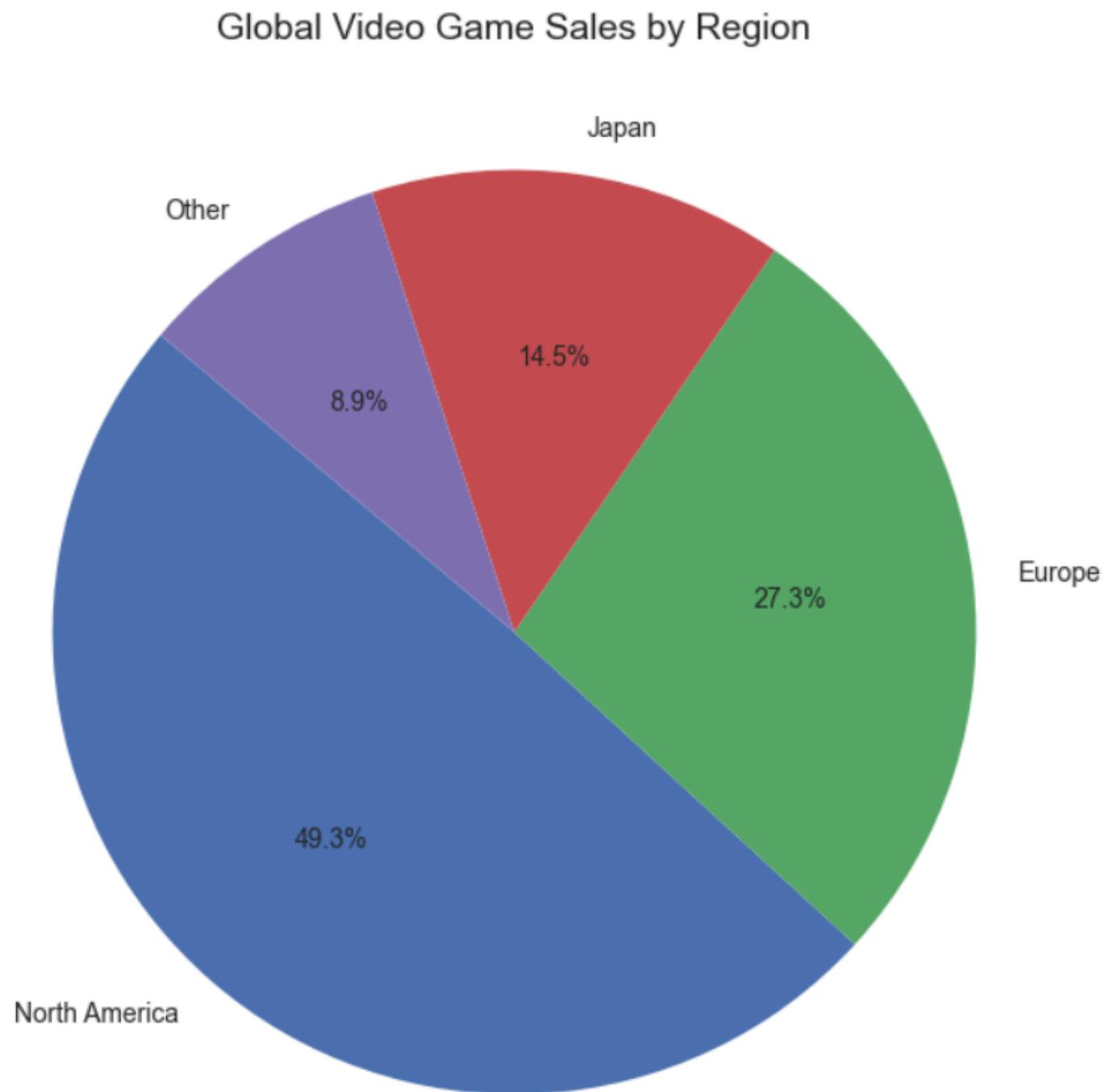
- North America contributes the largest share of sales across all major game genres.
- Europe consistently represents the second-largest market.
- Japan shows a comparatively stronger preference for role-playing games.



Conclusion - Video game genre popularity varies by region, with Western markets driving overall sales while Japan exhibits distinct genre preferences like role-playing games.

