

## Final Project Memorandum

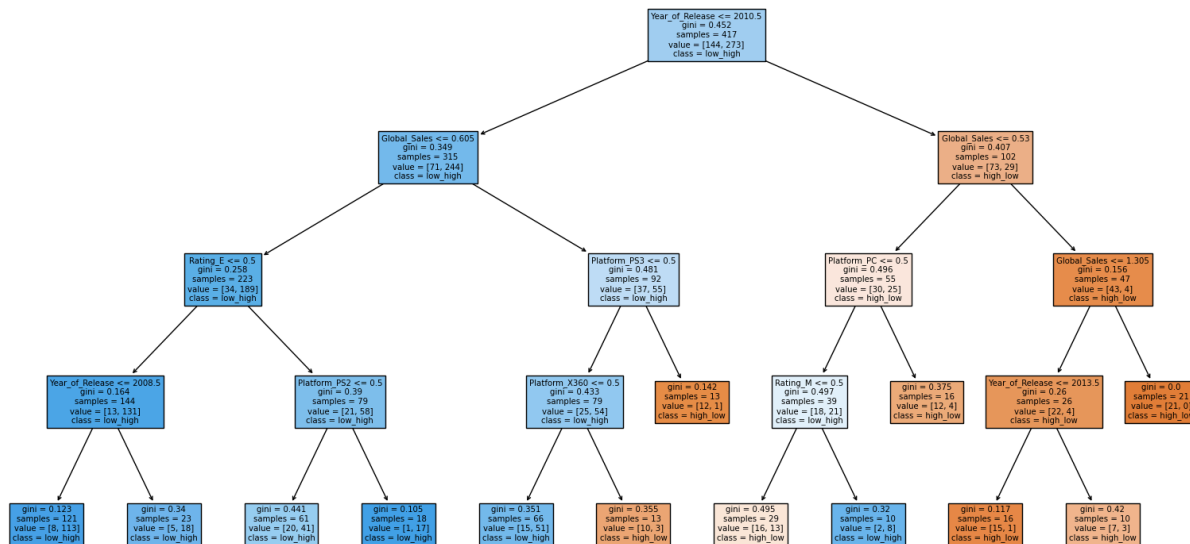
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Forecasting can be utilized in a plethora of ways in the world of video games. It can create the framework that assesses the profitability of a game, its regional and global sales, and its success based on its genre and console. The question we try to solve is can you determine the **critic and user scores** through forecasting? Forecasting extrapolates meaning through past data that allows us to assess the feasibility of producing a game. To calculate this, we ran multiple tree plots that factor in criteria such as Year Released, Rating, Console, Global Sales, and Genre to assess whether or not a game is likely to receive high critic and user scores.

Through hypothesis, we inferred from observation that the direction video games are going is more collaborative, more geared towards adults, and more likely to stipulate from a PC, PlayStation or Xbox. Due to the overwhelming track record of these specific traits, we believed that games with higher ratings that catered to either of the three consoles were more likely to garner a higher critic and user score. On the contrary, one on one devices that isolate the user such as the DS, GameCube and Wii were less likely to receive higher scores if they produced games in this era (although we acknowledge the success of games like Wii Sports and Mario Kart, they succeeded in an era where games were less evolved than they are today).

To test this hypothesis we constructed several tree plots that gauged the likelihood a prospective game would garner a high or low critic and user score based on the aforementioned

