

# **An evidence-based approach to portray the acquisition of Activision Blizzard by Microsoft**

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## **Executive Summary**

As I embarked on this project as a unique business endeavor, I was eager to apply the multitude of skills I had honed during my post-graduate modules. It was at this juncture that Mergers and acquisitions captivated my interest. I realized that this intricate process would require the utilisation of all my acquired skills.

I then discovered the news of Microsoft's acquisition of Activision Blizzard, a deal involving an all-cash transaction valued at approximately \$68.7 billion. This agreement, settled at \$95.00 per share, encompasses Activision Blizzard's net cash. Upon conclusion of this transaction, Microsoft's status will then elevate to the third-largest global gaming firm by revenue, following Tencent and Sony.

In the quarter concluding on June 30, 2023, Activision Blizzard reported 356 million Monthly Active Users (MAUs). In terms of financial performance, the company's net bookings amounted to \$2.46 billion for that quarter, representing a considerable increase from the \$1.64 billion generated in the equivalent quarter of 2022. Moreover, Activision Blizzard experienced growth in in-game net bookings, which were reported at \$1.56 billion for the quarter, as opposed to the previous year's second-quarter figure of \$1.20 billion. Each of these statistics underscores Activision Blizzard's substantial user engagement and growing financial success.

The acquisition will Microsoft to integrate renowned franchises from Activision, Blizzard, and King studios such as "Warcraft," "Diablo," "Overwatch," "Call of Duty," and "Candy Crush," as well as global eSports initiatives via Major League Gaming. Activision Blizzard, boasting a workforce of nearly 10,000 employees, has studios worldwide.

With my understanding of M&As, as a consultant, I initiated a strategic process that was largely data-centric. The primary objectives included conducting a comprehensive examination of the gaming market to gain a holistic understanding of its evolution, culture, market potential, and customer base.

Additionally, a thorough review of the sales performance and market positioning of both entities involved in the merger was initiated. This included gauging the high and low potentials of both companies and forecasting their future standing in the market.

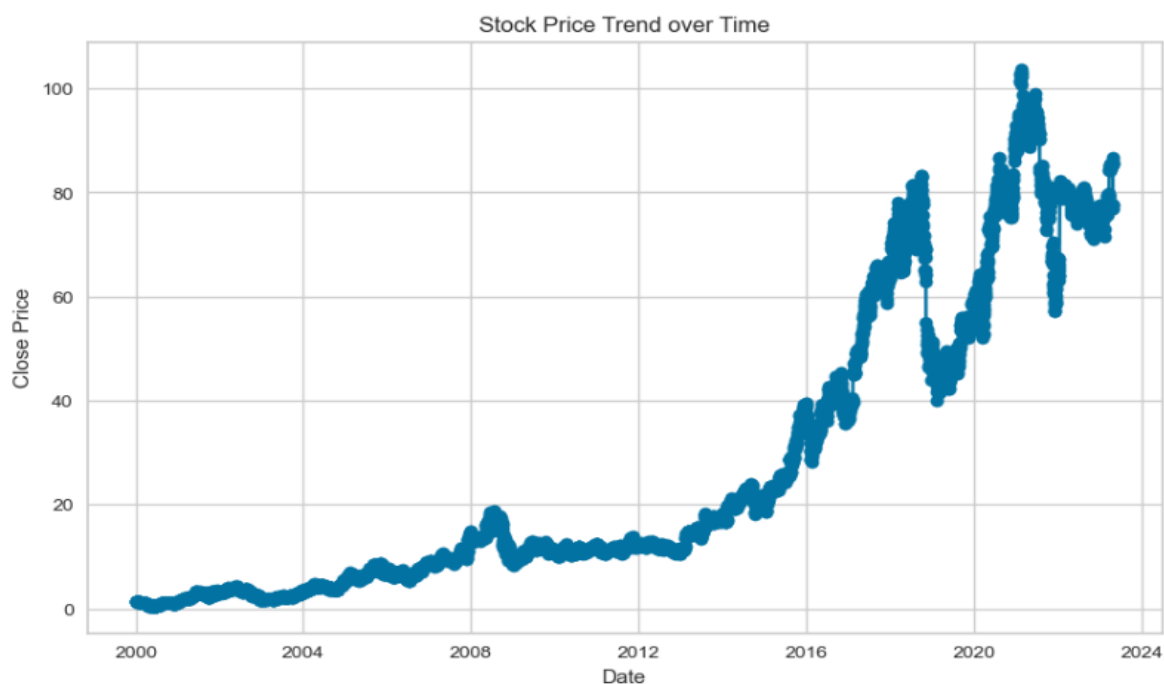
Subsequently, tailored visualization tools were developed to effectively communicate complex data to stakeholders. Lastly, the process culminated with

the provision of insights and recommendations, rooted in sound ethical principles to guide the next steps in the merger process.

For this analysis, we utilized two key datasets. The first is a video game sales dataset, encompassing attributes such as release year, sales figures, user ratings, among other significant features. The second dataset is dedicated to the stock performance of Activision Blizzard, populated with essential attributes such as date, high, low, opening, and closing values. Leveraging these comprehensive datasets, we have carried out an exhaustive analysis.

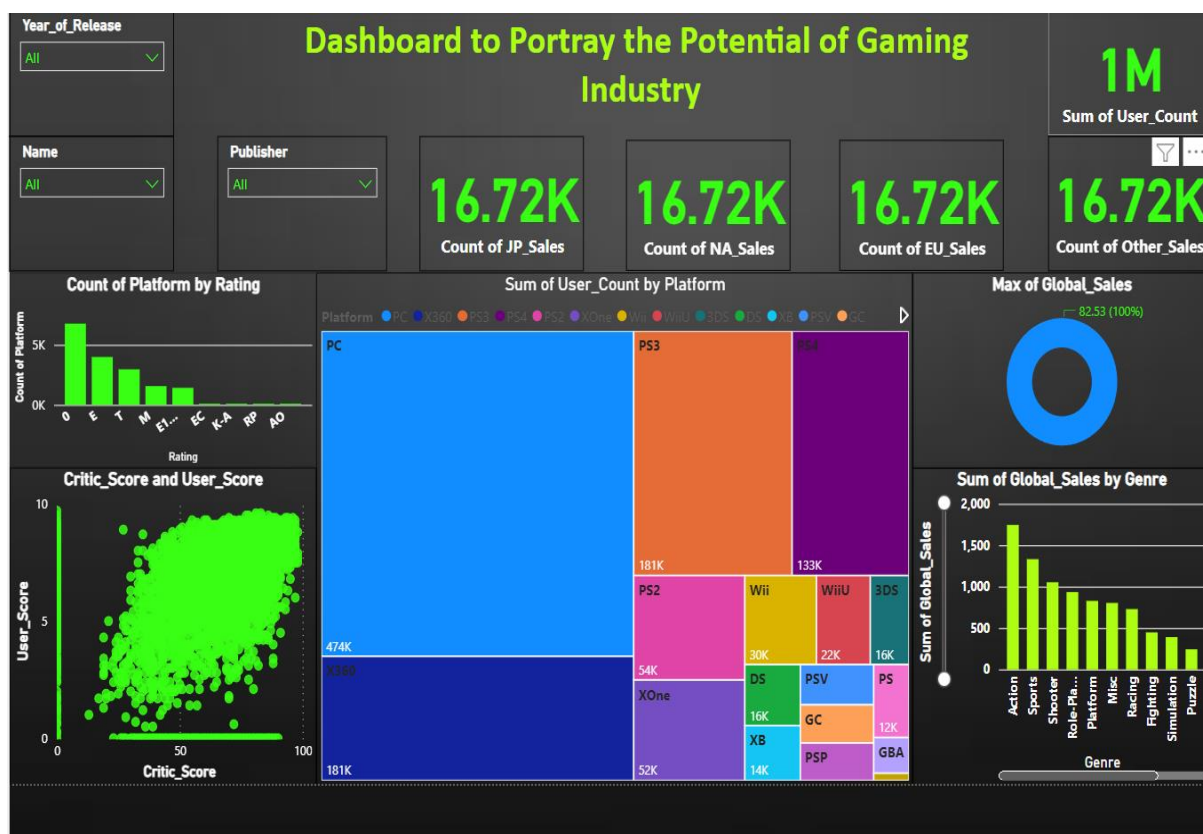
With predictive modeling, K-means clustering, and the Elbow method identified optimal clusters in global gaming sales data. The Random Forest model showed high efficiency in predicting sales, backed by a low MSE and high R-squared value. SVM regression analysis presented Activision Blizzard's stock values effectively, revealing crucial sales influencers. This robust and validated strategy offers reliable insights, aiding strategic business decisions.

Throughout the progression of the gaming landscape, we've encountered numerous plots; however, we focused on those most suitable for our analysis. We examined the gaming market, diving into aspects such as sales performance, user count, and the rise and fall of various genres over time. From this investigation, we extracted valuable insights, including pinpointing optimal target audiences and identifying key genres to boost sales. These findings can effectively direct marketing efforts and development strategies, contributing significantly to both short- and long-term planning.



Utilizing the video game sales data, we executed a detailed analysis of the Activision Blizzard gaming market. We noticed that games like Call of Duty significantly outperformed, with sales surging by 17% in 2023. This analysis facilitated the generation of insights for seasonal updates. Additionally, we delved into the stock data, constructed a time series plot, and discovered that Activision Blizzard stock presents a promising investment opportunity due to its potential market growth.

Then using the SWOT analysis, we have evaluated, the potential of Microsoft and Activision Blizzard. Microsoft's capabilities lie in its renowned Xbox platform and Azure Cloud. However, they face challenges from competitors like Sony's PlayStation and integration issues with Activision Blizzard. Activision Blizzard boasts notable game series and a vast worldwide audience, but faces lawsuits and negative attention over workplace issues, and struggles in mobile gaming. Both companies have extensive opportunities for growth and collaboration but must navigate industry competition and swiftly changing gaming trends.



Our PowerBI dashboard, built on Munzner's validation system, provides valuable gaming market insights starting from past trends to future projections. Offering interactive features such as the selection of 'year\_of\_release' and 'publisher', it allows Microsoft and Activision Blizzard to track their performance and make

data-driven decisions. The comprehensive visualizations, covering sales, scores, and user count metrics, can aid both entities in identifying key growth opportunities, comparative analysis, and effectively managing the post-merger transition.

Insights to ensure smooth M&A between Microsoft and Activision Blizzard, consistent communication, inclusive leadership, and strategic handling of job overlaps are vital. It's important to foster technical discourse, frequently survey staff sentiments, and celebrate consolidation successes. These steps will mitigate workforce disruptions, promote transparency, and encourage effective integration.

During the Microsoft and Activision Blizzard merger, transparency, accountability, and fairness were crucial this was evaluated and stated using the AREA framework to ensure the operations will be ethical. Handling job overlaps, confidential information, communication, customer impact, and management structure with diligence is essential. Encouraging idea exchange, maintaining thorough records, and having an auditing mechanism will support ethical practices and smooth transition.

In conclusion, the Microsoft and Activision Blizzard merger offers substantial opportunities for growth and expansion. A focus should be on a customer-oriented approach, encompassing targeted marketing, user feedback integration, and robust support for gaming experiences. The merger affords both entities the potential to leverage each other's expertise, from game development to advanced technologies like VR, AI, and cloud-based gaming. Increased geographical reach, enhanced security, and heightened innovation are additional prospects. However, challenges lurk in leadership decision-making, managing increased complexity, maintaining gaming rights, retaining talent, and dealing with potential cyber threats. Navigating these complexities efficiently will be vital for reaping the benefits of this strategic collaboration.

## **Declaration**

I confirm that this work contains no content that has been approved for any other degree or diploma under my name at any university or other higher education institution. To the best of my knowledge, this work also does not include any previously published or written material by another individual, unless proper citation is provided within the text. Furthermore, I assert that no portion of this work will be used in a future submission under my name for any other degree or diploma at any university or other higher education institution without obtaining prior approval from the University of Exeter and any partner institution involved in the joint awarding of this degree. I grant permission for the digital version of my thesis to be made accessible online through the university's digital research repository, library search, and web search engines unless the university has granted permission to limit access for a specified duration.

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I wish to convey my profound appreciation to the University of Exeter for providing me with the opportunity and guidance as I undertook my Master's in Business Analytics. I extend my sincere gratitude to my advisor, **Prof Vincent Hall**, who was instrumental in every phase of my business project, offering valuable insights and essential feedback. I am equally grateful to **Ms. Beth Kewell**, who oversees the Business Project module, for imparting valuable knowledge, professional mentorship, and unwavering support throughout my project. Lastly, my deepest appreciation goes to my parents, who always encouraged me to chase my dreams, supporting me throughout this vital journey of acquiring my master's degree.

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# **An evidence-based approach to portray the acquisition of Activision Blizzard by Microsoft**

## **1. Introduction**

In a world characterized by constant evolution and innovation, the obligation towards an accurate and evidence-based or data-driven approach has become paramount. During the preliminary research phase, the subject that captured the researcher's interest was mergers and acquisitions (M&A), posing the challenging task of identifying the problem statement. Later when I found out about the hot topic of the acquisition of Activision Blizzard by Microsoft, thorough research was conducted, culminating in the submission of a proposal focused on “An evidence-based approach, portraying the acquisition of Activision Blizzard by Microsoft” (Microsoft Corporation, 2022).

## **2. About Microsoft**

With the motto “Our mission is to empower every person and every organization on the planet to achieve more” (About - Microsoft, n.d.). The company was founded by Bill Gates and Microsoft has firmly established its offices in 150+ locations around the world (Microsoft Worldwide Sites, n.d.). Looking at the timeline Microsoft was founded in 1975 by Bill Gates and Paul Allen in Albuquerque, New Mexico, United States, the company was initially named as Micro-Soft, as they used to create software for the Altair 8800, a pioneering personal computer, microprocessors, and software were required. which was later named Microsoft in 1980, later in 1981 IBM introduced its personal computer with Microsoft's 16-bit operating system MS-DOS 1.0, then in 1985 the first generation of Windows was launched (Microsoft Founded, 2015), and the first version of Windows Office was launched in 19

89, as the name suggests, Windows 95 was introduced in 1995, on 25<sup>th</sup> of October 2001 the version of Windows XP OS was launched, on 15<sup>th</sup> of November 2001, Xbox was launched, in 2009, they introduced Bing within their operating system,

Windows 7 was launched in 2009, Windows 365 in 2011, Windows 8 was launched in 2012, on 4th of February, 2014 Satya Nadella became the CEO of Microsoft, in 2015 Windows 10 was launched, on May 16, 2018, Microsoft unveiled the Xbox Adaptive Controller, designed to make gaming more accessible for players with disabilities to ensure independent living, on November 10, 2020, Microsoft launched the Xbox Series X, their latest and most advanced gaming console, in 2021, Windows 11 was launched by Microsoft as the latest version of their Windows operating system (Microsoft Corporation, n.d.). Microsoft has a history of trailblazing new technologies ahead of the curve, as exemplified by the release of the world's first holographic and augmented reality headset HoloLens. The company strives to maintain its reputation as a technical pioneer with its line of gaming consoles like Xbox Series X/S, Xbox One, and Xbox 360. In addition to software and gaming devices, Microsoft also has its own line of personal computers and mobile phones. Microsoft undoubtedly stands as a prominent force within the technology sector. Boasting a range of groundbreaking offerings and a formidable influence spanning consumer and corporate domains, for the future evolution. Microsoft has set its sights on acquiring the gaming epicentre Activision Blizzard. Microsoft officially broke the news of this acquisition on the "18<sup>th</sup> of January 2022" (Microsoft Corporation, 2022).

## **1.2 About Activision Blizzard**

Activision Blizzard, Inc. is one of the world's largest interactive entertainment companies, with operations across North America, Europe, and Asia (Activision Blizzard, About, n.d.). They are the largest gaming network on the planet thanks to its ownership of some of the most well-known entertainment franchises, including Call of Duty®, Skylanders®, World of Warcraft®, Overwatch®, Diablo®, Candy Crush, and Bubble Witch (Activision Blizzard, About, n.d.). These games collectively have hundreds of millions of monthly active users across 196 countries (Activision Blizzard, About, n.d.). Activision Blizzard currently includes five business units: Activision Publishing, Blizzard Entertainment, King, Major League Gaming, and Activision Blizzard Studios (Dravidian Gaming, n.d.). If we look at the timeline Activision was created in 1979 by former Atari workers, becoming the industry's first third-party video game company. Blizzard Entertainment was formed in 1991 as Silicon & Synapse before changing its name to Blizzard in 1994. In 1994, Blizzard released its groundbreaking game "Warcraft: Orcs & Humans," catapulting the company to prominence as a major player in the gaming industry. Blizzard published "Diablo"

in 1996, an action role-playing game that was both critically and commercially successful, establishing another legendary property in Blizzard's increasing portfolio of products. Blizzard Entertainment launched "StarCraft" in 1998, a classic real-time strategy game that was a major hit and made significant advances to the genre. "StarCraft" garnered a devoted fanbase and cemented Blizzard's reputation for producing high-quality, extremely interesting games. In the year 2003, Activision collaborated with the now-legendary development studio Infinity Ward to launch "Call of Duty," marking the inception of an immensely iconic franchise in the realm of first-person shooters, the mobile version was later launched in 2019 which changed the future of mobile gaming taking the market to a whole new level. In 2008, a monumental merger occurred between Activision and Blizzard, forming the combined company Activision Blizzard. Activision Publishing and Vivendi Games, the parent companies of each entity respectively, unified to create one of the most dominant players in the video game industry. This strategic joining of forces brought together Activision's flagship Call of Duty series and Blizzard's acclaimed Warcraft and Diablo franchises under one roof. The deal cemented Activision Blizzard's status as a leader boasting an impressive collection of hit titles and popular series. Propelled by the merger, Activision Blizzard claimed a powerful, commanding position at the forefront of the gaming world (Vivendi and Activision Complete Transaction to Create Activision Blizzard - Vivendi, 2020). Lastly, the acquisition of Activision Blizzard by Microsoft is a debated topic since the "18<sup>th</sup> of January 2022" (Microsoft News Center, 2022) this will be analysed using a data-driven approach in our project.

### **1.3 About M&A (Mergers and Acquisition)**

Two of the corporate world's most frequently misunderstood terms are mergers and acquisitions (Majaski, 2015). Both names frequently relate to the union of two businesses, but there are important distinctions in their appropriate usage (Majaski, 2015). When two independent organisations come together to form a single, new organisation, it is called a merger (Majaski, 2015). The taking over of one entity by another is referred to as an acquisition (Majaski, 2015). To increase a company's market share or reach in an effort to increase shareholder value, mergers and acquisitions may be undertaken. (Majaski, 2015).

Companies pursue mergers and acquisitions for a number of motives. In some cases, executives aim to expand their influence and reputation through bigger

companies. However, many recognize that merging or acquiring other firms can generate new financial value for shareholders if done strategically. The potential benefits of properly executed M&A deals include cost savings from consolidated operations, expanded market reach, cross-selling opportunities, gains from economies of scale, and access to new talent and capabilities. This includes Leveraging economies of scale for optimal efficiency, enhancing goal oversight, offering affordable funding to cash-limited recipients, boosting product-market rent, securing tax advantages, and Generating wealth via reorganization and separations. Financial backers like leveraged buyout companies frequently seek purchases to increase value by dismantling the acquired entity (Palepu, Healy, & Peek, 2022).

## **1.4 Problem Statement**

The video game industry has seen growing numbers of customers and high profits. Microsoft is a major force in technology, and has often been in the news, but has not managed to make it to the top spot in gaming. On January 18, 2022, Microsoft Corporation (Nasdaq: MSFT) declared its intention to purchase Activision Blizzard at \$95.00 per share. This all-cash deal, with Activision Blizzard's net cash included, totals \$68.7 billion. This acquisition marks a significant milestone in Microsoft's expansion in the gaming sector. If this merger goes through Microsoft will become the third largest gaming company following Tencent and Sony (Microsoft News Center, 2022). The planned acquisition includes iconic franchises from the Activision, Blizzard, and King studios like "Warcraft," "Diablo," "Overwatch," "Call of Duty" and "Candy Crush," in addition to global eSports activities through Major League Gaming (Microsoft News Center, 2022). The company has studios around the world with nearly 10,000 employees. If Microsoft's proposed acquisition of Activision Blizzard is approved, it would make Microsoft the third-largest gaming company after Tencent and Sony (Microsoft News Center, 2022). The merger would give Microsoft control of major game franchises from Activision, Blizzard, and King such as "Warcraft," "Diablo," "Overwatch," "Call of Duty" and "Candy Crush." It would also give Microsoft global esports activities through Major League Gaming. Activision Blizzard has nearly 10,000 employees across studios worldwide (Microsoft News Center, 2022). The Federal Trade Commission (FTC) of the United States originally obstructed this transaction. The FTC's objective is to safeguard consumer interests and maintain competitive markets. It accomplishes this by curbing deceptive, unfair, and anti-competitive business

conduct through law enforcement, advocacy, and education while ensuring that genuine business activities aren't unnecessarily hampered. The FTC launched a lawsuit against this merger, asserting that it could alter the future of the gaming industry. The concern is that Microsoft's game subscription service and Xbox console could gain an unfair advantage over rivals due to the infrastructure acquired from this merger (FTC Seeks to Block Microsoft Corp.'s Acquisition of Activision Blizzard, Inc., 2022). Later the court determined that the FTC failed to demonstrate a probable chance of success on its claims that this specific vertical merger in this industry could significantly hamper competition. In fact, the evidence provided suggests that the merger might result in wider consumer access to Activision content including Call of Duty. Therefore, the request for a preliminary injunction was rejected. The Competition and Markets Authority (CMA) also made a move to thwart Microsoft's appeal regarding its acquisition of Activision Blizzard. This action was taken amid the hearing between the FTC and Microsoft, indicating an additional attempt to stall the purchase transaction. Although the court rejected the FTC's appeal, the UK's Competition and Markets Authority (CMA) and Microsoft have agreed to put their legal fight on hold in the UK. They will negotiate potential modifications to the Activision Blizzard deal that could address the CMA's concerns about cloud gaming. European Authority has also given the green light to the acquisition (Warren, 2023). The domain of mergers and acquisitions (M&A) battles with the critical task of ensuring value maximization while reducing potential risks during the amalgamation of organizations. When enterprises aim to grow, diversify, or simplify procedures, the process of merging two separate entities leads to complex challenges requiring effective solutions. The strategic choices to be implemented, are complex, during this vertical M&A and many factors are to be considered Cultural Harmonization of the skill force, Enhancement of Supply Chain Efficiency with implementation, Relationships Between Suppliers and Customers that is the loyalty of customers towards an enterprise, Standards of Quality and Uniformity, Technology Integration, Communication and Information Sharing for the stakeholders and even the legal compliance (Ibrahimi, 2018).