Q6 How do regional sales contributions differ globally

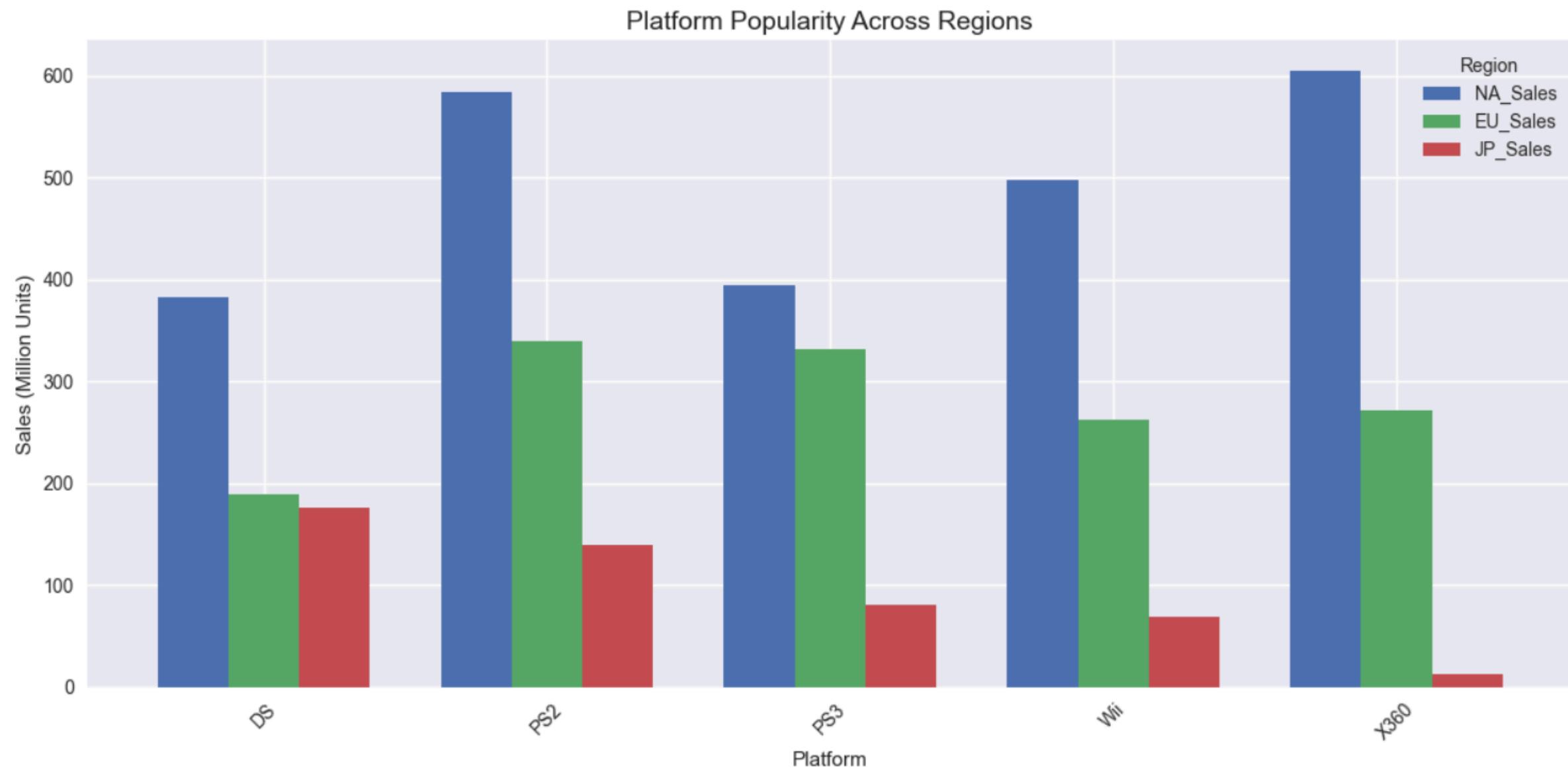
- North America dominates global video game sales, accounting for nearly half of total sales.(49.3%)
- Europe represents the second-largest market, contributing at around 27.3 % of total global sales.
- Japan and other regions together make up less than one quarter of total global sales.



conclusion - Global video game sales are heavily concentrated in Western markets during ,late 90s and early 20s with North America and Europe driving the majority of industry revenue.

Q7 Which platforms are most popular in each region?