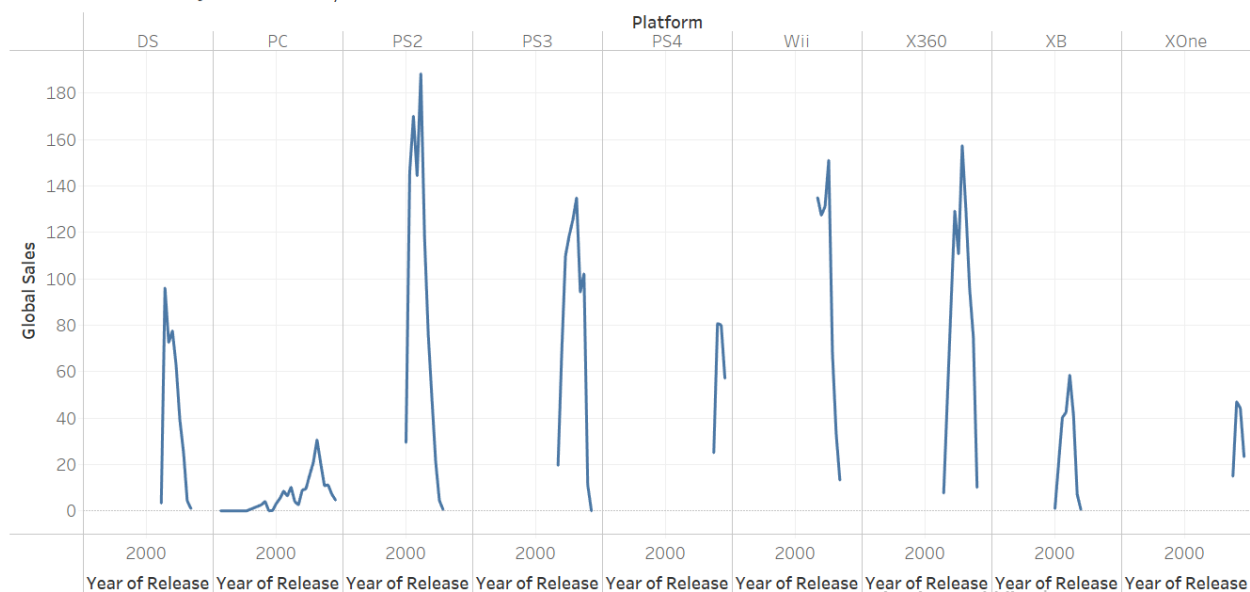
factors. When gauging score forecasting by means of console, it confounds us to see that



XBox and PlayStation games are likely to rank high by users, but low by critics. Conversely, PC games are likely to rank high by critics, but low by users. One likely explanation for this could be that the data set takes us through 2016 in video game sales. While PC games have been around forever, they've only truly revolutionized the face of gaming within the last decade. It's worth noting that the two highest selling PC games were *The Sims* and *World of Warcraft*. And while both are legendary in their own respect, the modern era of PC gaming has only continued to transform the immersive experience as we know it. Most PlayStation and Xbox games are offered through PC systems now and PC manufacturers have optimized gameplay, graphics, and controls to guarantee a premium user experience in comparison to their competitors. How we interpreted tells the story of an era of gaming where proactive critics understood the direction games were moving, thus the reason for favorable PC scores and unfavorable Xbox and PlayStation scores. Adversely, because users are immersed in gameplay and far more reactive to the market climate than critics, they are more likely to give PlayStation and Xbox a more

favorable score than PC games. All sources have gini's between 0.39 and 0.496 which exemplifies a moderate inequality within each individual dataset. Wii defies all expectations and ranks high in both critic and user scores. The likely cause stipulates from the fact that the vast majority of Wii games were immensely successful in their prime. Since the data only takes us into 2016, it just begins to scrape the surface of the downfall of Wii gaming. Even critics were unable to see the isolation within families due to technology that would make Wii gaming obsolete.

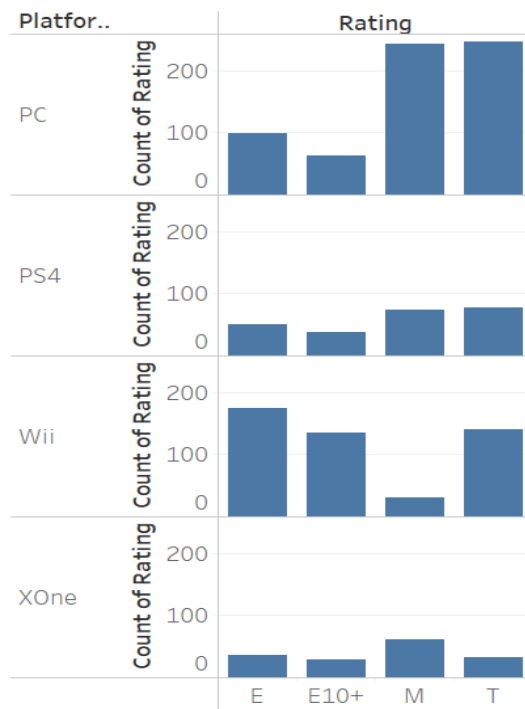
Global Sales by Platform/Year Released



While the graph appears to depict the fall off of video games as a whole, the steep decline is directly correlated to the release of new gaming consoles by parent companies. Console Wars on Black Friday in 2015 between Xbox One and PlayStation 4 means that Xbox 360 and PlayStation 3 are now obsolete. Consoles are also specifically designed so old games can be played on new consoles, but new games cannot be played on old consoles forcing users to adapt to the new console if they want to experience new games. What we notice in the graph reaffirms the notion that Xbox and PlayStation maintain their popularity while PCs appear stagnant in

sales. As we had predicted, Wii gaming has begun its steep fall off from mainstream gaming, yet their games are forecasted to receive high scores from both critics and users. Users I understand, but critics? How do critics not project the imminent fall off of Wii gaming based on the data in