## **2. Aims and Objectives**

### **2.1 Aims**

This project aims to illustrate the full merger and acquisition process through data-based analysis. By completing an in-depth examination, we will assess the gaming industry's maximum potential and determine how this specific deal can impact the market landscape. Additionally, financial modelling will quantify projected growth for both the acquiring and acquired companies resulting from the acquisition. The goal is to gain tangible insights into the complete M&A lifecycle by focusing on this transformative gaming industry transaction. We seek to evaluate current market conditions, model the financial upside, and gauge future implications in order to demonstrate applied learning across the domains of M&A strategy, valuation, and integration.

Activision Blizzard has 368 million daily active users across its gaming portfolio. The company's titles and franchises have achieved major success, with Call of Duty as a key growth driver. Activision Blizzard asserts this acquisition by Microsoft will promote competition, benefit consumers, and create jobs globally, including in the UK. We will conduct a data-driven analysis to evaluate these claims and illustrate how the deal can enhance competitiveness, user experiences, and employment opportunities in relevant markets. Modeling and research will aim to support Activision Blizzard's assertions that the transaction can yield positive outcomes for the industry, end users, and job markets. Quantifiable projections and market assessments will be utilized to demonstrate these proposed deal benefits.

Microsoft has experienced increased Xbox sales with the release of the Series S and X consoles. Major titles have expanded to mobile, TV, and PC access since 2022. Through acquiring Activision Blizzard, Microsoft hopes to provide more flexibility in how and where people can play quality games. They assert the deal can spur industry innovation and growth. We will utilize data-driven analysis to evaluate Xbox's growth and model the potential advantages for Microsoft from this merger. Quantifiable projections aim to demonstrate the acquisition's ability to open new avenues for players, catalyse innovation, and expand the gaming market. The research will assess if claims of enhanced consumer choice, platform accessibility, and sector growth can be substantiated. The goal is to leverage empirical methodology to determine the merger's impacts on Microsoft's gaming



capabilities and the overall industry landscape. And also, to provide insights for the smooth transition of the entire process which is yet to happen.

## **2.2 Objectives**

Mergers and acquisitions (M&A) have become crucial strategic actions for organisations seeking to enhance their market position, realise growth, and develop value in today's fast-changing business environment. M&A is the process of joining two or more different firms, either via mergers, acquisitions, or other sorts of transactions. Companies undertake these agreements with specific purposes in mind, ranging from realising operational economies and expanding market access to utilizing synergies and broadening product offers. Overall, M&A is a key strategic tool for organizations looking to improve their competitive position, meet their growth goals, and create shareholder value through consolidation. The choice to engage in mergers and acquisitions is influenced by a firm's strategic outlook, its place in the market, and its future objectives (Mergers and Acquisitions: A Tool for Knowledge/Technology Transfer, 2001). Within the scope of a vertical merger, an analyst must consider a multitude of goals to provide the most effective consultation for this merger and acquisition. As Business Analysts for Activision Blizzard and Microsoft, we aim to evaluate the following scenarios using a data-driven strategy.

1. Use visualisation techniques and statistical analysis to identify and evaluate the gaming market.
2. Evaluate both Microsoft and Activision Blizzard by using the available information, Exploratory Data Analysis (EDA), and correlation model to explore and explain the datasets and to analyse financial statements, market trends, competitive landscape, and operational performance. Also include financial modeling for valuation and negotiation.

3. As an M&A analyst identify potential risks, synergies, and growth opportunities.
4. Create visualisation for stakeholders, to portray the potential of the gaming industry.
5. Give insights for change management, where it will be useful for changes in employees, management, processes, systems, etc. This insight should be useful for smooth M&A transactions.
6. Ethics should be ensured throughout the merger process. Use the AREA framework for this process.
7. Post the strategic merger of Microsoft and Activision Blizzard, list out the focus areas and opportunities of this merger, which are essential for both entities.

### **3. Literature Review**

The focus of this literature review is the examination of the Microsoft's acquisition of Activision Blizzard from the perspective of a Mergers & Acquisitions (M&A) consultant. Our aim is to paint a comprehensive picture of the whole transaction to further our understanding. To achieve this, the literature review will be multifaceted, beginning with the exploration of various news pieces, articles, and critiques that provide in-depth insights into the deal, later the gaming market. Following that, we'll delve into background research of both Microsoft and Activision Blizzard, understanding their respective positions within the gaming industry. The final stage of the review will focus on the concept of M&A, determining how the acquisition situates in the current merger trends and landscape.

#### **3.1 About acquisition of Activision Blizzard by Microsoft**

My initial exposure to the acquisition, and the existing unease pervading the gaming industry, came from a Microsoft press release. The article offered comprehensive details regarding the Activision Blizzard acquisition by Microsoft. It revealed that with an active user base of three billion, the finalization of this deal would position Microsoft as the third-largest entity in the gaming market, trailing behind Sony and Tencent. The article stressed the importance of conducting market analyses with a focus on competitors and their roles in the gaming industry. Furthermore, it discussed how this deal would catalyse Microsoft's expansion in the gaming business across diverse platforms like mobile, PC, console, and cloud, while contributing to the foundation of the metaverse (Microsoft, 2022). While getting to know about this merger we got to know that Microsoft Corporation's acquisition of Activision Blizzard democratises gaming across a range of platforms, delivering exceptional entertainment to its rising customer base (Microsoft Corporation, 2022). This strategic acquisition not only boosts Microsoft's market position but also accelerates the development of the metaverse. Through widespread franchises like "Warcraft" and "Halo," the creative synergy assures a unified gaming environment, fostering an inclusive, accessible gaming community (Microsoft Corporation, 2022). The Microsoft-Activision Blizzard merger has been stymied by antitrust concerns raised by the US Federal Trade Commission (FTC). The FTC claims that the agreement will have a harmful impact on competition in consoles, subscription game services, and cloud gaming (The Economic Times, n.d.). In 2023, the court made a ruling, and in the UK, Microsoft proposed an

agreement with the CMA that would eventually yield results. This has provided me with a clear understanding to establish my target objectives.

### **3.2 Gaming Market**

Gaming Market is vast and ambiguous which predicts significant development, with a CAGR of 13.22% from 2022 to 2029. The market is expected to be worth USD 702.37 billion by 2029, up from USD 229.75 billion in 2021. Mobile and shooter gaming are important areas, with technological developments fuelling worldwide expansion. The widespread availability of high-speed internet, particularly in emerging markets, contributes greatly to market growth. With its fast technological adoption, Asia Pacific is likely to have the highest market share, with considerable growth also predicted in Europe and North America (ProQuest - NASDAQ OMX's News Release Distribution Channel, 2023). Leveraging my understanding of the existing market, I proceeded to explore and study a market that, while lacking concentrated attention, holds significant potential. I have incorporated this understanding relative to the Asian market into my analysis McCartney, G. (2019). this was used in the further analysis.

### **3.3 Microsoft and Gaming Market**

Microsoft Corporation, a prominent participant in the global technology industry, wields considerable power in a variety of areas, including gaming. Microsoft, the world's leading technology company, is dedicated to enabling every individual and organisation on the globe to accomplish more Microsoft founded. (2015). The organisation uses technology to make long-lasting, good outcomes, with an emphasis on innovation, sustainability, and corporate social responsibility. Microsoft's vast variety of goods and services, such as Microsoft 365, Windows, and Xbox, cater to a wide range of consumer requirements, while its investment in artificial intelligence attempts to improve user skills and productivity (Microsoft Corporation, n.d.). Microsoft has products in PC, mobile, gaming console and has market in cloud and gaming applications. Microsoft's fourth-quarter results for fiscal year 2023 was researched which emphasise the company's outstanding success, which is mostly driven by cloud services. With a 23% year-over-year increase in Microsoft Cloud revenue, the IT behemoth continues to strengthen its market position, demonstrating its increasing capabilities and dedication to innovation in a highly competitive area (Microsoft Corporation,2023). With this we have a understanding about Microsoft for this process.

### **3.4 Activision Blizzard**

Activision Blizzard is a multinational entertainment corporation that connects people across the world via amazing gaming experiences. Its renowned products contribute to the creation of communities and social platforms that bring people together in engaging and unique ways. Some of the most well-known titles in the business are represented in the company's portfolio, including Call of Duty, World of Warcraft, Overwatch, Hearthstone, and Diablo. Their games are synonymous with rich storyline and cutting-edge technology, thanks to skilled teams at Activision Blizzard Entertainment, King, and independent companies like Infinity Ward and Treyarch. Furthermore, Activision Blizzard exhibits a strong commitment to diversity, equity, inclusion, and environmental sustainability, working tirelessly to develop a more inclusive workforce and responsible business practises (Activision Blizzard, n.d.).

### **3.5 M&A and Implementation**

When I first started working on this M&A assignment, I discovered that the subject matter was difficult and comprehensive. I was more prepared to negotiate the subject's complexities after finding the literature, Business Analysis, and Valuation. The paper not only distinguished between mergers and acquisitions but also gave a thorough explanation of vertical mergers, emphasising the intricacies inherent in this sort of corporate reorganisation. Several ideas that may be investigated in the field of M&A were provided throughout the literature, which helped me grasp the industry's potential for transformation. Furthermore, Palepu, Healy, and Peek went into detail on the constraints that are frequently faced during mergers and acquisitions, such as regulatory impediments and potential dangers. Their attentiveness aided me in detecting potential obstacles during my project, allowing me to plan properly. Finally, this valuable resource really aided my understanding of mergers and acquisitions. As I worked on my project, it helped me understand the complexity of M&A, recognise chances for innovation, and be cognizant of the inherent constraints of these transactions (Palepu, Healy, & Peek, 2022).

## **4. Methodology**

To achieve a better understanding of our problem statement as the areas that will be addressed in this are ambiguous in nature, for this compression the problem should be viewed from multiple perspectives to achieve a smooth and clear union.

### **4.1 Mixed Methodology**

In our investigation, we employed a mixed method research, encompassing the gathering and interpretation of both qualitative and quantitative information. This approach incorporates datasets from Kaggle. Then we have critically analysed in different perspectives. Leveraging these methodologies, we have examined the utmost potential of the gaming industry by analysing complex and multifaceted queries, Microsoft, and Activision Blizzard's market positions, as well as the execution of tactics and considerations in a merger scenario.

### **4.2 Data Collection**

To understand the gaming evolution, I wanted data that includes data of Microsoft and Activision Blizzard's gaming data and about the top players in the industry, I went across different websites including ONS, and Harvard Database and I got my appropriate game sales data and Activision Blizzard stocks data, in Kaggle. In my pursuit to grasp the transformation of the gaming industry, I aimed for all-inclusive data that covers statistics of gaming giants like Microsoft and Activision Blizzard, coupled with knowledge about the leading personas in the industry. I embarked on a quest that led me through various sources, including but not limited to, the ONS and Harvard Database. Eventually, my efforts landed me valuable information concerning game sales on Kaggle, perfectly aligning with my research objectives. Kaggle is a digital platform for data enthusiasts and researchers to access and contribute to a variety of datasets. It maintains an expansive assortment of datasets encouraging collaborative analyses and investigations across numerous sectors, such as gaming, and economics, among others.

## **5. Data Analysis**

The analysis started by cleaning the data to remove interference. Next, exploratory data analysis (EDA) was conducted to understand patterns. Predictive modelling was then used to generate insights for mergers and acquisitions (M&A). The workflow progressed from preprocessing to exploration to prediction, enabling data-driven M&A decisions. Statistical and visual EDA uncovered relationships in the data before modelling. The models finally produced actionable insights for the M&A context. Overall, the analytical approach combined various techniques to extract valuable insights from the data in an efficient manner.

### **5.1 Tools and Software:**

In the realm of tools and software, I employed Jupyter, a Python-centric environment, to facilitate data preprocessing, exploratory data analysis (EDA), and predictive modelling. Additionally, I harnessed Excel's capabilities for extended analysis, including column generation, leveraging its considerable functionality. To enhance interactivity, I harnessed Power BI to construct a dynamic, user-engaging dashboard.

### **5.2 Ethics**

Adopting an ethical approach has been fundamental in my position as an analyst, a belief that is deeply woven into my project's essence. While acquiring the dataset, I rigorously sought out open-source resources and, luckily, I found an appropriate dataset on Kaggle, known for its open access and suitability for subsequent analytical work. As I proceed with the analytical task, my plan is to use the AREA framework to meticulously manage the ethical considerations of this merger. This methodology guarantees a steadfast devotion to ethical standards throughout my entire analytical project.

### **5.3 Market Research**

In keeping with my defined problem statement, I embarked on a mission to track down relevant data sources that fit my research goals. In this pursuit, I started my exploration by acquiring datasets related to video game sales that would effectively portray the development path of the gaming industry. My role as a consultant, tasked with offering insights into the potential merger between



Activision Blizzard and Microsoft, greatly benefits from this data-focused strategy. Moreover, I meticulously gathered stock market information related to Activision Blizzard, ensuring a thorough analysis that includes financial indicators. Consistent commitment to real-time monitoring has been a key trait throughout this project, diligently keeping tabs on news articles and market trends related to the anticipated acquisition. To fortify my knowledge in this endeavor, I've immersed myself in extensive literature research, involving scholarly books and enlightening case studies, aimed at understanding the complexities of mergers and acquisitions. I have additionally consulted annual reports and press releases, which assisted in obtaining a thorough understanding of the companies. The remainder of the market knowledge I've acquired will be demonstrated through analysis and visualization. The report encompasses the key factors contributing to gaming market expansion, including growth drivers, opportunities, limitations, and potential challenges. This will also provide insights for facilitating a seamless transition of the merger between Activision Blizzard and Microsoft.

#### **5.4 Limitation**

Limitations consistently have a considerable impact on an analyst's work, and my specific case is no exception. The primary challenge came from the outdated nature of the data, resulting in complexities during the cleaning phase and the unfortunate loss of numerous data points. At the same time, the articles analysing the acquisition were inherently biased, making it difficult to maintain an unbiased perspective. A tight deadline for comprehensive research further intensified these complexities. Specifically, the stock data related to Activision Blizzard was limited in scope, constraining the extent of market analysis possible. Confronted with these multifaceted constraints, my unwavering goal is to tackle the analysis methodically and painstakingly. By utilizing the existing dataset, I am devoted to scrutinizing relevant attributes with the highest accuracy to derive actionable insights that align with the ultimate objective.



## **6. Data Analysis & Insights**

### **6.1 Data**

In our project, we will be using video game sales datasets and Activision Blizzard stock data analyse the entire gaming market, and the stand of Activision Blizzard and Microsoft (**Kaggle, n.d.**). These datasets are available in the public domain of Kaggle.

### **6.2 Data Description**

<b>Data</b>	<b>Description</b>
Rank	Ranking of the game based on global sales. (Integer)
Name	Name of the game. (String)
Platform	Platform the game was released on. (String)
Year	Year the game was released. (Integer)
Genre	Genre of the game. (String)
Publisher	Publisher of the game. (String)
NA_Sales	Sales of the game in North America. (Float)
EU_Sales	Sales of the game in Europe. (Float)
JP_Sales	Sales of the game in Japan. (Float)
Other_Sales	Sales of the game in other regions. (Float)
AO	Adults Only
E	Everyone

E10+	Everyone 10 and Older
KA	Kids to Adults
M	Mature
Date	Date Format
Open	Open stock market price
High	Highest stock market price
Low	Lowest stock market price
Close	Close stock market price
Adj Close	Adjusted Close stock market price
Volume	The total quantity of shares or contracts traded for a specified security

## 6.3 Data Cleaning

### 6.3.1 Video Game Sales data

```
1 df1.fillna(0, inplace=True)
```

```
1 df1.isnull().sum()
```

Name	0
Platform	0
Year_of_Release	0
Genre	0
Publisher	0
NA_Sales	0
EU_Sales	0
JP_Sales	0
Other_Sales	0
Global_Sales	0
Critic_Score	0
Critic_Count	0
User_Score	0
User_Count	0
Developer	0
Rating	0
dtype: int64	

```
In [17]: 1 #Look for null values
          2 df1.isnull().sum()
```

```
Out[17]: Name      2
          Platform    0
          Year_of_Release 269
          Genre       2
          Publisher   54
          NA_Sales    0
          EU_Sales    0
          JP_Sales    0
          Other_Sales 0
          Global_Sales 0
          Critic_Score 8582
          Critic_Count 8582
          User_Score  6704
          User_Count  9129
          Developer   6623
          Rating      6769
          dtype: int64
```

Figure – 1 Data Cleaning

To ensure the dataset's quality and eliminate noise, I have employed several techniques to cleanse the data. Firstly, I used null function to check the data cells which has null values, then the noise was removed by replacing null cells with 0.

```
1 #Replace N/A String with number 0
2 df1[colu] = df1[colu].replace(['N/A'],(0))
3
```

```
1
2 #Replace String as 2600 with number 0
3 df1[colu] = df1[colu].replace(['2600'],(0))
4
```

```
1
2 #Replace String tbd with number 0
3 df1[colu] = df1[colu].replace(['tbd'],(0))
```

Figure - 2 Value Replacement

Secondly, the cells that had noise variables N/A,2600, and tbd were removed by replacing them with zero.

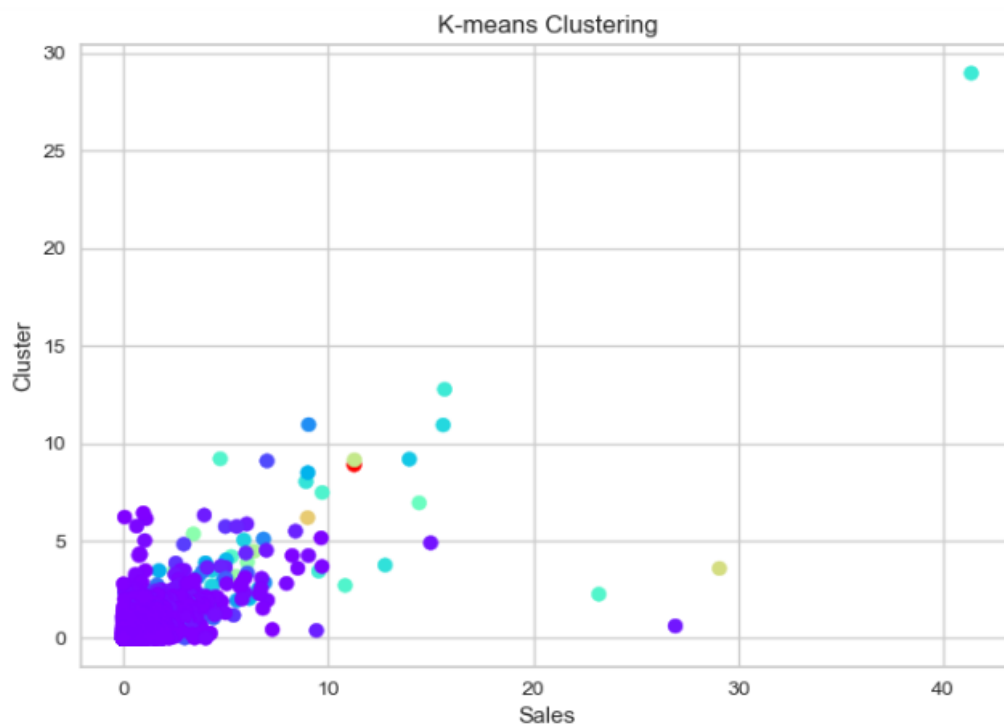
### **6.3.2 Activision Blizzard Stock Data**

The stock data was well-organized and clean, enabling us to proceed with our subsequent exploration.