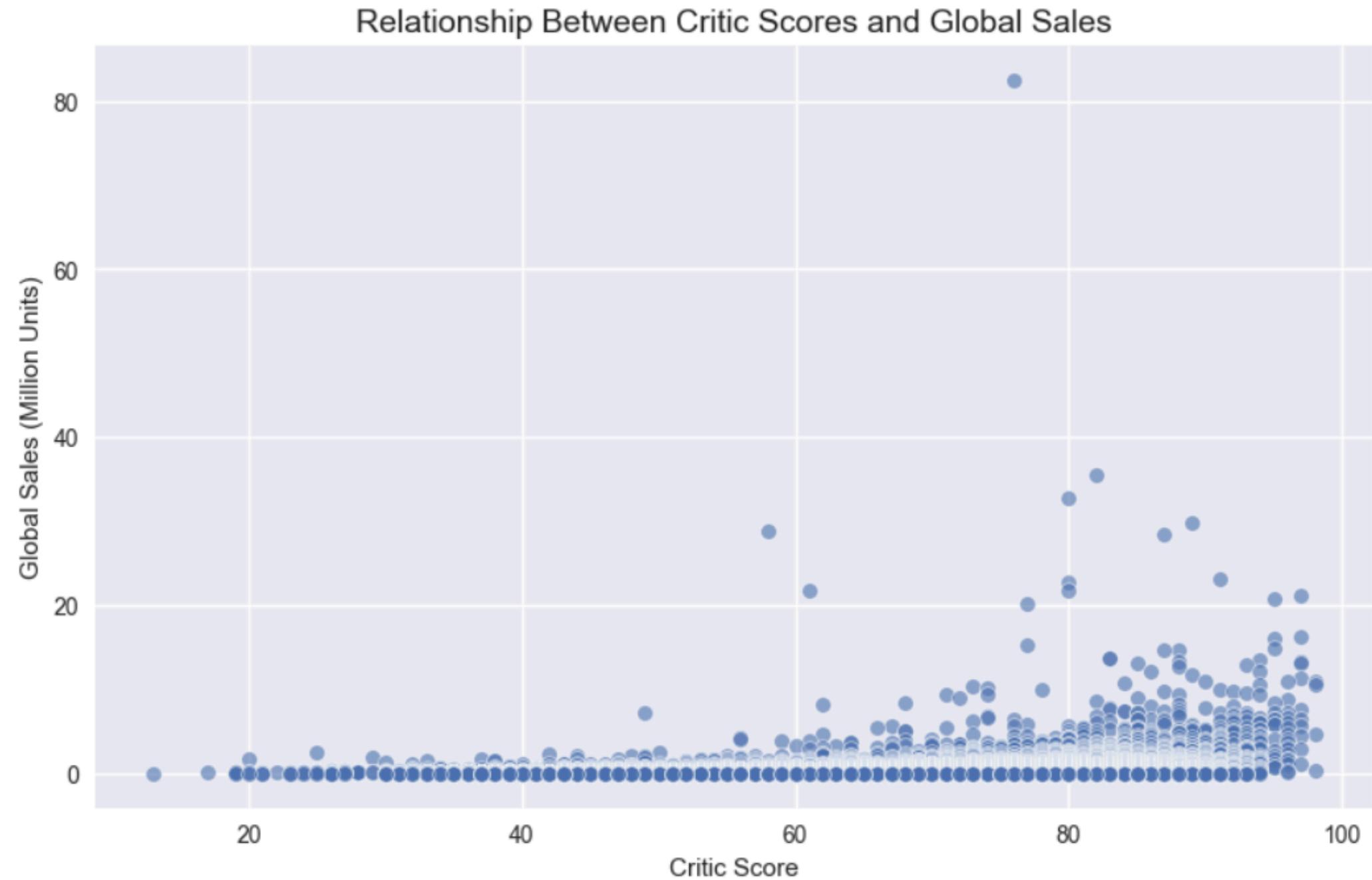
- All the platforms are popular in North America but ps2 and xbox 360 dominates.
- Xbox 360 is least popular in japan region.
- Platforms are also equally popular in Europe but with relatively lower sales.



Conclusion - Video game platform popularity varies strongly by region, with Western markets driving platform success while Japan exhibits more selective platform adoption.

Q8 Is there a relationship between critic scores and global video game sales?