Rating Count by Platform



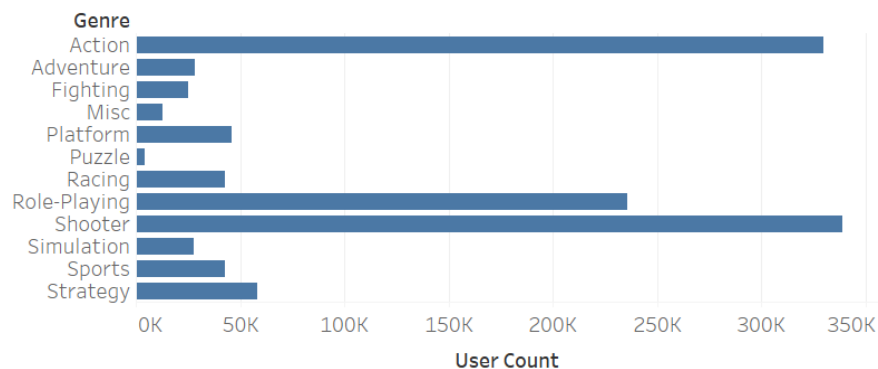
front of us? One theory we have to offer is that the Wii is by far the most family friendly console of the four we've mentioned. Based on the rating count, no other competitor comes close to as dominant as Wii is the E for Everyone Rating. Everything follows an inevitable cycle in this country where there's a shift from the family to the individual. It happened from the 50's into the 60's, the 80's into the 90's, and now again from the 2010's into the 2020's with the exponential growth of technology, virtual reality, and AI. This repetition could implicate the return of

family gaming where the Wii still has a monopoly. While other consoles are more focused on action and shooter games, the Wii sticks to a consistent, successful model in making games that bring the family together. Not to mention the amount of nostalgia that comes full circle in our society.

The model doesn't dig deep into the forecasted success by genre, but it does maintain that Sports games are likely to be scored high by both critics and users alike. It doesn't take a genius to realize that stores across the country are lined with the latest *Madden*, *NBA 2K*, *FIFA*, and *MLB the Show*. Why are they forecasted high scores by both critics and users alike? Sports games remain current due to the ever changing landscape of sports. Is this year's Celtics team the

same as last years? Shohei Ohtani just signed a half billion dollar deal with the Dodgers. Do you really still want to play *MLB the Show 23* with him on the Angels? Of course not. And while the teams are ever changing, so is the gaming landscape. Sports games are constantly adding in new gameplay that creates a unique, immersive experience for users. *MLB the Show* offers a “Road to the Show” game mode that allows you to assume the role of an up and coming talent that has to progress through the minors on your way to the major leagues, allowing kids to walk in the footsteps of their idols. The newness, ingenuity, and collaboration is what keeps Sports games at the forefront of the gaming industry. Strangely enough, while Sports is an accurate predictor

Users per Genre



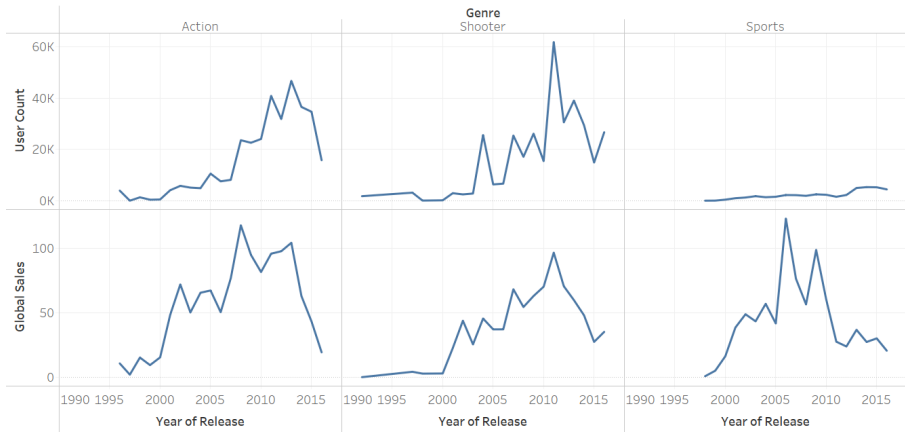
Sum of User Count for each Genre.