### **Model Prediction for Data Analysis**

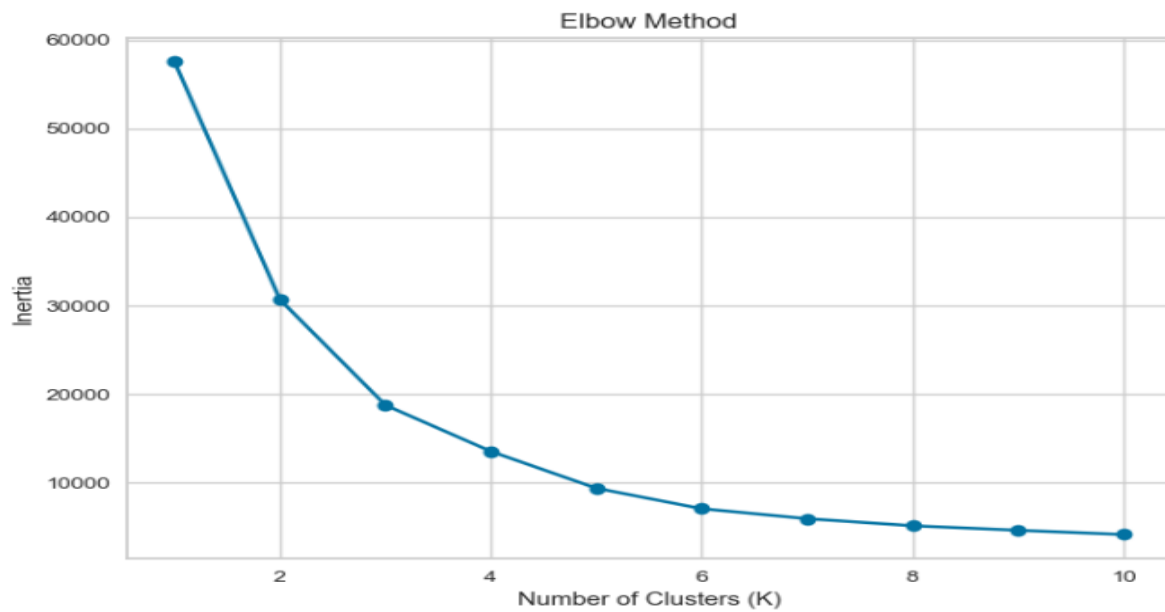
#### **For video game sales data**

In this study, we used the K-means algorithm, as well as the Elbow technique and the Silhouette score, to determine the ideal number of clusters for worldwide gaming sales data.



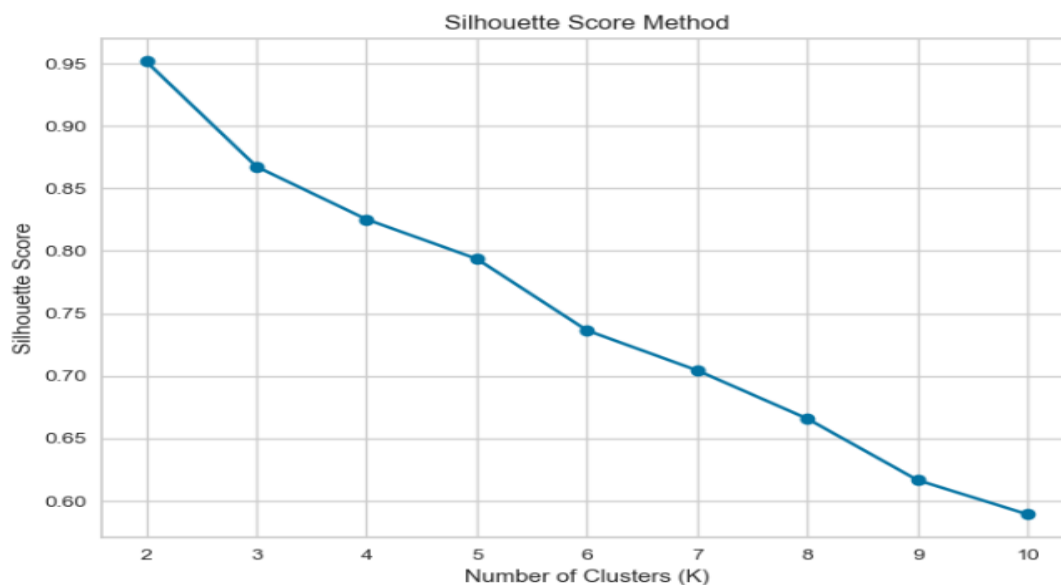
**Figure - 3 K-Means Clustering**

Because of the effectiveness, it provides in categorising data, K-means clustering was chosen. The data is divided into K clusters using this procedure, and each data point is assigned to the cluster with the closest mean.



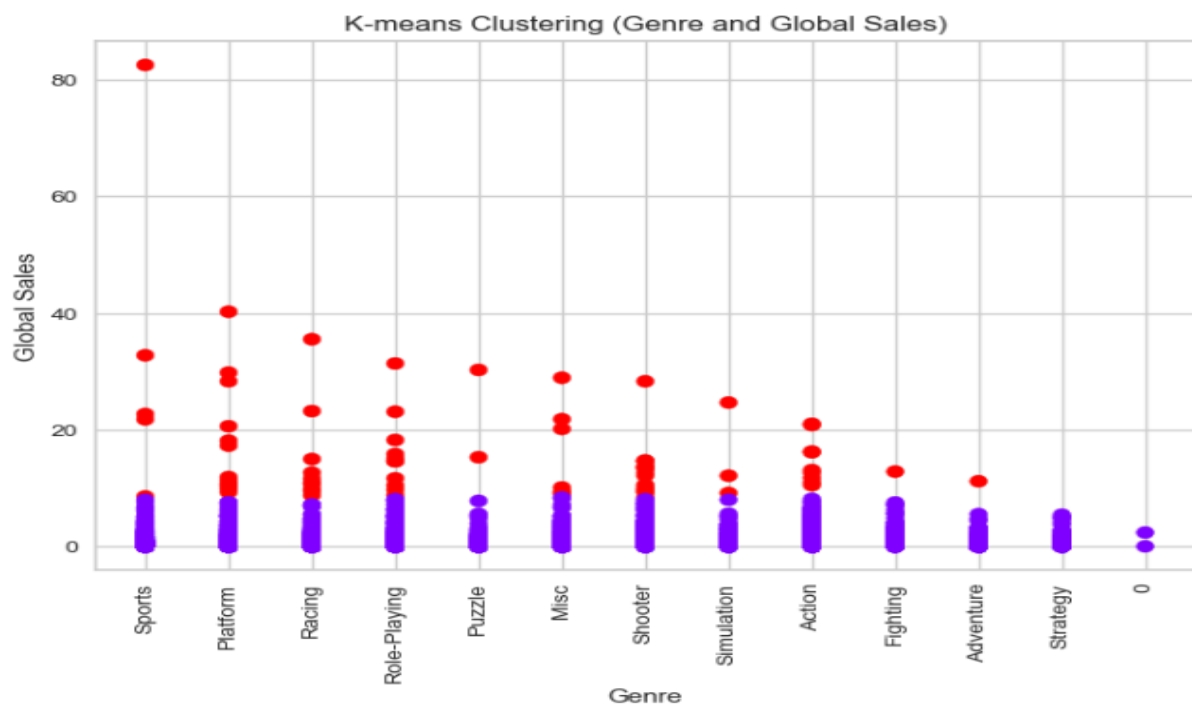
**Figure -4 Elbow Method**

We utilised the Elbow approach to determine the optimum K value. This entails graphing explained variation against the number of clusters and determining the point at which the slope of the curve changes most dramatically. This is usually the ideal K number when adding more clusters does not considerably enhance data modelling.



**Figure -5 Silhouette Score Method**

We used the Silhouette score to confirm our decision of cluster count. This score depicts how well each item fits into its cluster, ranging from -1 (incorrect clustering) to +1 (dense clustering), with 0 indicating overlapping clusters.



**Figure -6 K-means Clustering**

We found that the data was best suited for two clusters after applying these strategies meticulously. This two-cluster strategy provided the most relevant way to separate worldwide gaming sales data, resulting in more precise insights and analysis.

## 6.4 Random Forest

---

Mean Squared Error: 0.039718141357303796  
R-squared: 0.9800226511130867

**Figure -7 K Mean Squared and R-squared Error**

The Random Forest model performed well in predicting worldwide gaming sales, with a low Mean Squared Error (MSE) of 0.0397 indicating reliable forecasts.

Furthermore, a high R-squared value of 0.98 shows that the model correctly explains 98% of the variance in the sales data.

## 6.5 Pearson Correlation

The Pearson Correlation measures the linear relationship between two variables X and Y (Kent State University Libraries, n.d.). We evaluated the Pearson Correlation for numerous variables in our worldwide gaming sales data to better understand their link with sales. Correlation coefficients vary from -1 to 1. A number near 1 denotes a strong positive association, whereas a score near -1 denotes a strong negative relationship. A score of 0 indicates a poor or non-existent link (Kent State University Libraries, n.d.).

In [109]:	1	getPearsonRanking(X, y)																														
Out[109]:	<table> <tr> <th></th><th>Feature</th><th>Correlation</th></tr> <tr> <td>0</td><td>NA_Sales</td><td>0.941010</td></tr> <tr> <td>1</td><td>EU_Sales</td><td>0.901239</td></tr> <tr> <td>2</td><td>Other_Sales</td><td>0.749242</td></tr> <tr> <td>3</td><td>JP_Sales</td><td>0.612300</td></tr> <tr> <td>4</td><td>Critic_Count</td><td>0.245175</td></tr> <tr> <td>5</td><td>User_Count</td><td>0.236908</td></tr> <tr> <td>6</td><td>Critic_Score</td><td>0.148701</td></tr> <tr> <td>7</td><td>User_Score</td><td>0.136321</td></tr> <tr> <td>8</td><td>Year_of_Release</td><td>0.011920</td></tr> </table>			Feature	Correlation	0	NA_Sales	0.941010	1	EU_Sales	0.901239	2	Other_Sales	0.749242	3	JP_Sales	0.612300	4	Critic_Count	0.245175	5	User_Count	0.236908	6	Critic_Score	0.148701	7	User_Score	0.136321	8	Year_of_Release	0.011920
	Feature	Correlation																														
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2	Other_Sales	0.749242																														
3	JP_Sales	0.612300																														
4	Critic_Count	0.245175																														
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6	Critic_Score	0.148701																														
7	User_Score	0.136321																														
8	Year_of_Release	0.011920																														

**Figure -8 Pearson Ranking Correlation**

We may see the following correlations in the table above:

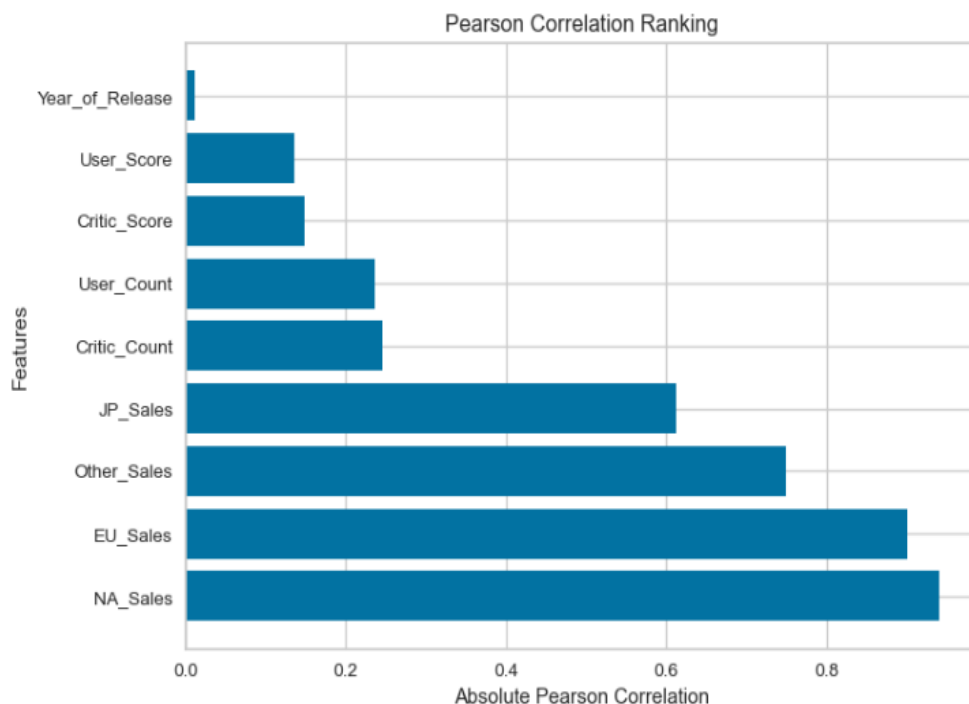
- 1. NA\_Sales (0.941010):** This characteristic has a significant positive association with gaming sales, implying that an increase in North American Sales is likely to be correlated with an increase in worldwide gaming sales.
- 2. EU\_Sales (0.901239):** European sales have a considerable positive association with worldwide gaming sales but are significantly weaker than NA sales.
- 3. Other\_Sales (0.749242):** While this characteristic has a lesser positive connection than the NA and EU sales, it is still significant, demonstrating that rises in sales from other areas might have an influence on global gaming sales.
- 4. JP\_Sales (0.612300):** Japanese sales appear to have a moderately favorable link with worldwide game sales.

**5. Critic\_Count (0.245175), User\_Count (0.236908), Critic\_Score (0.148701), and User\_Score (0.136321):** These characteristics show a modest positive association with worldwide game sales, indicating a weak link

**6. Year\_of\_Release (0.011920):** Year of Release appears to have essentially little link with worldwide gaming sales, implying that its influence on gaming sales is limited or negligible.

This correlation study aids in determining which factors may have the most influence on worldwide gaming sales, offering crucial insight for additional statistical or commercial research.

```
In [110]: 1 visualizePearsonRanking(ranked_features)
```

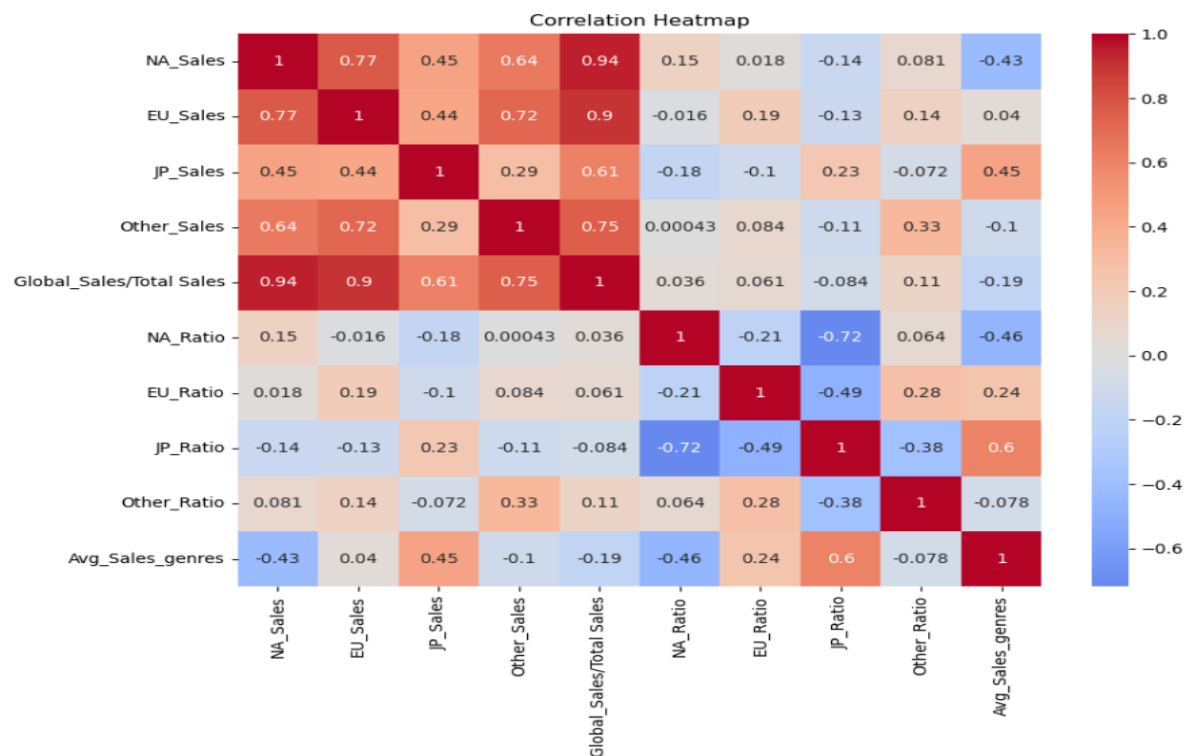


**Figure -9 Pearson Ranking Correlation Visualisation**

This graph is derived from the data processed through the algorithm.



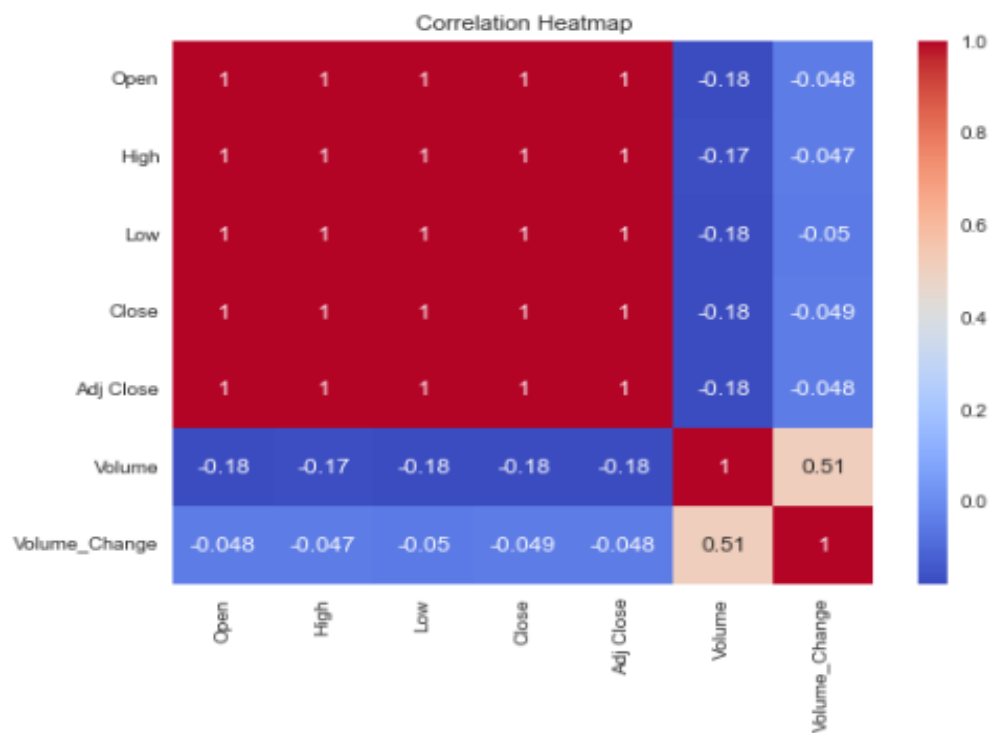
## 6.6 Correlation Heatmap



**Figure -10 Correlation Heatmap of video game sales**

This correlation heatmap serves to identify the interrelations between the attributes. A value of 1 indicates a strong correlation, while negative values imply a weaker correlation between the variables.

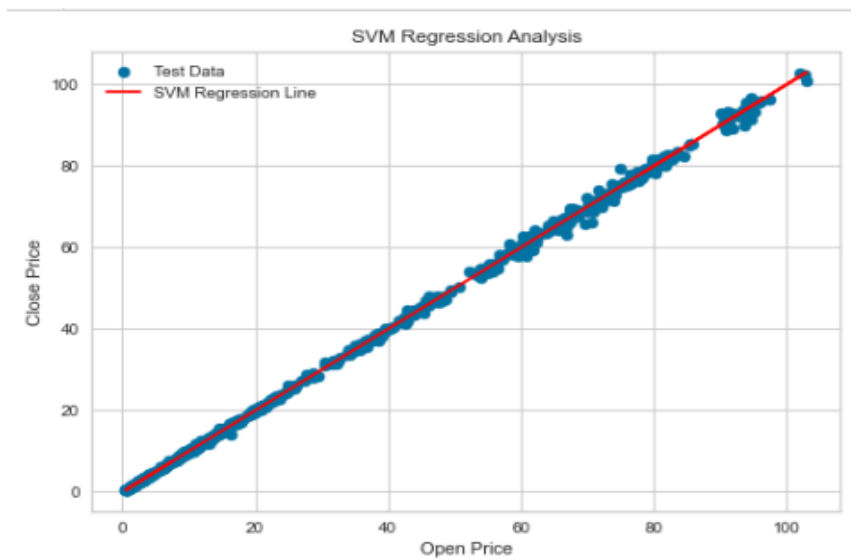
## For Activision Blizzard sales data



**Figure -11 Correlation Heatmap of Activision Blizzard**

This correlation heatmap serves to identify the interrelations between the attributes. A value of 1 indicates a strong correlation, while negative values imply a weaker correlation between the variables.

## **6.7 SVM regression analysis**



**Figure -12 SVM Regression Analysis**

In this scenario, the Support Vector Machine (SVM) regression was used, with a regression line plotted. The graphic depicts the opening and closing values of Activision Blizzard's shares versus the regression line. Data points matching to test dates are found along this line, suggesting that the SVM regression model provides a satisfactory fit for these data points (IBM, 2021).