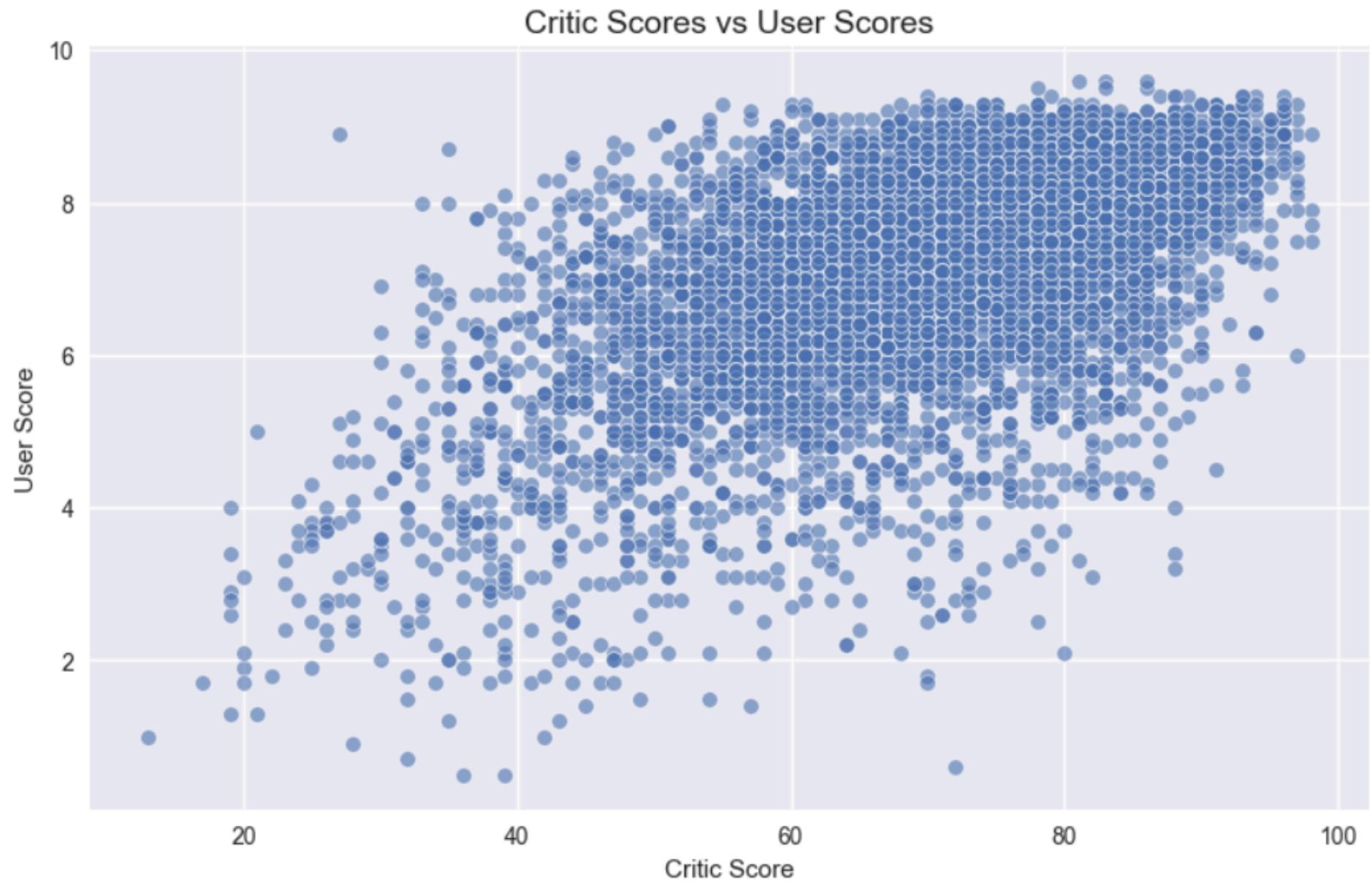
- A weak positive relationship exists between critic scores and global sales.
- Most games achieve low sales regardless of critic score, indicating high market competition.



Conclusion - Critic scores alone does not guarantee commercial success

Q9 Do critic scores and user scores align?