towards the likelihood of a positively scored game, it is severely less played by audiences. Action, Shooter, and Role Playing games are all significantly more popular than Sports

games. The most likely cause for this is that Sports games attract a niche in the market who will continually replenish their libraries with the latest edition of each game. While the market for sports is massive, the market for Sports games is significantly smaller. Take a fan who watches hockey, basketball, baseball, and football year round. What are the odds that that fan buys each and every Sports game that he watches? Maybe one? But they are repeat customers who will return to do business with the one game every year. Action and Shooter games on the other hand are unique to that manufacturer. Action games follow a singular storyline with quests and side quests for users to complete. Shooter games usually follow a Battle Royale/Campaign style game

play where users are inserted into lobbies to compete against other users. Unlike Sports, each

Genre Usership by Year of Release



The trends of sum of User Count and sum of Global Sales for Year of Release broken down by Genre. The view is filtered on Genre, which keeps Action, Shooter and Sports.

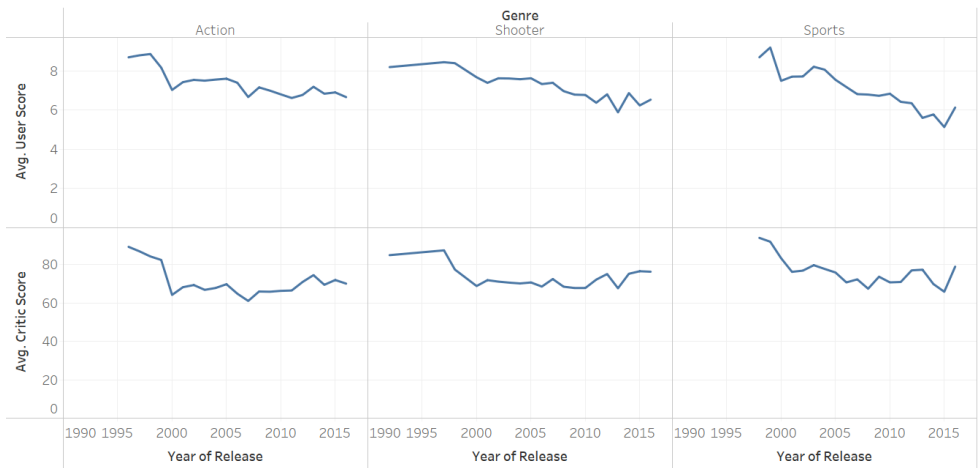
Action and Shooter

game contains unique storylines, characters, animation styles, and collaborative gameplay that bring in more users than Sports. As you can

see by the chart that

compares User Count with Global Sales by the three aforementioned genres, our analysis is correct. While Action and Shooter games are ultimately more popular and dominate the share of users, Sports games maintain a massive stake in Global Sales due to their business model that generates repeat customers. What is an interesting trend is the rates in which user scores change

Scores by Genre/Year of Release



The trends of average of User Score and average of Critic Score for Year of Release broken down by Genre. The view is filtered on Genre, which keeps Action, Shooter and Sports.

by year in comparison to critic scores. While user scores seem to steadily decline (with the lone exception being a steeper decline in

Sports games), critic scores remain more stagnant. This could be explained by the style of gameplay that users have become acquainted with over decades of video games in these genres.

Storylines are getting old, graphics are only slowly changing, and once you add the collaboration component to video games there's nothing you can really do to further revolutionize it. As these elements begin to weigh on users, their scores seem to wane in accordance by year showing a direct correlation between expectations and reality for games released today. What fascinates me is that critics look at this alternatively. While they notice a decline in the quality of gaming 1995 to 2013, there is an uptick in their scores for games being released between 2014-2016. What could have caused this uptick? A landmark in not only the gaming industry, but the technology industry. The Oculus VR Headset was first released in stores in March of 2016 and thus the future of gaming was born. As we've established, users are reactive, far too immersed in the world of day to day to see where the world is going. Critics on the other hand are proactive, actively seeking out the next industry changing innovation; and in 2016 they found it. This sparked an outpour of engineering that would forever alter the way in which users play video games, and the very reason why Sports, Action and Shooter games remain novel to this day.