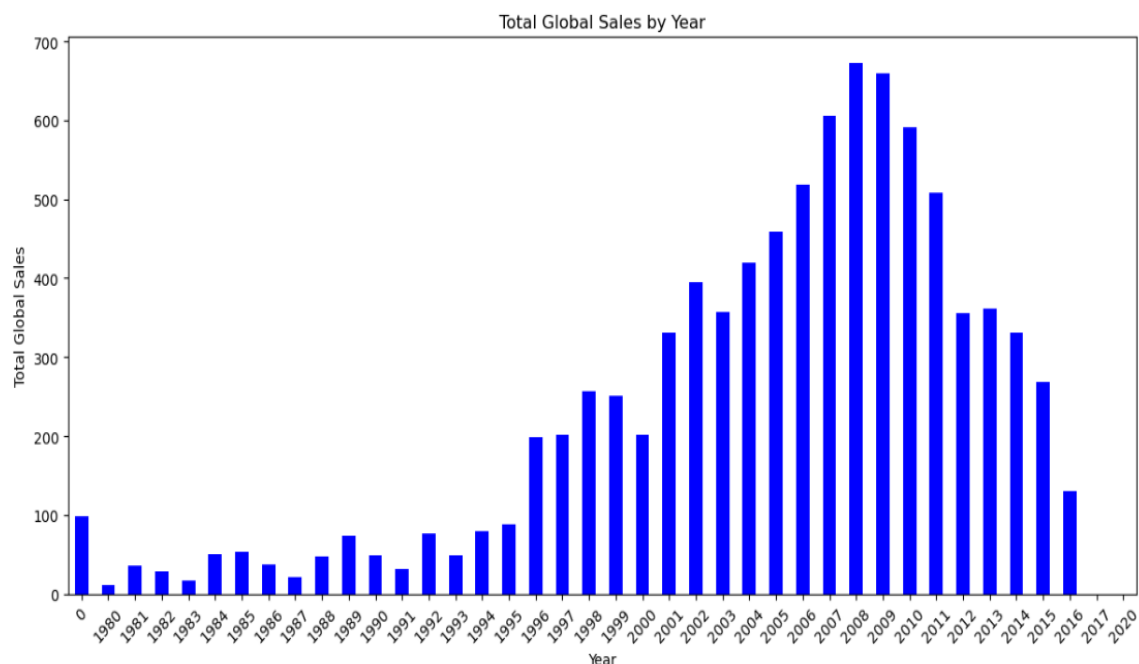
## 7. Analysing Data in Line with Objectives and Problem Statement

**Objective:** - 1. Use visualisation techniques and statistical analysis to identify and evaluate the gaming market.

### 7.1 Gaming Evolution Analysis

#### 7.1.1 Sales trend by year

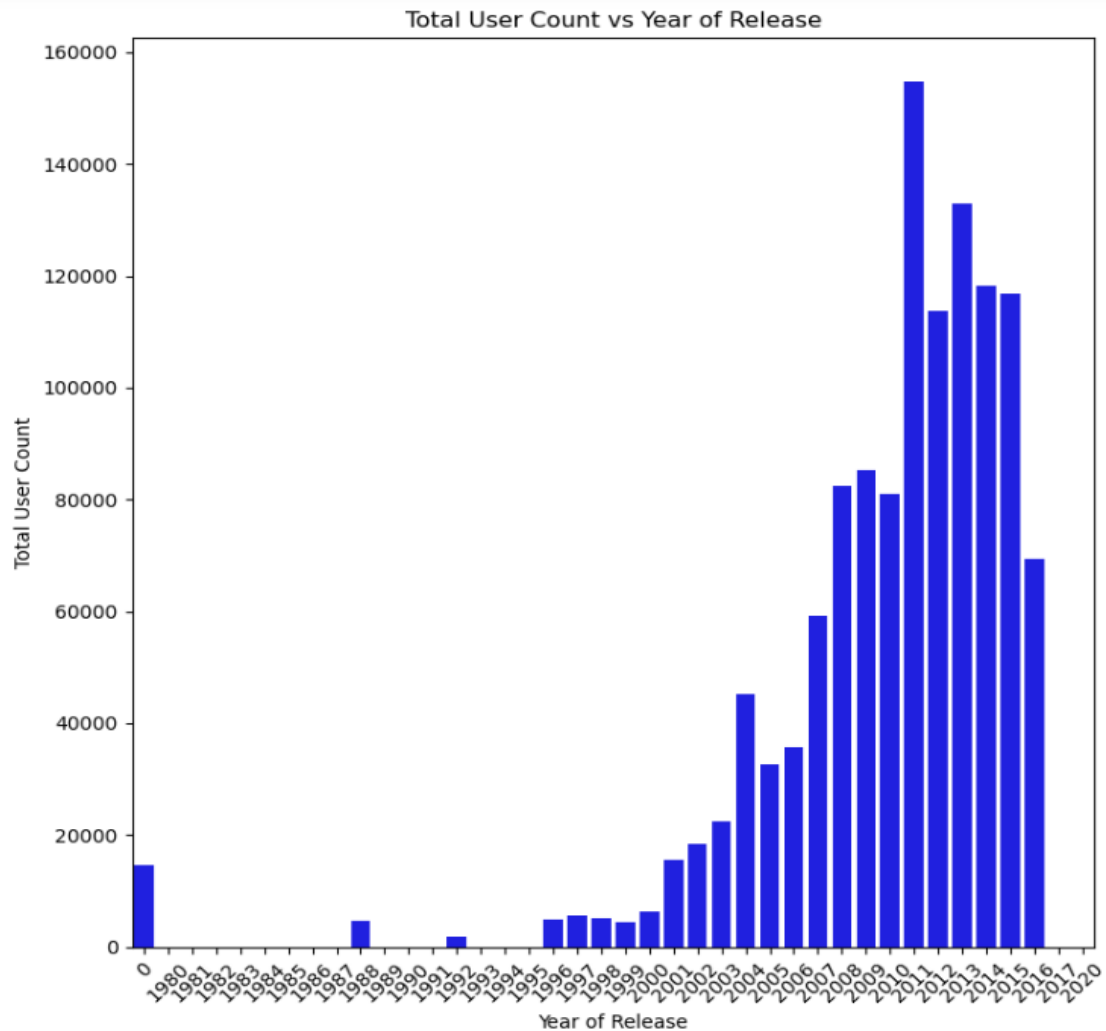
With the progression of technology, we've stepped into an era where data is the primary focus and facilitator of numerous endeavours. The advent of novel technologies has spearheaded this shift towards data prioritization across various sectors. These statements will be supported through a data-centric methodology.



**Figure -13 Total Global Sales by Year**

As depicted in our plot, we can observe the growth of video game sales of both the application and the gaming devices, indicating that this evolution has consistently been on an upward trend, thus establishing it as one of the most potent technology platforms on the globe. The plot reveals an upward trend in video game sales from 1980 to 2008. However, a decline was observed after 2008 due to the insufficiency of accurate data in our dataset. The following plot and interpretations will provide further support for this statement.

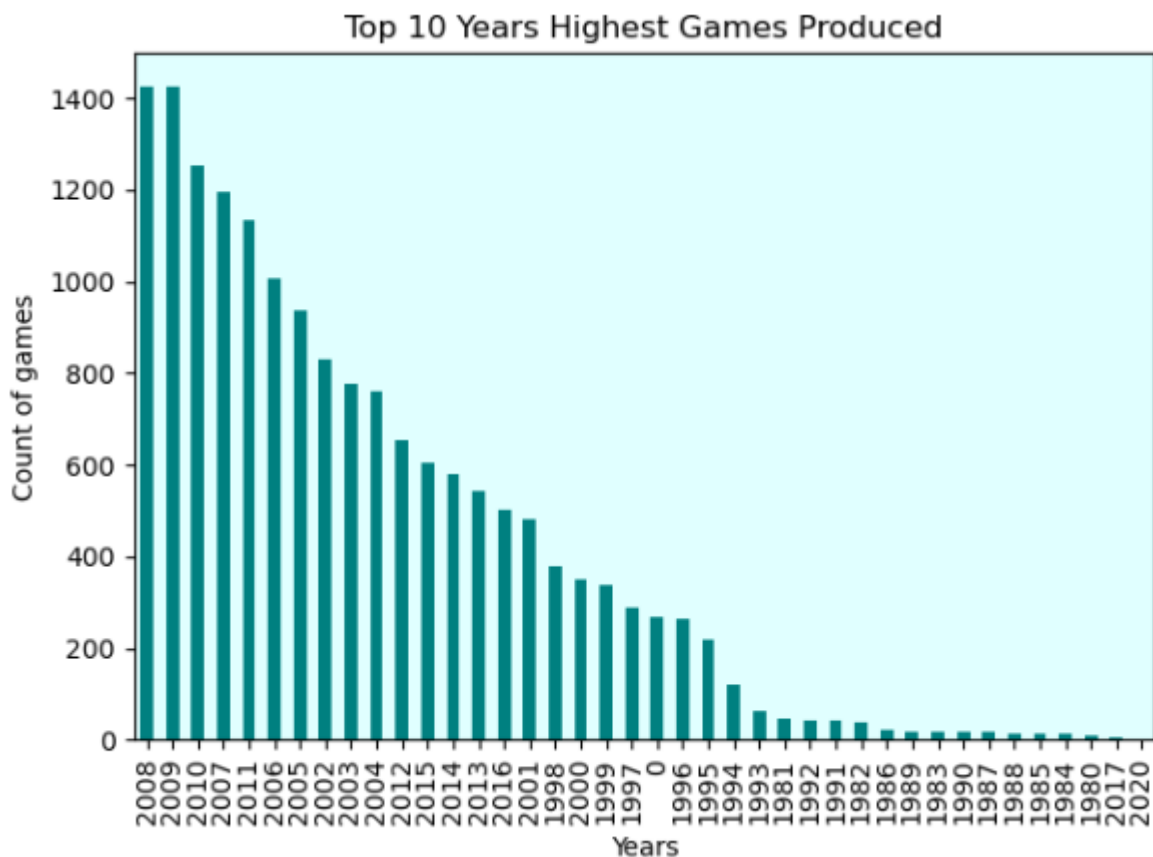
### 7.1.2 User Count by Year



**Figure -14 Total Global Sales by Year**

Despite the lack of data from 1980 to 1995, we can observe a growth in the user base beginning in 1995. This implies that the market is currently expanding at a swift pace owing to advancements in technology, accessible information, and communication. It is expected that the younger demographic will become the primary users of video games and related products.

### 7.1.3 Top 10 years of highest Games Produced



**Figure -15 Top 10 Years Highest Games Produced**

Upon scrutinizing a decade of critical game development milestones, the years 2008, 2009, and 2010 emerge as the zenith of game creation. A look at our data set uncovers this intriguing pattern, marking a period of unmatched artistic growth and innovation in the gaming industry. The years 2007 and 2011 also played substantial roles in this expansion. Remarkably, a retrospective view of 2006 and 1980 provides insights into the industry's step-by-step progress. The bar plot visually embodies these trends, detailing the transformative journey from modest beginnings to becoming a global behemoth in the gaming industry. It encapsulates the annual contributions, offering a snapshot into the dynamic progression of video game creation and its ever-expanding impact on entertainment and cultural trends.

## 7.2 Genre

```
In [18]: 1 # Get the unique genres
          2 unique_genres = df['Genre'].unique()
          3
          4 # Print the list of unique genres
          5 for genre in unique_genres:
          6     print(genre)
```

Sports  
Platform  
Racing  
Role-Playing  
Puzzle  
Misc  
Shooter  
Simulation  
Action  
Fighting  
Adventure  
Strategy  
0

**Figure -16 List of Unique Genres**

Video game developers have always aimed to transform personal fantasies into reality through their applications. Our datasets contain several genre attributes encapsulating the main genres in the industry applications. The genres mentioned in our output are self-descriptive and encompass the range present in our dataset.

```

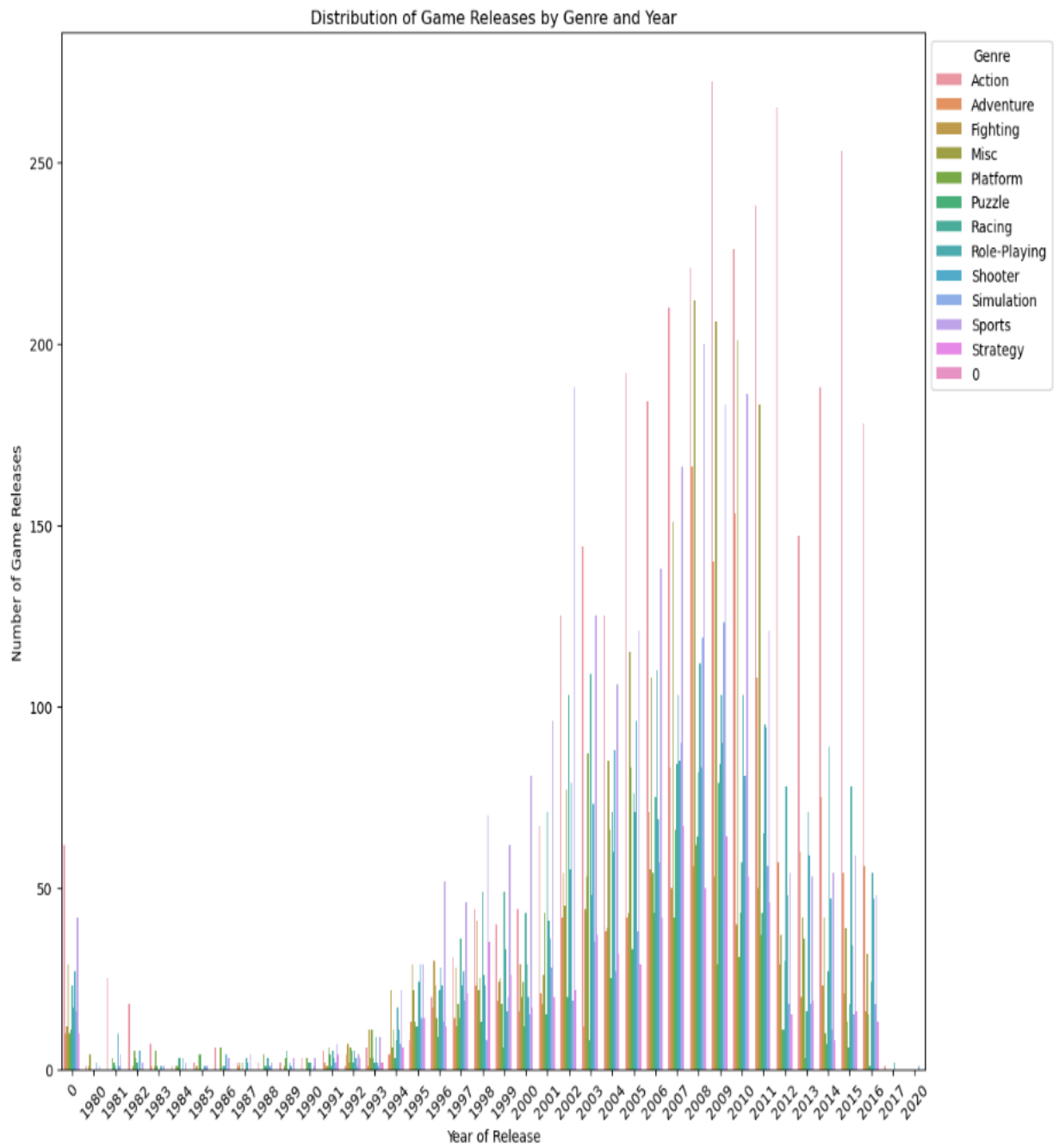
Genre(s) with the most releases in each year:
Year: 0, Most Released Genre: Action
Year: 1980, Most Released Genre: Misc
Year: 1981, Most Released Genre: Puzzle
Year: 1982, Most Released Genre: Action
Year: 1983, Most Released Genre: Fighting
Year: 1984, Most Released Genre: Misc
Year: 1985, Most Released Genre: Shooter
Year: 1986, Most Released Genre: Sports
Year: 1987, Most Released Genre: Action
Year: 1988, Most Released Genre: Platform
Year: 1989, Most Released Genre: Puzzle
Year: 1990, Most Released Genre: Racing
Year: 1991, Most Released Genre: Simulation
Year: 1992, Most Released Genre: Sports
Year: 1993, Most Released Genre: Action
Year: 1994, Most Released Genre: Misc
Year: 1995, Most Released Genre: Platform
Year: 1996, Most Released Genre: Puzzle
Year: 1997, Most Released Genre: Racing
Year: 1998, Most Released Genre: Shooter
Year: 1999, Most Released Genre: Sports
Year: 2000, Most Released Genre: Action
Year: 2001, Most Released Genre: Adventure
Year: 2002, Most Released Genre: Misc
Year: 2003, Most Released Genre: Platform
Year: 2004, Most Released Genre: Puzzle
Year: 2005, Most Released Genre: Shooter
Year: 2006, Most Released Genre: Sports
Year: 2007, Most Released Genre: Action
Year: 2008, Most Released Genre: Misc
Year: 2009, Most Released Genre: Platform
Year: 2010, Most Released Genre: Puzzle
Year: 2011, Most Released Genre: Racing
Year: 2012, Most Released Genre: Shooter
Year: 2013, Most Released Genre: Sports
Year: 2014, Most Released Genre: Action
Year: 2015, Most Released Genre: Fighting
Year: 2016, Most Released Genre: Platform
Year: 2017, Most Released Genre: Puzzle
Year: 2020, Most Released Genre: Shooter

```

**Figure -17 Genres with High Influence since 1980**

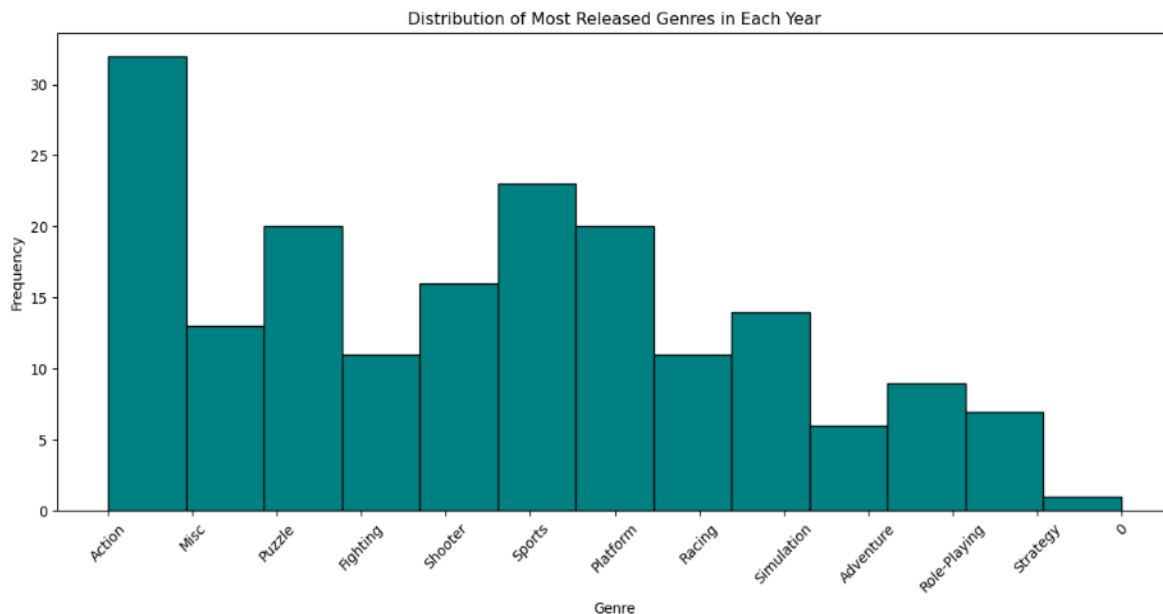
These genres illustrate the evolution of the gaming industry from 1980 to 2020, where each year a new genre takes the lead in the market. We have displayed the output using a bar plot with differentiated colors.





**Figure -18 Distribution of Game Releases by Genre and Year**

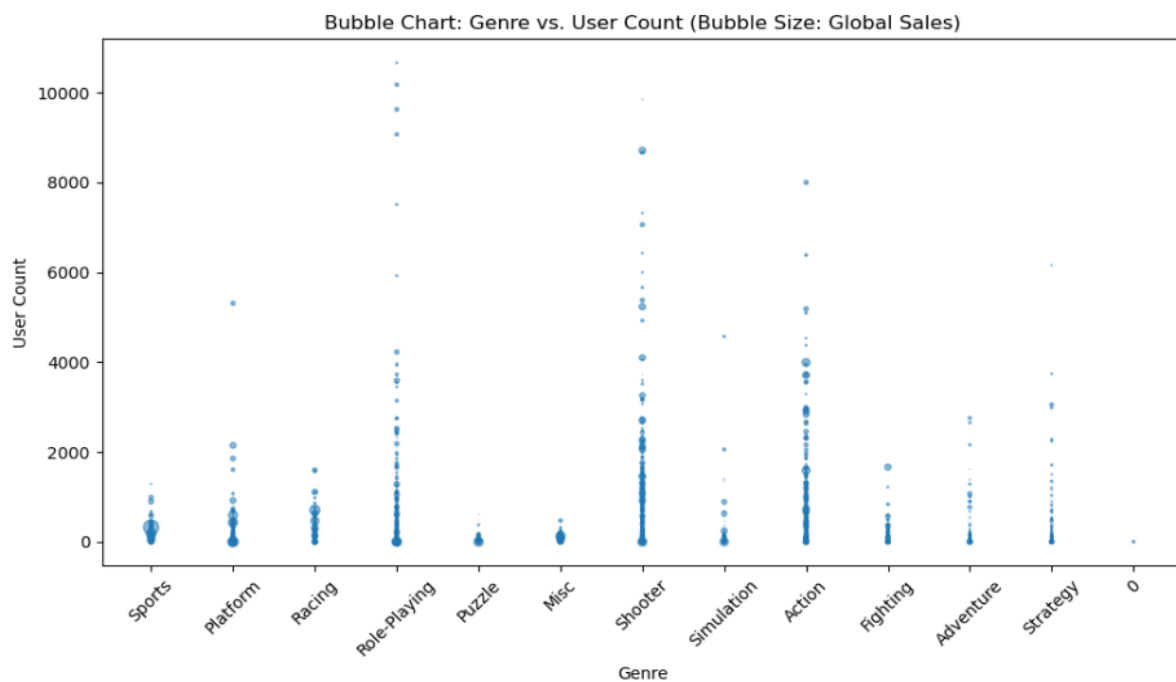
### 7.2.1 Genres with Most releases each year



**Figure -19 Distribution of Most Released Genres in Each Year**

The bar plot illustrating the yearly game releases by genre highlights a versatile gaming environment. Leading the pack is the action genre, demonstrating its long-lasting appeal. Both the sports and platform genres closely trail behind, representing a wide range of player tastes. This understanding of genre distribution supports the development of industry tactics that cater to the constantly changing gaming community, we can use this and implement it in future businesses. Additionally, the emergence of role-playing games as a recent innovation can be observed.