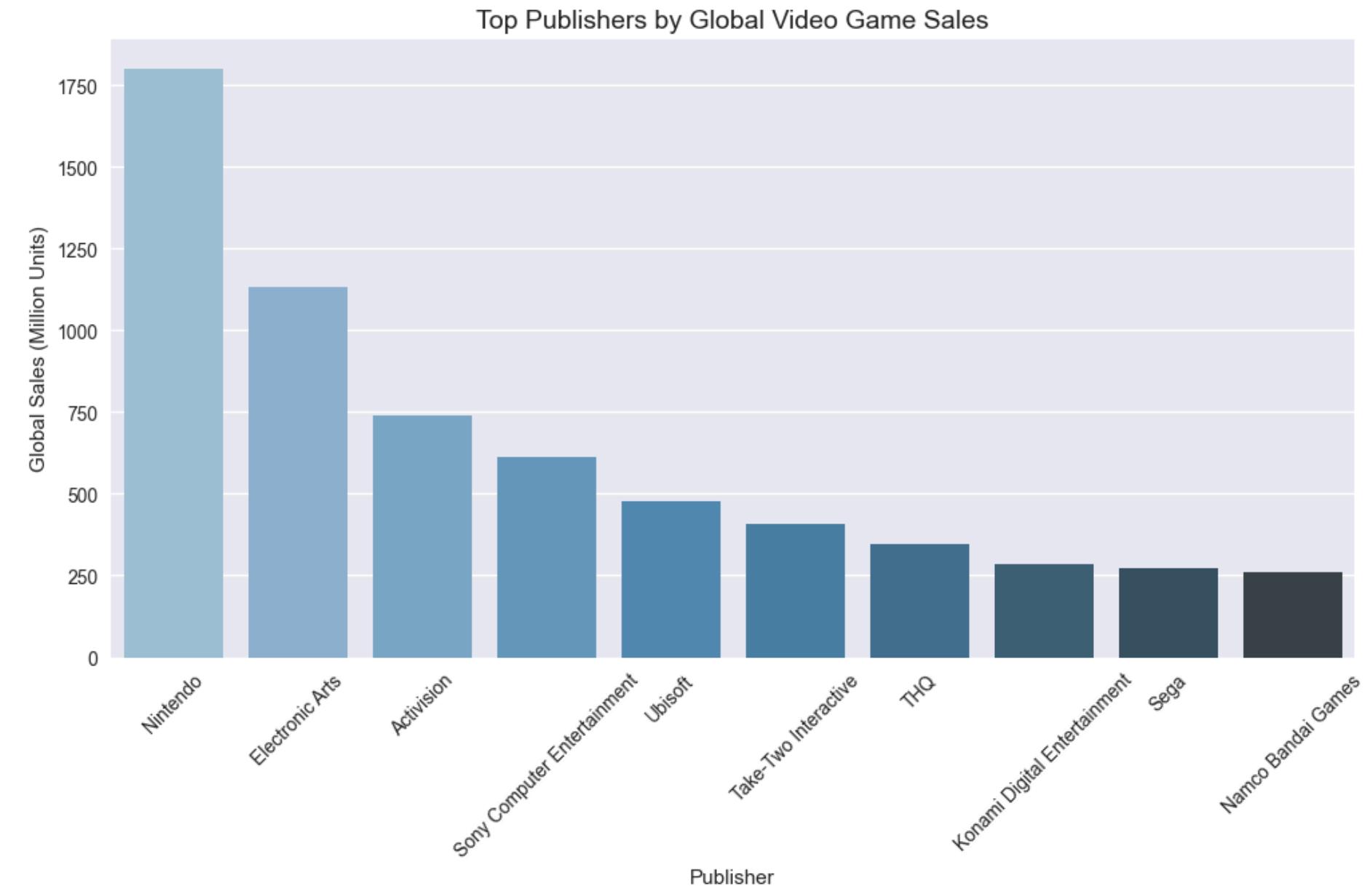
- Critic scores and user scores shows a clear positive relationship.
- User ratings show greater variability at lower critic scores.



Conclusion - Critics and users broadly agree on game quality, though subjective player preferences lead to noticeable distortion.

Q10 Is commercial success driven by a few highly successful publishers?

- Nintendo is the highest-selling publisher by a significant margin, clearly leading the market.
- A small group of publishers (Nintendo, Electronic Arts, Activision, Sony) accounts for the majority of global sales.



conclusion - Commercial success in the video game industry is largely driven by a few dominant publishers.

Key Takeaways & Limitations

Key Takeaways

- Global video game sales exhibit clear life cycles driven by platform generations and market maturity.
- Sales are concentrated in a small number of platforms, genres, and publishers, indicating a highly competitive and hit-driven industry.
- Regional markets differ significantly, with North America and Europe driving global sales while Japan shows distinct preferences.

Limitations

- The dataset covers sales up to 2017 and does not reflect recent industry shifts such as digital-only distribution and mobile gaming growth.
- Some games lack complete review data, which may limit the strength of perception-based analyses.

T h a n k Y o u