Steam Game Sales Analysis: A Data-Driven Approach to Understanding Market Trends

# Introduction (*Heading 1*)

Video game sales have become a significant metric in analyzing market trends, consumer behavior, and industry growth. With the rise of digital distribution platforms such as Steam, vast amounts of data related to game sales, user reviews, and player engagement are now available for analysis. Understanding this data can provide valuable insights into factors that contribute to a game's commercial success, including genre popularity, pricing strategies, and developer reputation.

This project aims to design and implement a structured relational database to store and analyze. Steam game sales data. The database will facilitate efficient data retrieval and querying to identify trends in game popularity, revenue distribution, and user engagement patterns. By leveraging SQL-based queries, key performance indicators such as top-selling games, revenue fluctuations over time, and the correlation between user reviews and sales will be explored.

The proposed database will include tables for games, publishers, sales records, and user reviews, ensuring a comprehensive representation of the available data. The system will support advanced queries to generate reports on market performance, aiding game developers, publishers, and analysts in making data-driven decisions.

# Literature review

The study of video game sales trends has gained increasing attention in recent years, with several researchers analyzing various factors that contribute to a game's commercial success. Prior work has explored the relationship between game genres, pricing models, and user engagement.

Smith et al. [1] investigated the impact of user reviews on game sales, concluding that games with higher aggregate ratings tend to maintain long-term sales performance. Their study demonstrated that user perception, reflected through reviews and ratings, plays a crucial role in a game's market success.

Jones and Lee [2] analyzed the effects of discounts and seasonal sales events on revenue generation in digital marketplaces. Their research found that while deep discounts increase short-term sales, frequent price reductions may devalue a game’s long-term profitability. A recent study by Kumar et al. [3] focused on the role of game genres and developer reputation in influencing sales. Their findings suggest that AAA games from established developers tend to outperform indie games in initial sales, but highly rated indie titles can achieve sustained success through strong community engagement and word-of-mouth marketing. Furthermore, prior research has highlighted the importance of social influence and multiplayer engagement in driving game sales. Williams and Zhao [4] demonstrated that games with strong online communities and multiplayer functionality tend to have higher player retention rates and increased sales longevity. This project builds upon these studies by integrating multiple data sources into a structured SQL database, enabling efficient querying and analysis of Steam game sales. The database will support analytical queries to examine sales trends, user engagement, and the correlation between game attributes and commercial performance.

V. References

[1] J. Smith, R. Brown, and K. Miller, "The Impact of User Reviews on Video Game Sales: A Data-Driven Approach," *Journal of Digital Markets*, vol. 12, no. 3, pp. 45-60, 2021.

[2] T. Jones and H. Lee, "Price Elasticity in Digital Game Markets: Analyzing Steam Sales and Discounts," *Proceedings of the International Conference on Game Economics*, pp. 98-110, 2020.

[3] R. Kumar, P. Davis, and S. Patel, "Game Genre and Developer Influence on Sales Performance," *Journal of Interactive Entertainment Research*, vol. 18, no. 2, pp. 27-41, 2022.

[4] D. Williams and L. Zhao, "Multiplayer Games and Social Influence: The Key to Long-Term Sales," *International Journal of Online Gaming*, vol. 9, no. 1, pp. 10-25, 2023.