### 7.2.2 User Count of various Genres



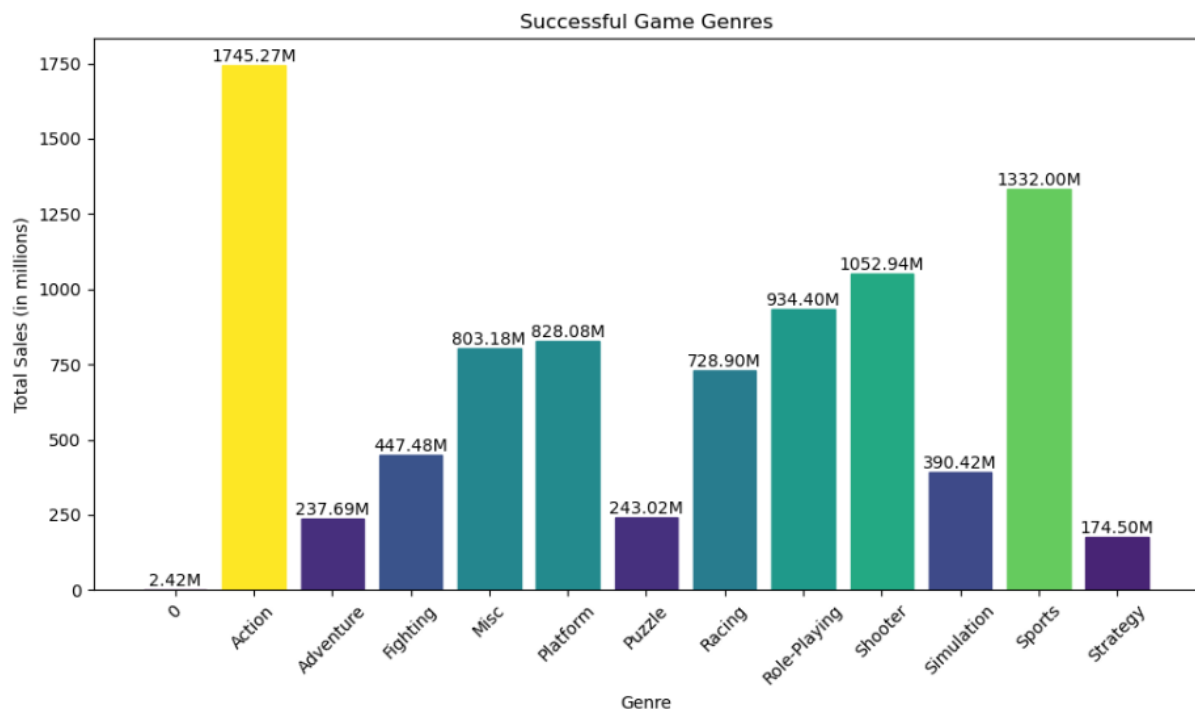
**Figure -20 Genre Vs User count**

The gaming industry holds immense potential due to the large number of dedicated and trend-following users, as evidenced in our analysis. Role-playing games, shooting, and action games currently dominate the market with an average user count exceeding 8,000. According to “NASDAQ OMX News Release” there are 3 billion active users every day (ProQuest - NASDAQ OMX's News Release Distribution Channel, 2023). This visualisation is depicted utilizing a bubble chart.

### 7.3. Sales

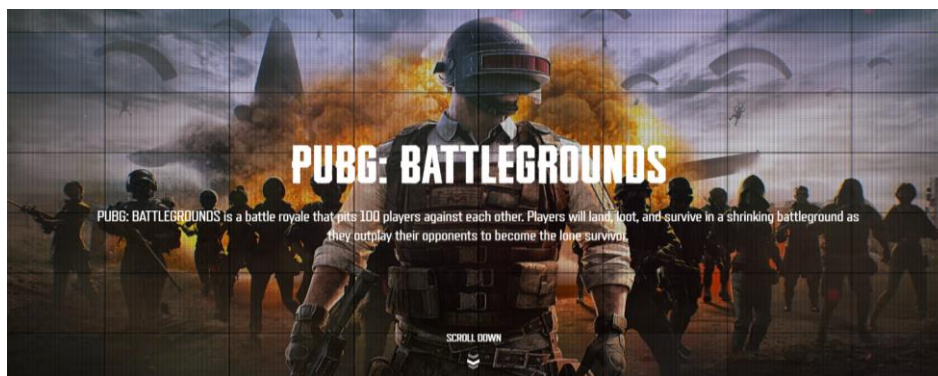
Although various genres can be introduced for gaming applications, ultimately, it's the end-users who determine the usage and success of the products, reflected in the sales figures. We will examine the insights about sales using Exploratory Data Analysis (EDA).

### 7.3.1 Sales by Genre



**Figure -21 Successful Game Genres**

In this plot, '0' represents the sales data that has null values. The remaining bar chart shows that action games are currently dominating the market, followed by sports and shooter gaming genres. The latest trend exhibits increased customer engagement in role-playing games, which incorporate action, shooting, and other elements. Let's delve into PUBG, a top-tier application in PC, Console, and Mobile Gaming.

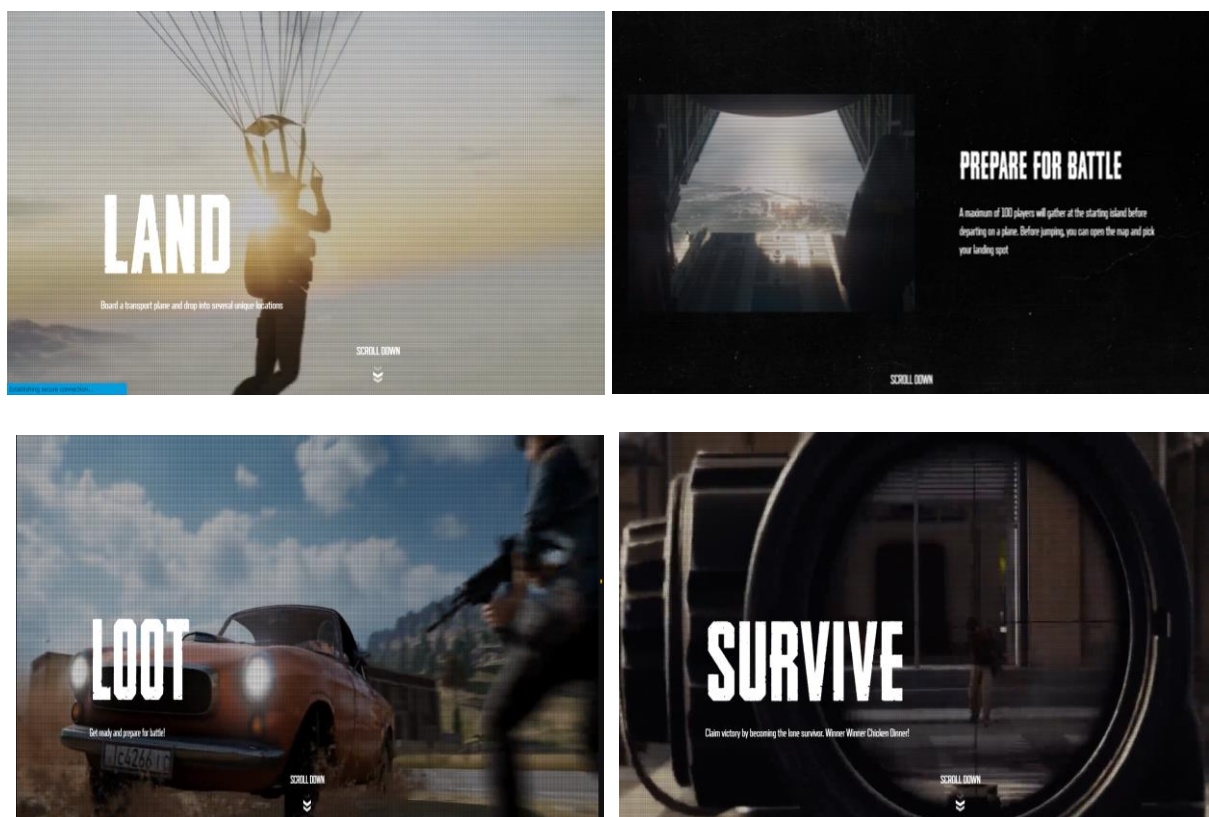


**Figure -22 Source : (PUBG Corporation, n.d)**



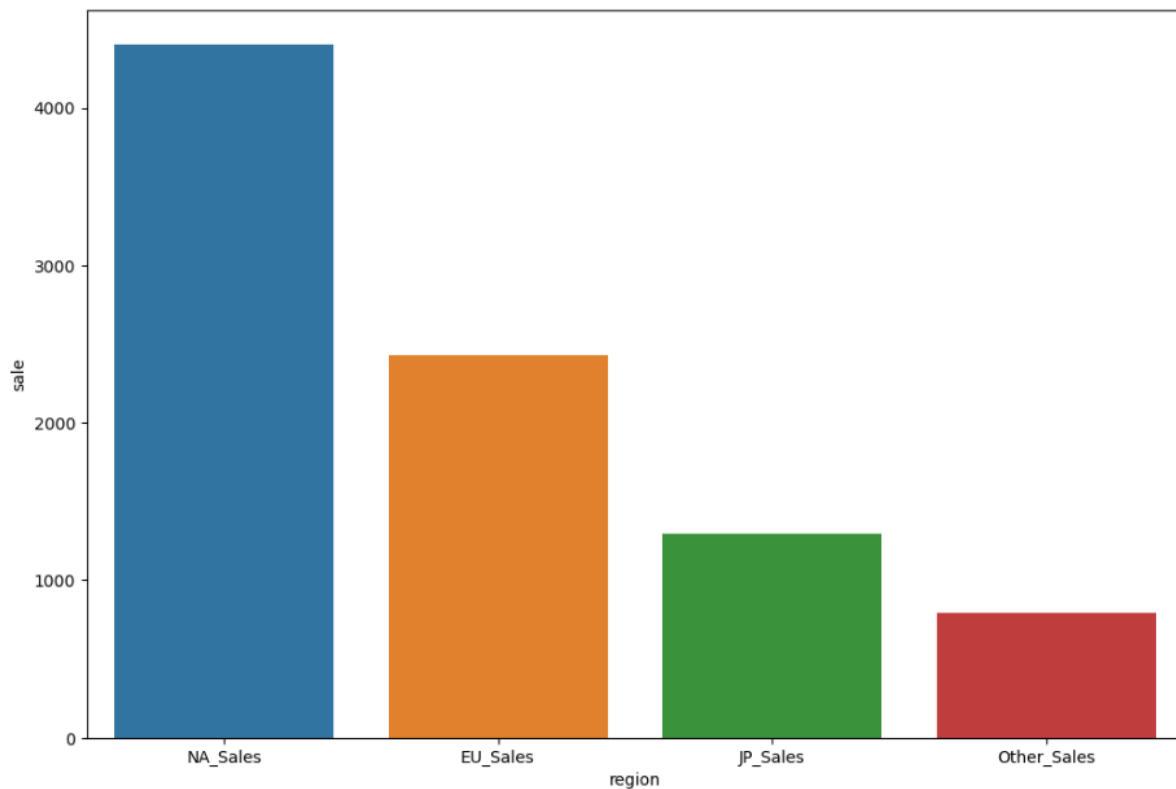
**Figure -23 Source : (Steam, n.d)**

PUBG, a leading role-playing game in the market, has 393,062 dedicated daily users. The diversity of role-playing in PUBG is exhibited below (**PUBG: BATTLEGROUNDS - Steam Charts, n.d.**).



**Figure -24 Source : (PUBG Corporation, n.d)**

### 7.3.2 Total Revenue by Region



**Figure -25 Total Revenue by Region**

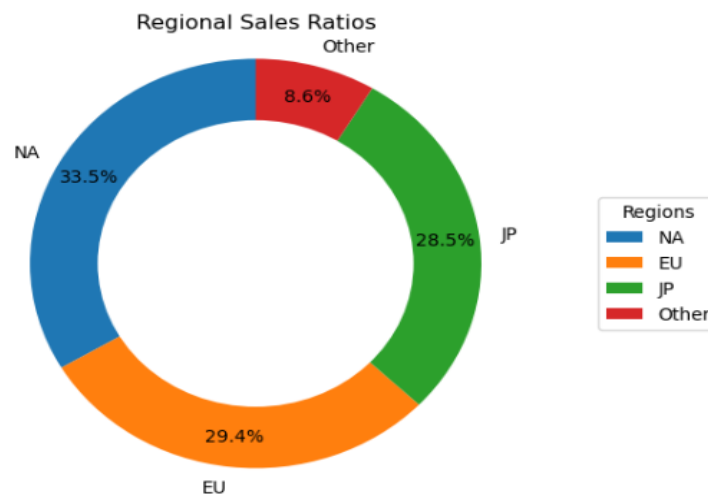
Total revenue plays a vital role in the realm of video game sales, as it signifies the cumulative earnings from selling a specific game, considering both the number of units sold and the individual selling price. This metric provides a well-rounded viewpoint on a game's market performance, with North America boasting over 4 billion sales, Europe exceeding 2 billion sales, and Japan surpassing 1 billion sales. Other countries collectively contribute approximately a billion in sales. If the dataset included data from highly populous countries such as India and China, the figures could potentially have set new records (McCartney, 2019).

Here's a table that presents the sales figures:

	region	sale
0	NA_Sales	4402.62
1	EU_Sales	2424.67
2	JP_Sales	1297.43
3	Other_Sales	791.34

**Figure -26 Sales According to Region**

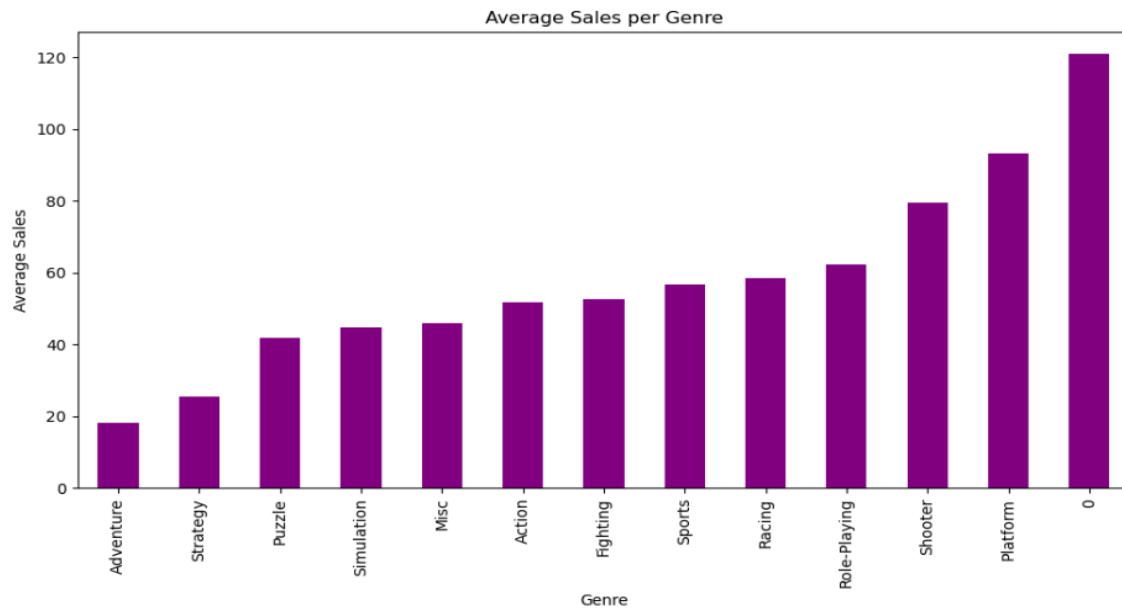
### 7.3.3 Sales by Ratio



**Figure -27 Regional Sales Ratios**

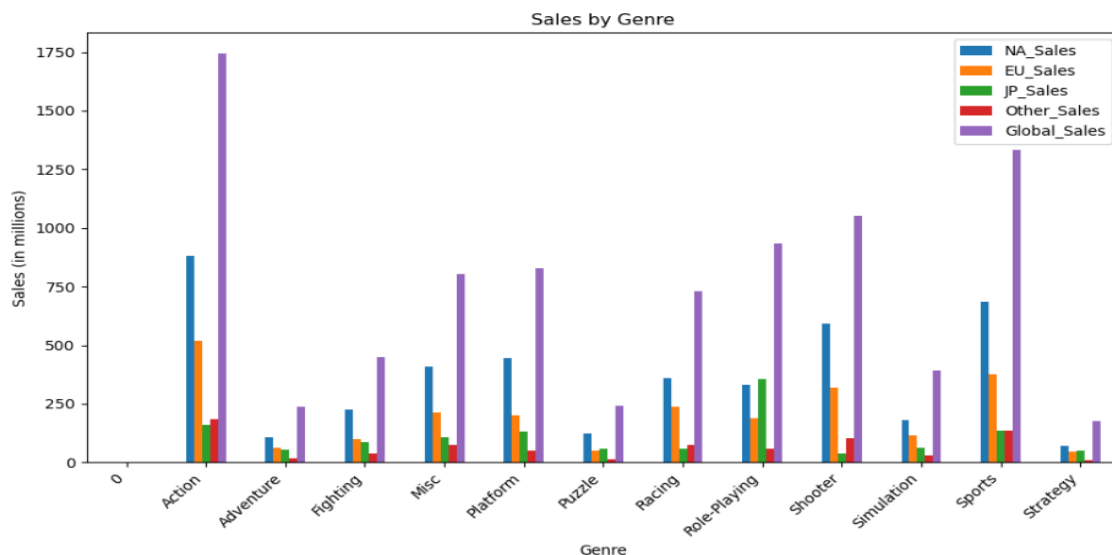
After examining sales across various regions in our earlier plot, let's now explore the ratio of regional sales using the donut plot. Various factors influence regional sales, such as releasing a game in a version that resonates with local culture, which increases its appeal due to a more personal connection. Additionally, a significant portion of the audience is swayed by the opinions of fellow consumers, making word-of-mouth marketing crucial for regional sales success (Jang et al., 2021).

### 7.3.4 Sales by Genre



**Figure -28 Average Sales Per Genre**

From the bar plot, it's evident that genres like role-playing, shooting, and platform yield high sales numbers. This knowledge allows us to identify and target an audience that can enhance the market potential for our problem statement.

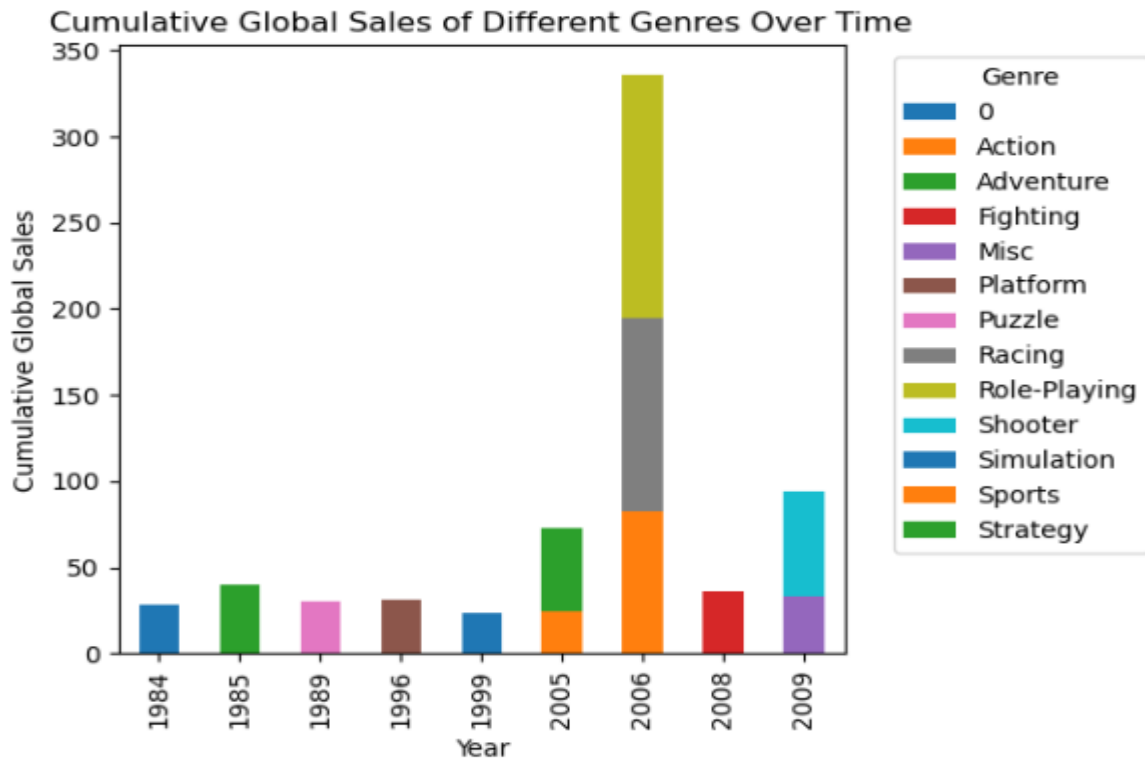


**Figure -29 Sales Per Genre**

By utilizing this bar plot, we can understand the sales performance of different genres across various regions, gaining insights into the sales figures of specific genres. The Action genre is leading with Global sales more than a Billion.



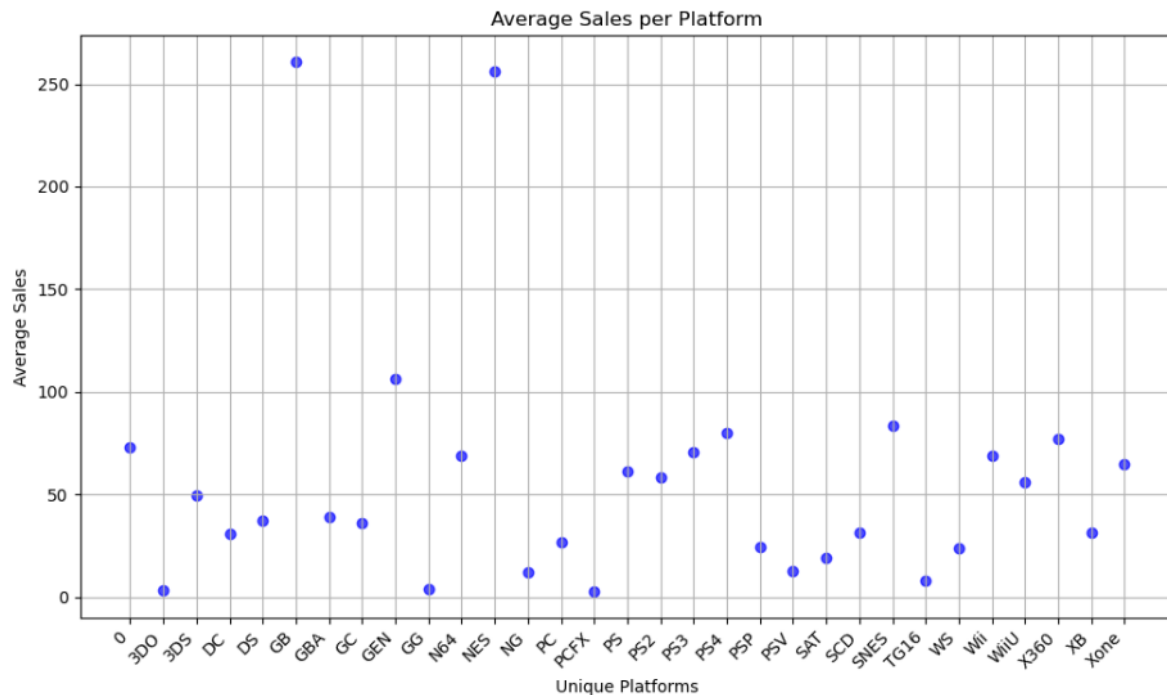
### 7.3.5 Cumulative Global sales of Different Genres



**Figure -30 Cumulative Global Sales**

Assessing the cumulative global sales across various video game genres over time unveils intriguing insights into customer tastes and market shifts. As time elapses, we notice some genres establish themselves as perennial favourites, whereas others demonstrate variable popularity levels. Action games consistently hold a substantial market share, signalling their widespread attraction and captivating gameplay. Meanwhile, RPGs showcase a gradual rise in popularity, reflecting their loyal fan following. Sports games, on the other hand, display intermittent surges, aligning with real-world happenings. This information-driven perspective assists those in the sector to adjust their strategies, comprehend the life span of genres, and meet changing player preferences as the gaming landscape continues to morph.

### 7.3.6 Sales in Platform

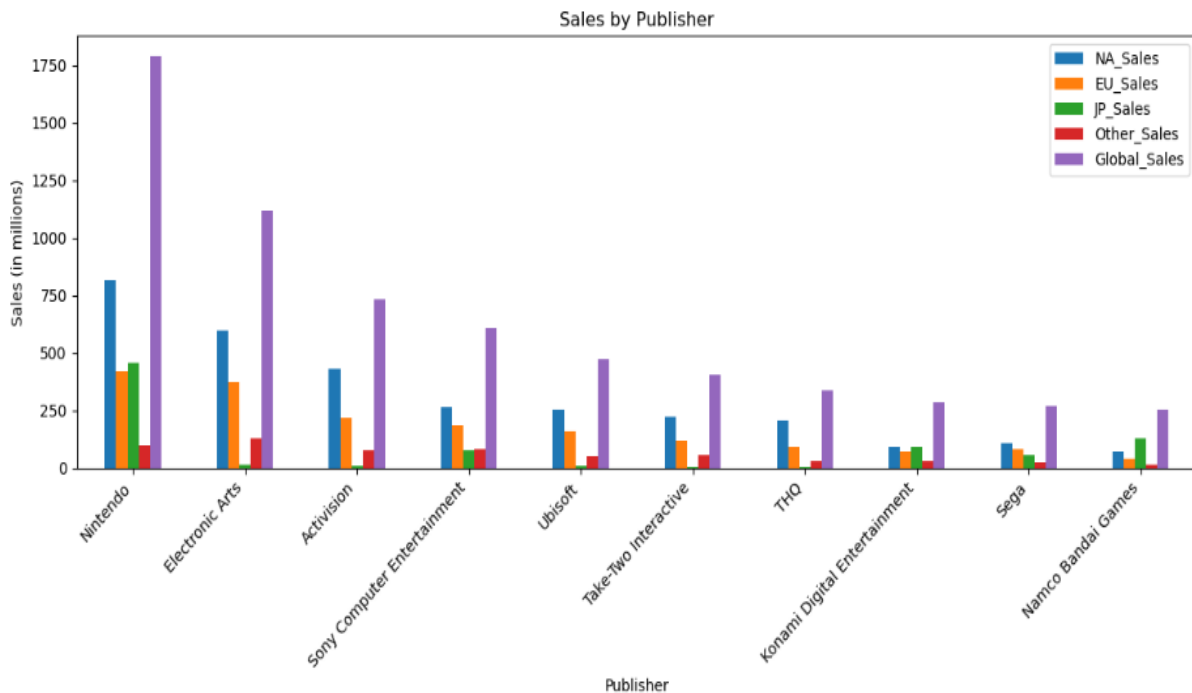


**Figure -31 Average Sales per Platform**

This scatter plot highlights the sales of gaming consoles, identifies a clear pattern. The Game Boy (GB) a Nintendo device holds the top position in the market, closely followed by the NES stands for Nintendo Entertainment System. It's worth noting the competitive tussle between Microsoft's Xbox, XOne, and X360 and Sony's lineup consisting of PS, PS2, PS3, and PS4. This equilibrium underlines the effectiveness of Microsoft's product placement against its strong competitor. The scatter plot offers a graphical demonstration of these market trends, revealing the supremacy of GB, the influence of NES, and the keen rivalry between Sony and Microsoft consoles. Such visualizations assist in comprehending platform preferences and shaping strategic moves within the gaming industry.

## 7.4. Publisher

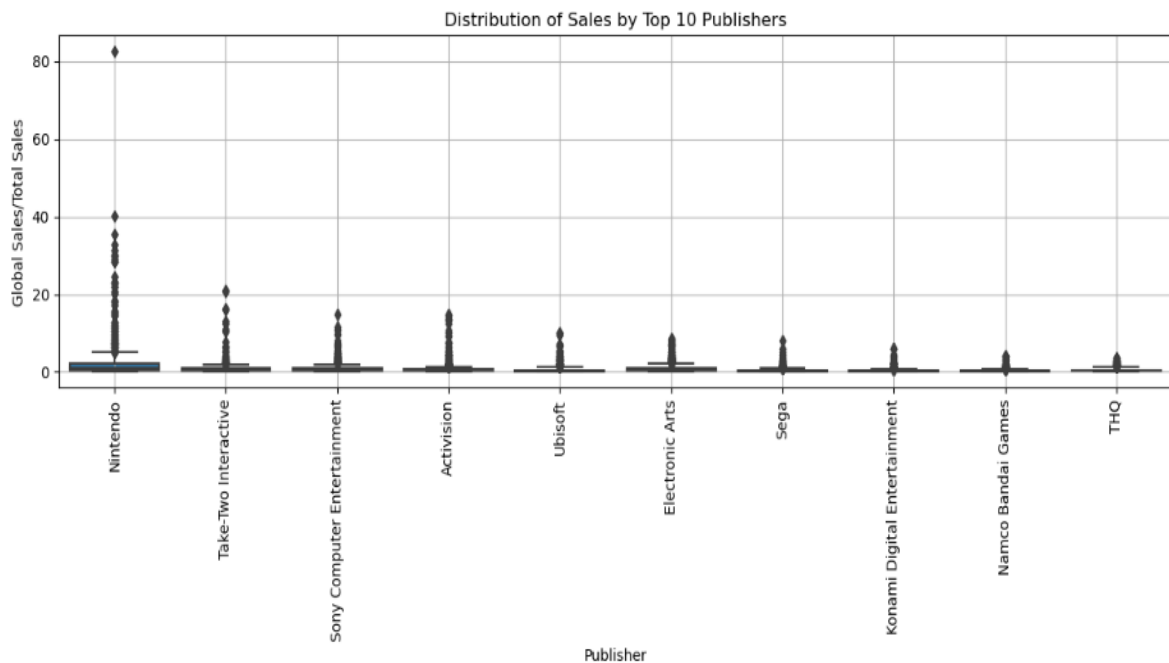
### 7.4.1 Sales by Publisher



**Figure -32 Sales by Publisher**

Publishers, those responsible for the creation of gaming applications utilized across various platforms, largely determine gaming market trends. Our visual plot demonstrates that Nintendo leads sales in all regions. EA then takes the second spot, with our focal company, Activision Blizzard, securing the third place. Sony, a major contender, follows closely behind.

## 7.4.2 Revenue by Top 10 Publishers



**Figure - 33 Distribution of Sales by Top 10 Publishers**

Our box plot demonstrates the sales distribution among the top 10 publishers, highlighting Nintendo's supremacy with sales exceeding 80 million USD. Our target company, while not the highest, holds an impressive spot with sales around 20 million USD. The distribution underscores Nintendo's substantial market influence and our company's competitive position. The analysis of these numbers provides a crucial understanding of market trends, offering insights for strategic alignment with industry frontrunners while making the decisions.

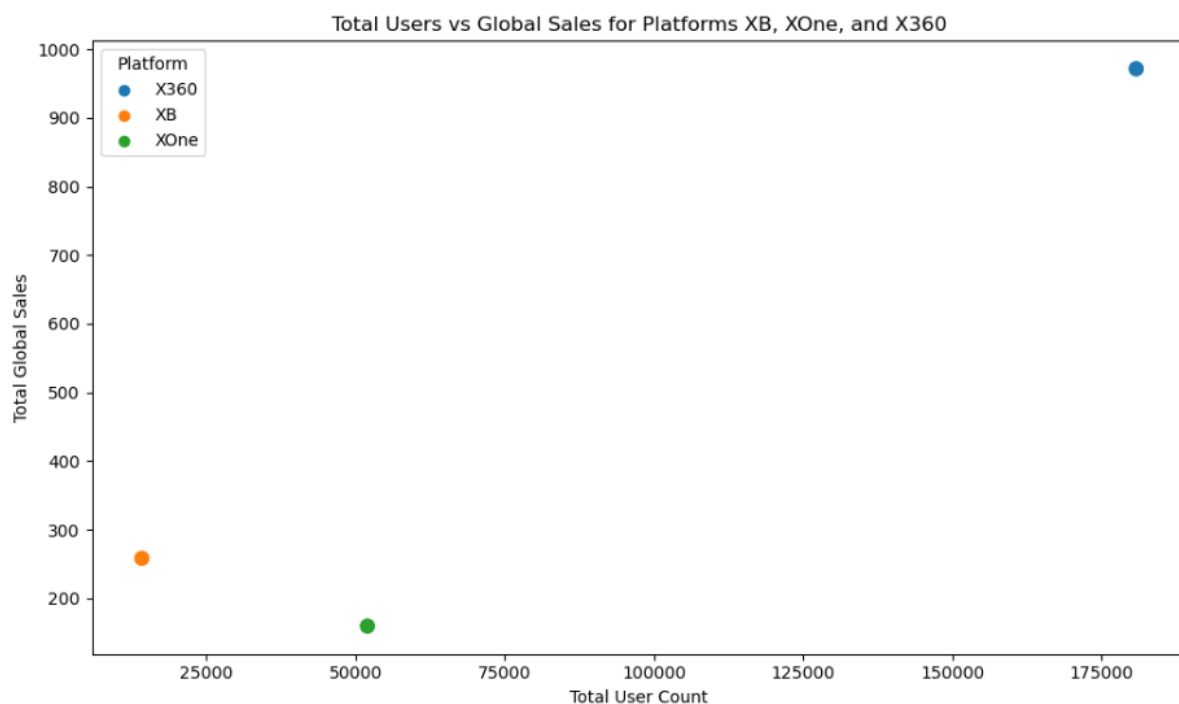
**Objective:** - 2. Evaluate both Microsoft and Activision Blizzard by using the available information, Exploratory Data Analysis (EDA), and correlation model to explore, and analyse financial statements, market trends, competitive landscape, and operational performance. Also include financial modelling for valuation and negotiation.

## **From EDA**

### **7.5 Microsoft**

In this section, we will evaluate our goals using the outlined strategies.

#### **7.5.1 Total Users and Global Sales**

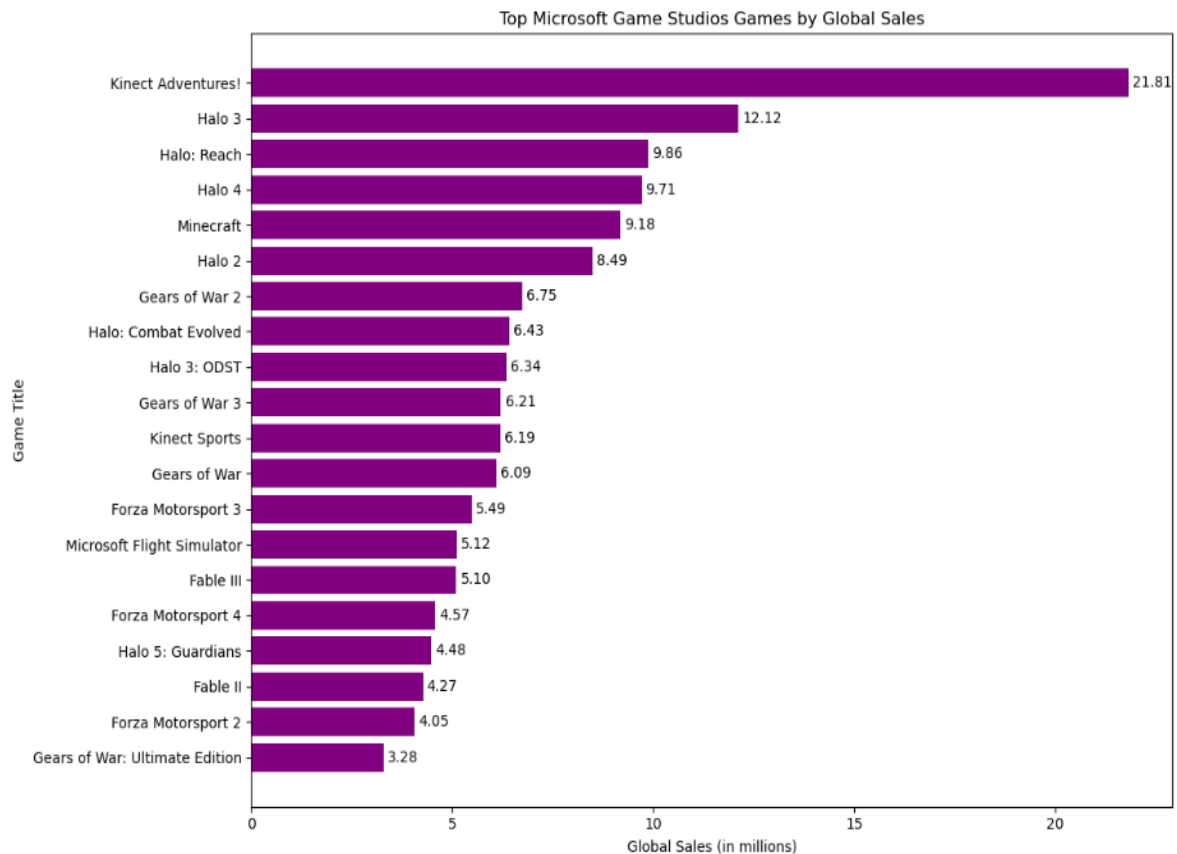


**Figure - 34 Total Users vs. Global Sales**

This scatter tells us the sale of X360, Xbox, one which is the major platform or gaming consoles launched by Microsoft. With this we can tell that since from the launch of the First-Generation XBOX to the latest XBOX Series X the user count has always increased (Head & Head, 2022). In the latest report Microsoft announced that their, gaming revenue experienced a \$36 million or 1% increase, primarily due to the expansion of Xbox content and services, though this was partially counterbalanced by a reduction in Xbox hardware sales. A 5% boost in Xbox content and services revenue can be attributed to the growth in third-party content and the Xbox Game Pass. However, a 13% decrease in Xbox hardware

revenue was caused by a reduced number of console sales (FY23 Q4 - Press Releases - Investor Relations - Microsoft, n.d.-b).

### 7.5.2 Top Games



**Figure - 35 Top Gaming applications by Microsoft**

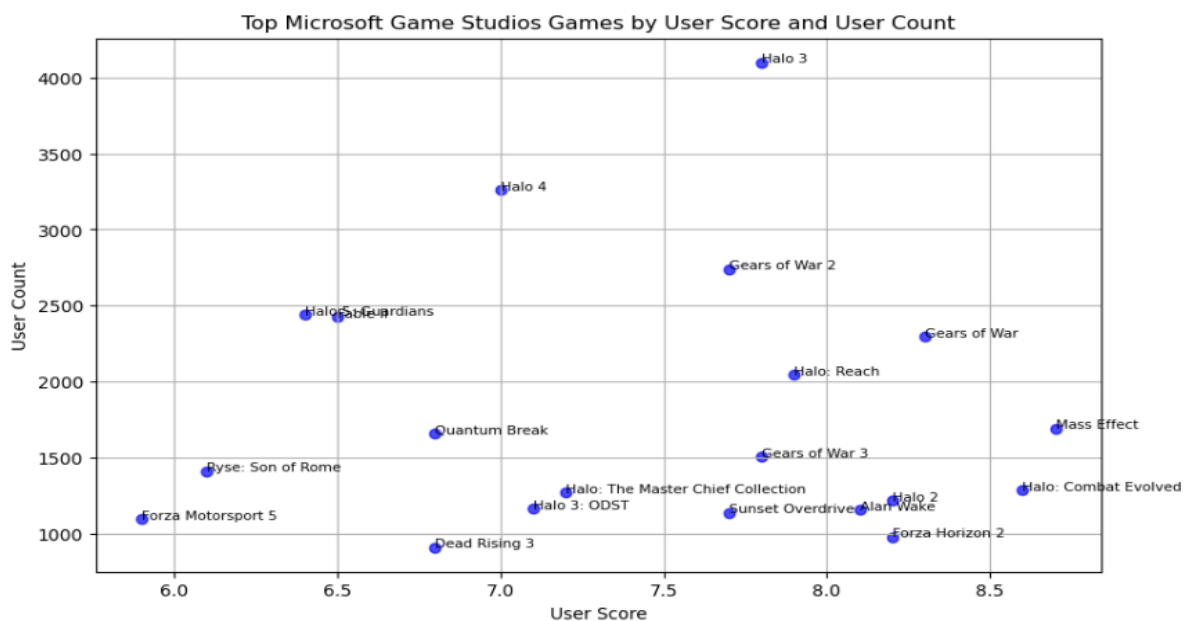
Microsoft has a series of games like Halo, Gears of War, etc. The sales of the different editions can be seen in this above horizontal plot. With this, we can say that Microsoft has loyal customers for their game applications.



**Figure - 36 Shop games by genre**

We may also assert that Microsoft offers a variety of gaming options from various genres through its user interface.

### **7.5.3 Number of Users and their opinions**



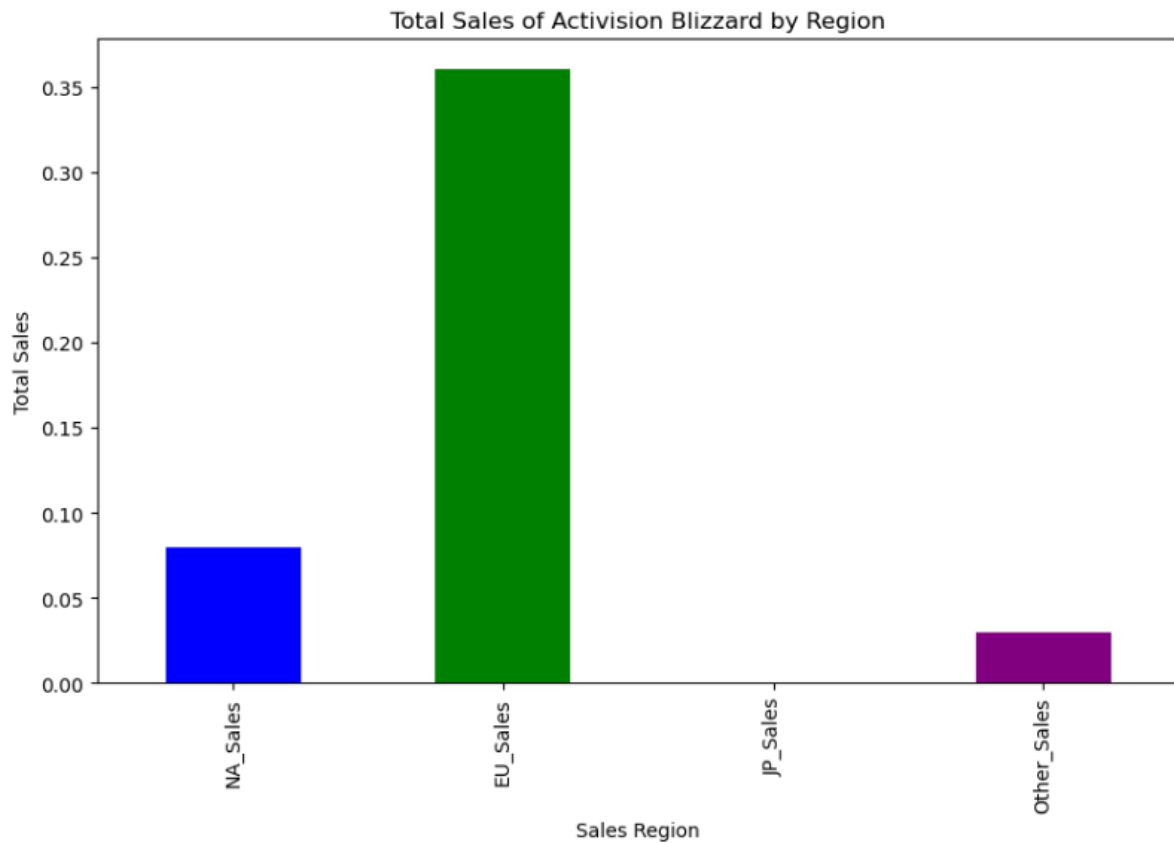
**Figure – 37 Microsoft User Review**

Based on the scatter plot, it's evident that Halo has a higher number of players and boasts a solid rating of 8 or higher. This finding emphasizes the need for meticulous maintenance of the game, ensuring that new updates are carefully rolled out. Moreover, it's crucial to consider user feedback for other games and incorporate their suggestions into future developments.

## 7.6 Activision Blizzard

In this section, we will evaluate our goals using the outlined strategies.

### 7.6.1 Total Sales



**Figure – 38 Total Sales of Activision Blizzard**

Our dataset reveals that Activision Blizzard enjoys a substantial audience in North America and Europe. By analysing this data, we can identify the regions where we already have a strong presence and the areas that require our attention.



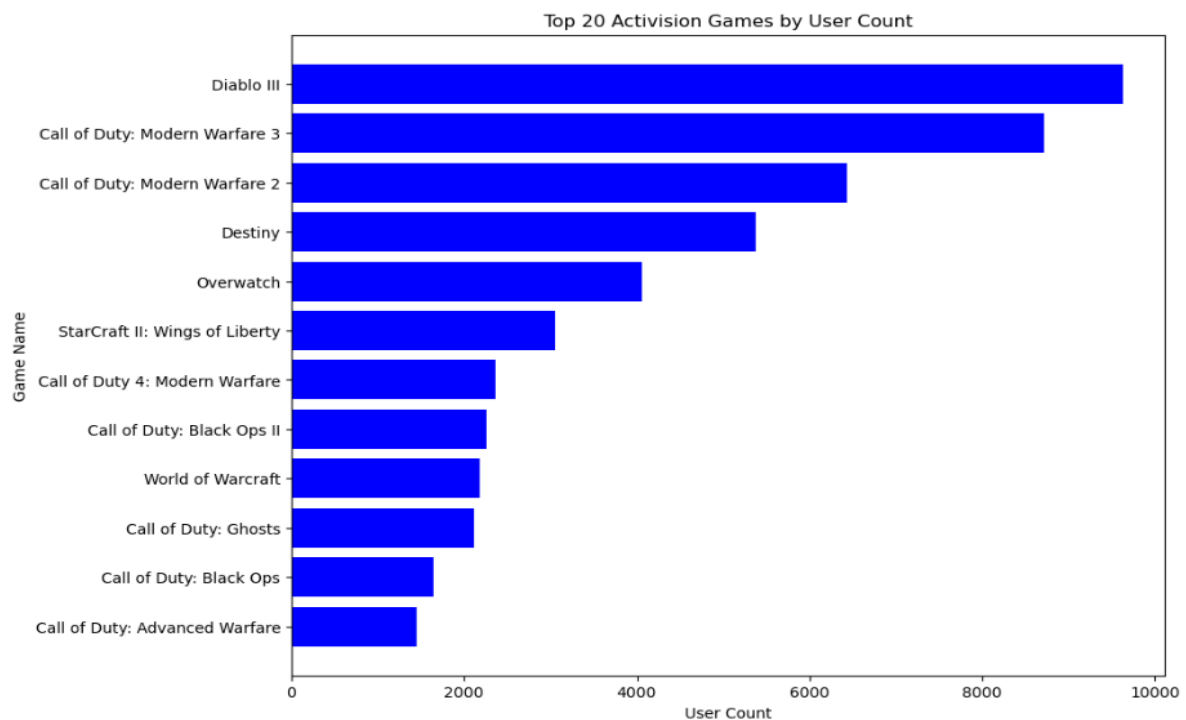
## 7.6.2 Global Sales by Genre



**Figure – 39 Top 10 Genres for Activision Blizzard**

Upon examining the datasets, it's apparent that action genres dominated at the time the data was collected, surpassing newer categories including shooting, role-playing, and virtual reality. This information leads us to prioritize our existing action game audience, as well as consider introducing these newer genres to players who are already avid fans of action games.

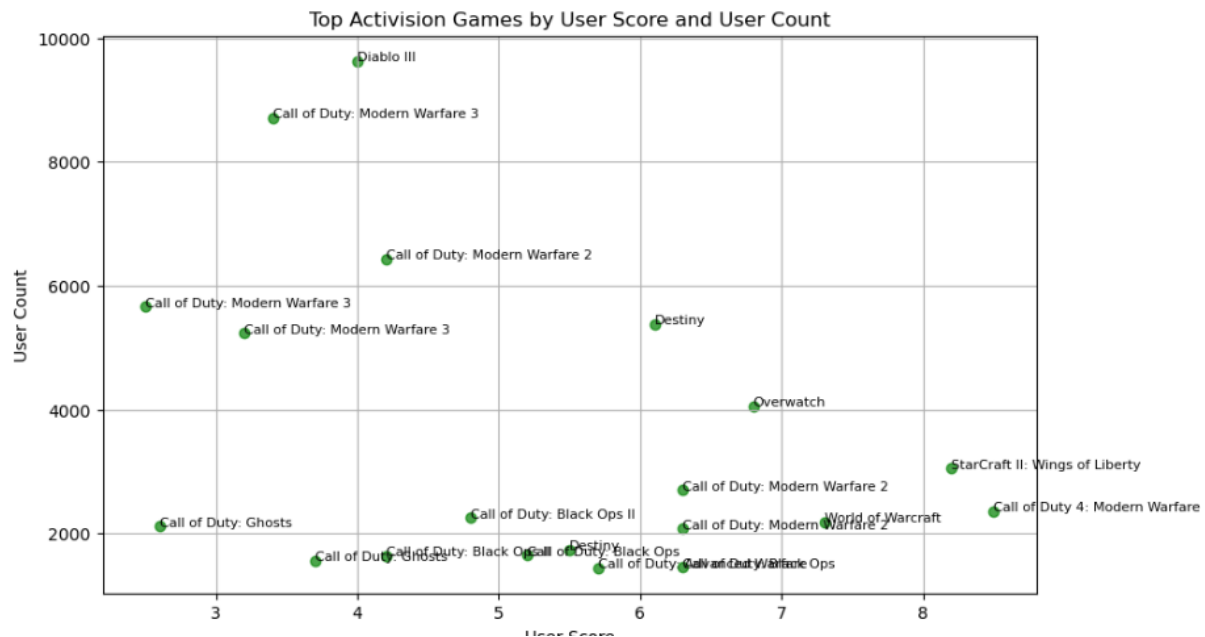
### 7.6.3 Top games by Activision Blizzard



**Figure – 40 Top 20 Activision Games by User Count**

From this data, it is clear that the Diablo series boasts top sales, witnessing an impressive 160% surge in revenue in the second quarter of 2023. Furthermore, Call of Duty (COD) has been experiencing a steady 17% year-on-year growth in revenue. These findings are crucial in examining and understanding Activision Blizzard's standing in the market.

### 7.6.4 Use Score of Top Activision Games

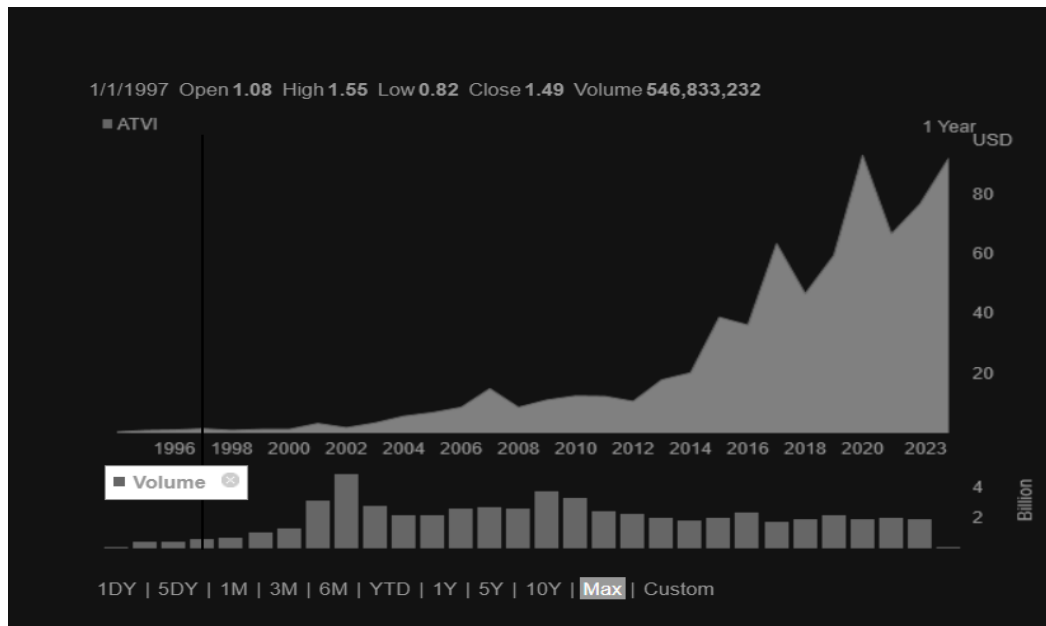


**Figure – 41 Top 20 Activision Games by User Score and Count**

We can see the user ratings which have high figures. Also Call of Duty is proven to be a highly played game and the users also like the gaming application. This insight can be used in the marketing.

## 8. Stocks Data of Activision Blizzard

In this, we must analyse the stock markets and generate insights as Microsoft will be paying \$95.00 per share, in an all-cash transaction valued at \$68.7 billion (Microsoft Corporation, 2022) Analysing the stock market will be a great insight while dealing with this transaction.



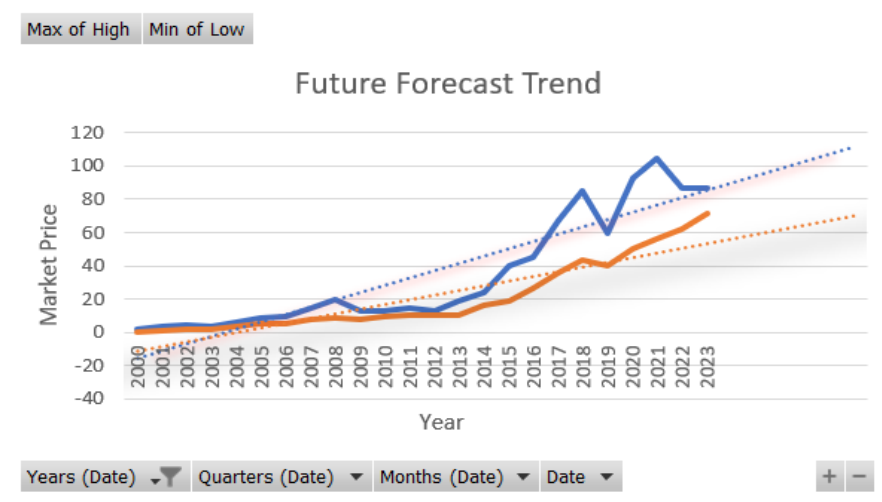
**Figure 42 – (Source- (Activision, n.d))**



**Figure 43 – Stock Price Trend Over Time**

The price of the stocks has always been increasing since 2000, but we can see that the stock price has declined during 2019, but the stock price reached around 100 USD per stock during 2020 pandemic, which says that the sales and users have increased, and it also looks like a promising company to invest in, which brought Microsoft to consider. In a preceding announcement, it was stated that a sum of 669,737,743 shares, which make up about 85% of the company's full

issued and available common stock as of the recorded date, were represented either personally or via a proxy (Activision Blizzard, Inc., 2023).



**Figure 44 – Future Forecast Trend**

The accompanying Excel chart clearly shows an enduring upward trend in the price. The blue line indicates a high trend, and the orange indicates a lower trend. The dotted line indicates the future forecast, and it says that the price will be increasing which is a positive insight for stakeholders, investors, and Microsoft.

## **9. Identify potential risks, synergies, and growth opportunities : M&A analyst**

### **9.1 Microsoft**

Through comprehensive market analysis and referencing various sources such as books, articles, and conference papers among others, we conducted our market research. Our market segmentation sheds light on the distinct differences between various genres like Role Playing, Action, Adventure, Shooting, and more. Now, by incorporating SWOT analysis, we'll assess the company's current market position. This will provide insight derived from our meticulous research and data visualizations.

We employ SWOT analysis to investigate and document all the intrinsic and extrinsic elements of the company. In our analysis, we will focus on aspects related to the gaming division, as well as other departments within Microsoft that are relevant to our investigation.

#### **9.1.1 SWOT Analysis**

##### **Strengths**

- The Xbox platform of content and ecosystem is one of the leading products with perpetual sales and has increased its sales by 5% in its fourth Quarter which was released on 23<sup>rd</sup> July 2023 (FY23 Q4 - Press Releases - Investor Relations - Microsoft, n.d.).
- The brand of Microsoft with products such as PCs, laptops, gaming consoles, etc.
- Azure Cloud provides a seamless experience in gaming, streaming, and backups.
- With the acquisition of Activision Blizzard, the economic scale, scope, and reach to the end users will increase.

##### **Weaknesses**

- From our analysis we got to know that Sony's PlayStation console is the gives competition followed by the Game Boy console of the Nintendo.
- Integration challenges with Activision Blizzard since 2022.
- Microsoft's Xbox has a different range of exclusive games compared to Sony's PlayStation, which might influence its attractiveness to diverse groups of gamers.

## **Opportunity**

- Can promote and cross-sell their product and services with cost-cutting methodologies (Our Vision for Gaming: More Choice and More Games for People Everywhere, n.d.).
- Venturing into new geographical territories or product classifications (Jang et al., 2021).

## **Threats**

- The video game industry experiences strong competition among various players, including prominent brands like Sony's PlayStation and Nintendo's gaming consoles.
- Obstacles posed by FTC (Federal Trade Commission) and CMA (Competition and Markets Authority) for the merger.

## **9.2 Activision Blizzard**

Following a comprehensive market analysis and referencing a variety of sources including books, articles, and conference papers, we've completed our market research for Activision Blizzard. The market segmentation reveals distinct differences among various genres such as Role Playing, Action, Adventure, Shooting, and more, in which Activision Blizzard has quite a stake.

Leveraging the SWOT analysis, we aim to assess Activision Blizzard's current market position. This assessment is not only going to provide valuable insights into the company's strategic standing but also strengthen our research through data visualization.

### **9.2.1 SWOT Analysis**

#### **Strengths**

- An impressive collection of well-known gaming series and intellectual properties, such as Call of Duty, World of Warcraft, Overwatch, Diablo, and more with 356 million active users (**Activision Blizzard, Inc., 2023**).
- 50% higher net booking compared to the previous quarter (**Activision Blizzard, Inc., 2023**).
- Capability to utilize Microsoft's cloud-based infrastructure and artificial intelligence features once the transactions are completed.

- Extensive worldwide audience on various platforms, including PC, console, and mobile devices.

## **Weaknesses**

- Persistent adverse publicity and legal disputes concerning organizational culture and harassment claims, which may negatively impact shareholder perceptions and customer sentiments (Roush, 2023).
- Lack of progress in the mobile gaming market. Rival companies, such as Tencent and NetEase, are advancing more rapidly in this sector (Fanbyte, 2023).
- A high rate of employee turnover resulting in the loss of skilled personnel and intellectual property. This is causing harm to the organization's culture.

## **Opportunities**

- Collaborative benefits spanning across platforms such as Xbox, Windows, and mobile.
- Leveraging resources to enhance Xbox's position compared to PlayStation competitively.
- Utilizing Microsoft's worldwide presence to expand into new geographic locations.

## **Threats**

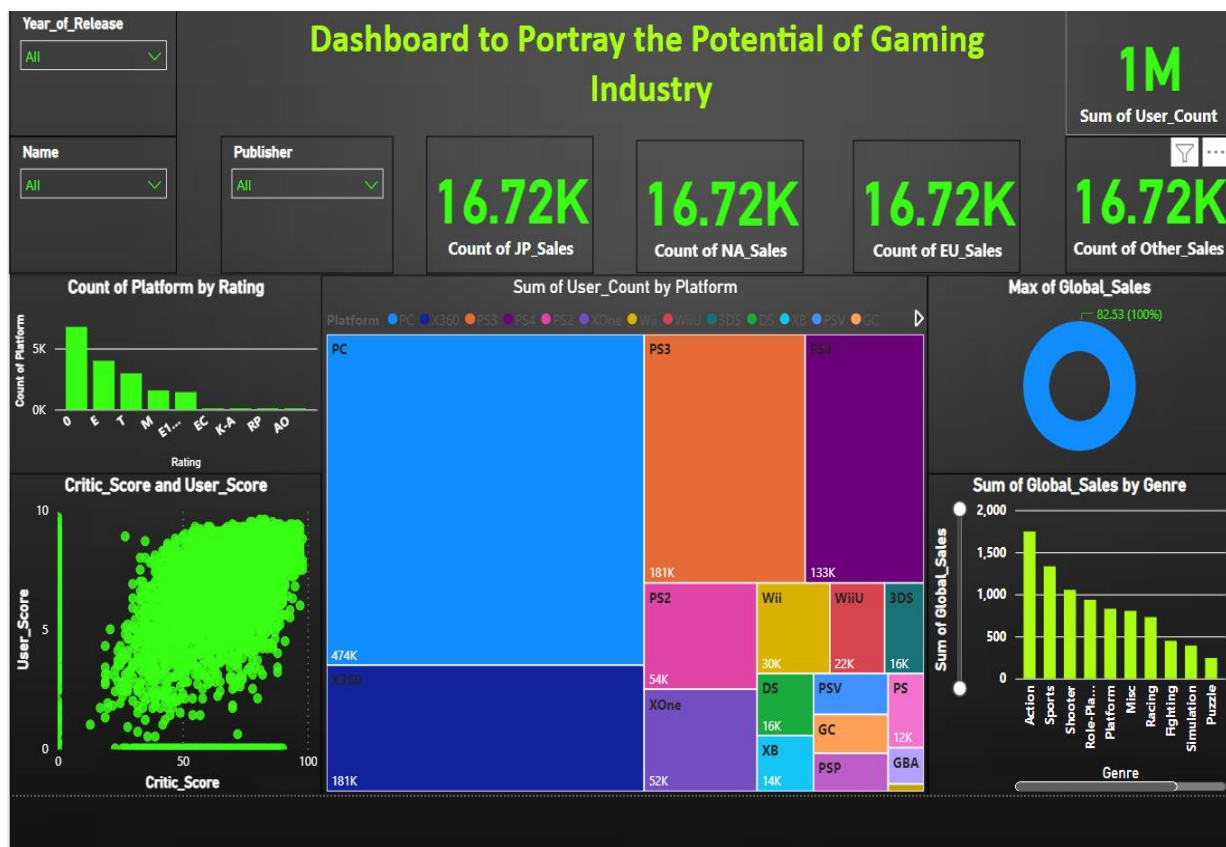
- Swift changes in gaming trends and tastes could result in a decline in demand for certain genres.
- The organization's working methods have been criticized, resulting in lawsuits and possible interruptions to business operations.



## 10. Visualisation for stakeholders, to portray the potential of the gaming industry.

### 10.1 Introduction

The gaming industry is a huge industry with the industry expected to reach USD 702.37 Billion by 2029 (ProQuest - NASDAQ OMX's News Release Distribution Channel, 2023). Understanding the present market condition necessitates an in-depth evaluation of past trends. We've traced the evolution and market dynamics of gaming and provided an insightful analysis. The Powerbi dashboard will elucidate these findings, utilizing Tamara Munzner's four-tier validation system. This detailed review will not only provide a historical perspective on market shifts but will also pave the way for future projections.



### Encode and Manipulation

Our dashboard incorporates a Key Performance Indicator (KPI) showcasing the sales across various regions. It's highly interactive, with alterations to other elements within the dashboard mirrored in the KPI. We've also implemented slicer plots that allow for the selection of 'year\_of\_release' and 'publisher'. Again,

these are interactive, and changes will influence other plots within the dashboard. The clustered bar plot reflects the platform count according to rating, while the scatter plot illustrates the relationship between the critic score and the user score. Additionally, a heat map offers a visualization of the user\_count total by publisher. A donut graph represents the maximum sales percentage, and a secondary clustered bar chart exhibits global sales sorted by genre. These analytical tools offer comprehensive insights into the gaming industry's performance.

## **Analysis and Design Process**

### **First Level of Validation: -Domain Situation**

At this juncture, we delve into the domain issue, comprehend the characteristics of the data, and identify the user's desires and aims. Ensuring the visualisation design aligns with the requirements of the end-user and pertains to the problem statement and domain concern is crucial. This stage prompts the query, who will be the end consumers of this dashboard? Furthermore, their particular domains' issues are observed to structure a suitable visualisation solution. Our dashboard is designed principally for stakeholders invested in Microsoft and Activision Blizzard's M&A deal, developers engaged in creating gaming software and hardware, and broadly, people interested in understanding the gaming market including investors and HR professionals. Upon leveraging our platform, our users can anticipate a reduced workload, thanks to its self-explanatory and easily manipulable interface (Munzner, 2014).

### **Second Level of Validation: - Data/Task Abstraction**

At this phase, we pinpoint the specific tasks that the user would undertake and structure the data to best facilitate those tasks. This involves shaping the data structure as well as organizing, sorting, and aggregating the data in a way that best supports the user's responsibilities. The questions that arise at this stage include what is displayed? And what exactly is the user observing? As previously mentioned, manipulative tools such as slicers and dropdown menus are employed allowing users to select specific years, games, or gaming franchises that they wish to examine. With this structure, users gain an understanding of how to navigate and explore the dashboard with ease (Munzner, 2014).

### **Third Level of Validation: - Visual Encoding/Interaction Idiom**

At this stage, the data representation takes precedence. The user's tasks should be guided by a thoughtful selection of visual encoding and interaction methods. The chosen visual codes need to be precise, comprehensible, and impactful, while the interface design should exude simplicity and intuitiveness. The core question at this level is how the information is displayed. Visualization tasks are accomplished through inspecting plots, with readily available interactions. Deliberate considerations have been made in plotting and calculating graphs to foster an accessible user experience. The selected legends and colour schemes aim to engage users, inviting them to delve deeper and glean meaningful insights. Following these meticulous protocols ensures superior 'Visual Encoding' for the designated database (Munzner, 2014).

### **Fourth Level of Validation: - Algorithm**

This level delves into the technical aspects of the visualization design, such as the supporting software system and the algorithms used to generate visualizations. We've harnessed Power BI for our operations which allows for seamless transition between filters with instant repercussions on the dashboard. This platform hosts an internal query editor, aiding us in data cleansing and making necessary adjustments. Post application of the required operations, I've arranged the plots so that each output KPI echoes in a systematic algorithm. This ensures that data flows smoothly and highlights the crucial elements of any formulated dashboard. To maintain coherence throughout the visualization, I've selected column-level data against each graph meticulously (Munzner, 2014).

### **10.2 Pros of Dashboard for Problem Statement:**

- Specific attributes can be chosen, for example, either a Microsoft product or an Activision Blizzard application.
- Distinctive and Self Explanatory.
- Interactive, changes can be made in the manipulation.
- Less Complex.

### **Cons for Dashboard Problem Statement:**

- The limited access to data prevented us from fully investigating the highest potential.

**Objective 5: - Give insights for change management, where it will be useful for changes in development, management, processes, employees, systems, etc. This insight should be useful for smooth M&A transactions.**

**11. Insights For the Work Force of Microsoft and Activision Blizzard during the Transaction**

**1. Engage in prompt and frequent communication: –**

Convey the advantages of this merger across all departments, promoting transparency. Anticipating and addressing potential hardships, such as job cuts, is crucial in these communications.

**2. Include leadership from all tiers: –**

In the context of this merger, it is essential that managers throughout the organization align their visions and goals to effectively steer their respective teams.

**3. Handle overlaps judiciously: –**

In the presence of job overlaps in the unified entity, strategies should be in place to retain critical talent. Adequate support systems and transition strategies should also be ready for those potentially facing role terminations.

**4. Technical Integration: -**

Organize forums and training sessions where developers from both firms can interact and exchange their philosophies and approaches.

**5. Surveys: -**

Routine polls should be carried out to gather the employees' feedback regarding the current operations. If negative sentiments are detected, appropriate corrective steps should be pursued to enhance the work environment.

**6. Acknowledge successes: –**

Commend the achievements in consolidating teams, reaching crucial objectives, and experiencing collaborative advantages. Positive momentum grows when these accomplishments are showcased.

**Objective 6: - Ethics should be ensured throughout the merger process. Use the AREA framework for this process.**

## **12. Data Ethics**

Data ethics is the practice of handling personally identifiable information that includes moral responsibilities related to collecting, safeguarding, and utilizing such information, and understanding its impacts on individuals. In our entire project, the data has been used and handled without violating the data ethics (Cote, 2021).

### **Aligning M&A Initiatives with AREA Framework, for our problem statement**

In the AREA framework, A stands for anticipate, R for reflect, E for engage, and A for act.

**Anticipate:** - The objective isn't to forecast but to facilitate an investigation into possible outcomes, implications, and choices that might otherwise remain hidden and minimally discussed.

**Reflect:** - Contemplating the research objectives, driving forces, and possible consequences, in addition to the related intricacies and societal shifts.

**Engage:** - Integrating wider viewpoints, effects, and inquiries into discussions, conversations, involvement, and discourse.

**Act:** - Incorporating these procedures into the research and development phase.

By using this AREA framework, insights for a code of conduct have been highlighted which will be useful for Microsoft and Activision Blizzard during the merger.

### **Code of Conduct**

- Transparency, accountability, and Fairness should be ensured throughout the transaction (**Government Digital Service, 2020**).
- The disappearance of an autonomous gaming firm along with its management and expertise could potentially diminish future rivalry. This can be solved by making deals with fellow competitors regarding gaming rights and cloud credentials.
- Mergers will often lead to layoffs in companies, this can be dealt with through talent exchange or talent pool which creates balance.

- Avoid revealing any sensitive details about the deal until an official announcement has been made. Limit the accessibility to classified documents.
- Make certain that both external communications and internal notes are honest and clear. Refrain from disseminating false information.
- The merger shouldn't have a negative impact on the customers.
- Structure management should be based on performance considering the knockbacks, management shouldn't be favorable to any individual based on personal relations.
- The reason for the merger is growth is open to an exchange of ideas between both entities.
- Chronicle each step that is undertaken within research and project work to avert unexpected situations and ensure traceability.
- Keep an in-house auditing group to uphold ethical standards and remain receptive to third-party reviews.
- Offer impartial services to the client, regardless of the representation within the database.

In line with the implementation of an ethical framework, the following measures should be considered: -

### **Anticipate:**

- Upholding responsibility, broader representation, clear communication tactics, confidentiality respect, commitment to continuity, striving for beneficial societal impacts, loyalty, skill enhancement, and proficiency.

### **Reflect:**

- Employing various indicators, lawfulness, structured feedback system, multiformity, and overseeing mechanisms.

### **Engage:**

- Promoting employee advancement, fostering originality, highlighting data and regulatory compliance, fostering interdisciplinary collaboration, utilizing subject matter experts, offering public educational initiatives, providing training, and establishing a centralized knowledge-sharing platform.

### **Act:**

- Employing backup systems, ensuring data security responsibility, seeking professional assessments, conforming to statutory mandates and inviting reviews and suggestion

**Objective 7: - Post the strategic merger of Microsoft and Activision Blizzard, list out the focus areas and opportunities of this merger, which are essential for both entities.**

### **13. Insights for Gaming Business after the Merger**

- A focused marketing strategy for gaming applications and consoles should be implemented to attract new customer segments.
- Emphasize a customer-centric culture, prioritizing the delivery of exceptional gaming experiences. This should remain a primary goal as opposed to simply capitalizing on synergies.
- Adjustments should be made according to user feedback gathered from reviews.
- Prior to the actual release, a real-time beta version should be introduced for testing and refinement.
- Regular updates and support should be constantly provided.
- New age genres should be researched and developed.
- Plans according to current market should be provided.

### **Future Opportunities: -**

- Microsoft could leverage Activision's proficiency in developing popular gaming applications like Call of Duty to expand and enhance its own application offerings and vice versa.
- The integration of Microsoft's knowledge in the fields of Azure cloud technology, artificial intelligence, and hardware with Activision Blizzard's aptitude for game design and development has the potential to facilitate the emergence of innovative gaming experiences and platforms.
- Utilizing Microsoft's assets could potentially speed up Activision Blizzard's aspirations in advanced fields such as virtual reality, augmented reality, and cloud-based gaming.
- Activision Blizzard stands to gain from Microsoft's strategies for promotional activities, language adaptation, and delivery across various platforms and geographical locations.
- Microsoft which has products on mobile platforms, PCs, and Gaming consoles can develop inbuilt functions of Activision Blizzard's application. This will also increase the sales and marketing of both entities.
- The security system will be more powerful with both entities combined.
- Innovation can be improved by joint research and development.

### **Limitations: -**

- During a merger, decision-making involving leaders from both entities could pose a challenge.
- The incorporation of numerous brands, business models, and technology platforms can increase the overall complexity of managing the business, necessitating coordination.
- Microsoft gaming rights in the UK are a limitation of this merger (Microsoft, 2023).
- Potential rival companies might attempt to attract disillusioned or concerned talent during the transition phase.
- An increase in assets and access points could potentially widen the cyber-attack surface for the merged entity, making it more vulnerable to cybercriminals.



## **14. Conclusion**

When executed with the correct motives and managed efficiently, mergers and acquisitions can yield benefits such as cost savings, business expansion, and augmented talent resources. The primary objective should focus on discovering and leveraging methods to create new economic value, rather than merely expanding the organization's size and influence. In our goal, we aim to illustrate a thorough M&A process by examining the gaming industry's landscape, assessing the impact of the acquisition on the sector, and estimating the financial outcomes for both participating companies. The process will necessitate careful consideration of numerous Key Performance Indicators (KPIs) and will involve collaborations across multiple departments, signifying its comprehensive and all-encompassing nature. The entire acquisition process will be intricate and multifaceted from start to finish. We will utilize a dashboard and conduct critical analysis on a dataset of video game sales, along with Activision Blizzard's stock data, implementing a data-driven approach. In the beginning, data cleansing was performed to remove any noise in the datasets. Later, through predictive modeling, we determined the correlation and calculated the mean square error. Additionally, we performed exploratory data analysis (EDA) to examine the evolution of gaming, which included the gaming market's dynamics, unique genres, platforms, leading games, user counts, and other significant attributes. On the counterpart, our analysis of the stock data started with a correlation examination among attributes, followed by a critical evaluation of key features like high, low, close, and open values. This comprehensive method encompassed the entire planning and execution process of this analysis. This approach offers a comprehensive perspective on the entire procedure. Microsoft claims that acquiring Activision Blizzard will increase Xbox availability, inspire innovation, and enable gaming growth by applying data-centric modelling and market analysis. Through the analysis of the video game sales dataset, we've underlined the gaming market of both Activision Blizzard and Microsoft. Our report identifies potential risks, collaborations, and growth possibilities associated with this merger. Significant insights emerged from our analysis, such as the strategic need to target countries with larger populations for market expansion, and the potential benefits of releasing special festive editions of games to capitalize on seasonal demands. Subsequently, we developed a dashboard tailored for stakeholders, customers, and individuals involved in this merger. We employed a SWOT analysis to evaluate the gaming market's potential, followed by Munzner's four-level validation framework to assess the dashboard's effectiveness and usability. Following this, we utilized the AREA framework to establish a comprehensive code of conduct, adhering to ethical guidelines and best practices for the merger process. Subsequently, we detailed the insights

derived from our data analysis, forecasted enhancements, and potential constraints related to this merger and acquisition (M&A) process. On July 18, 2023, Activision Blizzard and Microsoft modified their merger agreement to extend termination rights if the merger is not realized before October 18, 2023 (Activision Blizzard, 2023). The modifications include an increased termination fee payable to Activision Blizzard, escalating from \$3.0 billion to \$3.5 billion post-August 29, 2023, and further to \$4.5 billion post-September 15, 2023 (Activision Blizzard, 2023). The agreement additionally revises Activision Blizzard's commercial Xbox affiliations with Microsoft, which comprise a value of up to \$250 million for each fiscal year 2023 and 2024. This arrangement authorizes Activision Blizzard to announce and disburse a regular cash dividend, not subject to the merger's closure, for the fiscal year 2023 with a cap of \$0.99 per share. For details, please refer to the Form 8-K report filed on July 19, 2023. Moreover, a cash dividend of \$0.99 per share for the outstanding common stock was declared by the Board of Directors on July 18, 2023 (Activision Blizzard, 2023). Payable from the cash reserves on August 17, 2023, these target shareholders recorded at the close of business on August 2, 2023 (Activision Blizzard, 2023). The completion of this merger represents a substantial undertaking that requires the collaboration of several departments and a considerable workforce. The insights provided in this report shall serve as a valuable resource throughout the entirety of this complex process.

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## **Appendix**

**Business Proposal**  
**720081482**

**Report on M&A between Activision Blizzard and Microsoft:**

In this proposal, I will outline the complete picture of the future actions which I will be undertaking for this project, where I will work on showing insights of the acquisition and merger process between Activision Blizzard and Microsoft. I will act as a business analyst between two tech organisations, using data analysis methods for generating insights.

**Problem Statement:** -Gaming industry has seen a growing consumer range and in turn economic turnover is also high in this field(Global video game market revenue by category 2026, n.d.).Microsoft, which is the top competitor in the tech industry, has been in the top three positions in the gaming field for a couple of decades following Sony and Nintendo, by this acquisition with Activision Blizzard which has a leading edge in the gaming industry in recent times. This will be gaming changing move for Microsoft in the gaming industry.

**Datasets:-**

<https://www.kaggle.com/datasets/rush4ratio/video-game-sales-with-ratings>

<https://www.kaggle.com/datasets/kapturovalexander/activision-nintendo-ubisoft-ea-stock-prices>

**Company:**

**Microsoft**

Microsoft is the biggest software manufacturer in the world and is best recognised for its software products. The top software products are Microsoft Windows operating systems, Microsoft Office, and Internet Explorer and they also have hardware products like PC, and Xbox series of video game consoles. The top competitors of Microsoft are Apple, Google, Facebook, and Amazon. Lastly Sony, Tencent, Nintendo, etc. in the gaming industry. In January 2022, Microsoft made the announcement of acquiring Activision Blizzard for \$68.7 billion. This merger will change the future of Microsoft which will give it a competitive edge over leading companies like Sony, Nintendo, Google Play store, and Apple store(Kulesh, 2023).

**Activision Blizzard**

Activision Blizzard, Inc. is one of the world's largest interactive entertainment companies, with operations across North America, Europe, and Asia. They are the largest gaming network on the planet thanks to its ownership of some of the most well-known entertainment franchises, including Call of Duty®, Skylanders®, World of Warcraft®, Overwatch®, Diablo®, Candy Crush, and Bubble Witch. These games collectively have hundreds of millions of monthly active users across 196 countries (Activision Blizzard , About, n.d.).

Activision Blizzard currently includes five business units: Activision Publishing, Blizzard Entertainment, King, Major League Gaming, and Activision Blizzard Studios (DravidianGaming, n.d.).

## **Project Aims and Objectives: -**

### **Aim: -**

The main aim of this project is to show the complete M&A process by conducting a data-driven analysis. By the end of this project, we will know the maximum potential of the gaming industry and the impact of this current merger on the gaming industry, and also the financial growth of the two parties by this acquisition.

The applications of Activision Blizzard are used by 368 million active users every day

All the applications and patents have been getting enormous success and Call of Duty is a key driver for the growth of Activision Blizzard. Activision Blizzard believes that this deal with Microsoft benefits competition, consumers, and job creation in markets around the world, especially in the UK. **This will be illustrated using data-driven analysis.**

Microsoft has seen growth in the sales of Xbox with the release of Xbox Series S and Series X consoles. The popular titles are available on mobile, television, and PCs since 2022. With this acquisition, Microsoft aims to give players more choices to play great games wherever, whenever and also believes that this acquisition will unlock opportunities for innovation and enable the industry to grow. **We will see the growth of Xbox and the advantages for Microsoft with this merger using data-driven methodology.** (Microsoft 2022 annual report, n.d.)

**Our next aim is to outline the ethics that should be considered, during M&A for both the companies and the market.**



**We will be gathering insights on different perspectives which will be used for marketing, operations, HR etc.**

### **Objectives: -**

- Use visualisation techniques and statistical analysis to identify and evaluate the gaming market.
- Ethics should be ensured throughout the merger process. Use the AREA framework for this process.
- Evaluate both Microsoft and Activision Blizzard by using Exploratory Data Analysis (EDA) and correlation model to explore and explain the datasets and to see the insights which can be generated like analysing financial statements, market trends, competitive landscape, and operational performance.
- As an M&A analyst identify potential risks, synergies, and growth opportunities, and present findings.
- Analyse the entities of both companies and find growth opportunities.
- Create visualisation for stakeholders. Use stock data, annual reports, growth, and predicted future returns.
- Conduct financial modelling for valuation and negotiation.
- Give insights for change management, where it will be useful for changes in employees, management, process, systems, etc. This insight should be useful for smooth transactions.

### **Literature Review**

The literature review will improve my understanding towards the topics and method process related to M&A. In this, I will be assessing the articles, annual reports, and other data related to Microsoft and Activision Blizzard. I will also see the choice of methodology which can be used for this case.

### **Mergers and Acquisition**

Two of the corporate world's most frequently misunderstood terms are mergers and acquisitions. Both names frequently relate to the union of two businesses, but there are important distinctions in their appropriate usage. When two independent organisations come together to form a single, new organisation, it is called a merger. The taking over of one entity by another is referred to as an acquisition. To increase a company's market share or reach in an effort to increase shareholder value, mergers and acquisitions may be undertaken. (Majaski, 2015)

These considerations will help me in getting to know about M&A.

### **Current acquisition scenario between Microsoft and Activision Blizzard**

The gaming world was hit with the news of the \$68.7 billion acquisition of Activision Blizzard by Microsoft, and this was a gaming-changing move by Microsoft that would change the gaming future. After Sony and Tencent, Microsoft will rank third globally in terms of gaming income. Famous titles from Activision, Blizzard, and King studios including "Warcraft," "Diablo," "Overwatch," "Call of Duty," and "Candy Crush" are included in the potential acquisition. (Microsoft News Centre, 2022). This was temporarily blocked by US Federal Trade Commission FTC and other committees. In recent days, a US judge has ruled that Microsoft may go forward with its planned \$69bn acquisition of video game maker Activision Blizzard (Milmo, 2023).

### **Gaming Market Evolution**

The gaming industry has seen enormous growth, with the evolution in technology the technological enhancement has reflected in the gaming industry inspiring new audience to involve in the process. The dynamic change in the customer preference is the main reason behind the innovation in the gaming market. Consumer spending on and in app-based games on tablets and smartphones, as well as on casual audience-targeted browser games, is included in social/casual gaming revenues. (Global video game market revenue by category 2026, n.d.).

### **Research Methodology**

In this project, I will be working on the gaming industry, growth, and market trends where I will be showing the market potential of past, present, and future. I will also be showing the stand of Microsoft and Activision Blizzard in the gaming industry.

Initially, when I wanted to work on the acquisition of Activision Blizzard by Microsoft, I started with game sales data in Kaggle with this I will be showing the growth of the gaming industry and how it will impact the future of the

industry. In this I will be examining 16,720 samples from various gaming companies. I will analyse the market rankings according to data.

**Data analysis:** The data analysis phase of the research will involve leveraging various tools and software applications, including Python, Excel, and Tableau. Python and Excel will be utilized for in-depth coding analysis, allowing for extensive data manipulation and exploration. Python will facilitate data processing, cleaning, and enable sophisticated statistical analysis through its extensive libraries and packages. Excel will serve as a platform for data categorization, selection, and performing basic mathematical operations. It will also support aggregation and summarization of information using Excel's functions and formulas, enabling preliminary exploratory investigations.

Tableau, a robust data visualization tool, will be integrated alongside Python and Excel to generate visually compelling and interactive graphs, charts, and dashboards. Leveraging Tableau's intuitive interface, intricate data correlations and patterns will be effectively communicated, facilitating a comprehensive understanding of the study's conclusions. This combination of tools will enable the creation of interactive visualizations, ensuring the presentation of findings in an aesthetically pleasing and professional manner.

This project adopts a comprehensive and robust data analysis approach, leveraging Python, Excel, and Tableau to conduct an extensive and in-depth investigation of the collected data. Tableau will be utilized to visualize the data, create interactive graphs, and present the findings in a visually appealing manner. Building upon the data analysis and its results, the subsequent step entails extracting meaningful insights and drawing conclusive findings. The data will be interpreted, and trends, patterns, and relationships will be identified and analysed.

### **Limitations**

The limitations will be it doesn't have the consumer attribute which will describe its behavior and approach towards the game this could have been used to show brand loyalty. The availability of resources and limited publicly available data of both Microsoft and Activision Blizzard may constrain the project's scope, potentially excluding certain sectors and timelines. The rapid pace of changes in the gaming industry may limit the relevance or applicability of findings based on older gaming data. It is essential to consider the temporal context of the data as a limitation and should account for ongoing industry developments.

### **Ethics**

## Gantt Chart

[illegible]

## 84

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