Comparative Analysis of Counter-Strike 2 and Valorant

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Abstract: With the rapid development of e-sports and online games, shooting games have received significant global attention and popularity. This article uses the research methodology of literature review to conduct a comprehensive analysis of the disparities and attributes of the two shooting games, Counter-Strike 2 (CS2) and Valorant, in terms of gameplay, community engagement, and business strategy. Through detailed analysis, this article finds that Valorant emphasizes character diversity and innovative skill systems in game design to enhance the strategy and interactivity of the game; while CS2 retains the fundamental aspects of traditional first-person shooting games, such as precise tactical execution and technical requirements, focusing on the technical depth and operational difficulty of the game. In terms of business model, CS2 continues the open market system for skin trading , fostering economic interaction among players. In contrast, Valorant adopts a more closed and direct sales approach, offering exclusive skins at fixed prices, and exerting control over the market. This research serves as a valuable resource for game developers in shaping future game design and market strategy, and it also introduces a new theoretical perspective to the field of game research, enhancing the understand of how different game designs influence player behavior and market response.

Keywords: eSports, Counter-Strike 2, Valorant, gameplay, community interaction

1. Introduction

In recent times, the proliferation of e-sports and online gaming has led to the emergence of a wide array of game genres. Shooting games are often favored by players because of their exciting gameplay and intricate tactics. Counter-Strike 2 (CS2), the successor to the renowned shooting game Counter-Strike: Global Offensive (CS:GO), has won the favor of global players due to its authentic tactical confrontations and exceptional emphasis on collaboration since its launch. At the same time, Riot Games has introduced Valorant as a burgeoning shooting game that injects fresh life and creativity into the shooting game industry through the inclusion of distinctive hero characters and their unique powers. In Analysis of Counter-Strike: Global Offensive, competitive play in CS:GO is evaluated using game-refined metrics, revealing that gameplay requires a high degree of technicality, while the unpredictability of the turn-based system adds randomness to the game [1]. This combination of technology and randomness makes CS:GO and its related games engenders a profound adoration among players and a global popularity. These two games possess distinct attributes in terms of gameplay, community interaction and business models. An in-depth analysis of their development

and impact will facilitate a comprehensive understanding of the present patterns and future advancement of e-sports games.

There is a wealth of research on shooting games, but the most of it is around the social impact of these games, player behavior, and market strategies. For example, some scholars explored the impact of shooting games on players' cognitive abilities and social skills, while other studies focused on how to improve player engagement and loyalty through game design. An in-depth analysis named Virtual Communication to Every Valorant Online Game Player in Developing Game Strategy deeply explores the virtual communication process among players and finds that virtual communication is crucial for effective strategic planning and information sharing among teams. This study examined the modes of communication utilised by participants, including voice chat and text chat, and identified potential challenges that may occur during the communication process[2].

This article uses literature review to systematically organize and analyze data pertaining to the gameplay mechanisms, gaming community interaction, and business models of CS2 and Valorant. This article seeks to uncover the similarities and contrasts in the design and market performance of the two games, as well as the main aspects that contributed to their individual triumphs, through a comparative analysis. This research not only provides valuable insights for game developers, enabling them to make more diverse decisions in future game design and market positioning, but also contributes new perspectives and data to the field of game studies, promoting the understanding of electronic games. Through the in-depth comparative study, this article hopes to provide new enlightenment and direction for the research and practice of shooting games.

2. Game play comparison

When comparing the game mechanics of CS2 and Valorant in depth, *The Evolving Game Mechanics in E-sports First-Person Shooter Games* provides a good frame of reference. The paper explores the evolution of game mechanics in e-sports FPS games and finds that the attractive game mechanics have experienced significant changes over time [3]. By constructing a classification system of game mechanics, this study not only identifies the core mechanics of different FPS games but also reveals how these mechanisms adapt to changes in the market and technology to maintain players' interest. This research result provides a reference for our analysis of how these two games attract and retain player groups through innovation.

2.1. Basic gameplay

Valorant and CS2 have the same victory conditions. The goal of the attacker is to plant a bomb at a designated location or to eliminate the defender. The defender needs to prevent the attacker's actions or defuse the bomb after it is planted. Each game is divided into two halves, each half has 12 rounds. In the second half, the team positions will be switched, that is, the offensive and defensive sides will be swapped. A team needs to win 13 rounds to win the game. If the two sides are tied, the game will enter overtime. Valorant's overtime match is an unlimited number of games. At the end of each round, camps are swapped. If either team wins two consecutive rounds, it will win the game and end the overtime match. The overtime in CS2 lasts for six rounds. After three rounds, teams switch sides. The first to win four rounds wins.

Valorant is set in a future world similar to Earth. Players choose agents to use in the lobby. Each agent has unique skills and abilities and is divided into several roles as are shown in Figure 1: Duelists, Controllers, Initiators and Sentinels. Each type of character has similar skill types, and skills can be used to complete a tactical layout. There are also a variety of entertainment modes in the game, such as Replication, Spike Rush, Deathmatch, Escalation, etc., providing different player experiences and tactical challenges.

Figure 1: Information for each type of agent in Valorant [4]

CS2 is a 5v5 competitive FPS game that includes two opposing teams: T and CT. In CS2, players use different weapons and props to cooperate and execute tactics. CS2 also offers some hostage rescue maps, such as Office and Italy, and the gameplay varies depending on the map.

2.2. In-game economic system

When discussing the game's economic system, it's crucial to understand how teams make purchasing decisions based on the state of the economy in each game. According to researches, a team's economic decisions significantly impact game outcomes. The model shows that by optimizing the buying strategy, the team can significantly improve its winning rate, a finding that provides strong data support for strategic decisions in the game [5]. Research on this strategy demonstrates the central role of economic decision-making in e-sports.

In Valorant, the game's virtual currency is called Credits, which are used to purchase weapons, skills, and shields at different prices, and the detailed prices are listed in Table 1. All players have 800 Credits each at the start of the game (half time). Credits are increased by killing enemies and winning rounds, up to a maximum of 9000 Credits. Players will receive 200 Credits for each enemy being killed. Teams receive 3000 Credits for each round they win. If the attacker successfully plants the explosive device, each will receive 300 Credits. If it goes into overtime, each player will receive 5,000 Credits per round.

Table 1: Valorant weapon prices [6]

Weapons	Price (Credit)
Classic	0
Shorty	300
Frenzy	450
Ghost	500
Sheriff	800
Bucky	850
Marshal	950
Stinger	1100
Spectre	1600
Ares	1600
Judge	1850
Bulldog	2050
Guardian	2250
Outlaw	2400
Phantom	2900
Vandal	2900
Odin	3200
Operator	4700

At the start of a CS 2 game, each player is given $800 to spend on weapons, items, and shields, often called a "pistol round." Later, players can increase their bankroll by killing enemies, winning rounds, or completing specific tasks such as planting or defusing bombs, up to a cumulative total of $16,000. Players who use different weapons to kill enemies will receive different amounts of rewards, as is shown in Table 2, with the highest reward reaching $1,500. The player who planted the bomb receives $300, while his teammates who did not survive will receive $800 in the next turn. Detonating a bomb (T) or defusing a bomb (CT) will award each player $3500. The T side will receive $3250 if it eliminates all CT sides or the CT side wins before the round timer expires. If it goes into overtime, every three rounds will provide a total of $16,000.

Table 2: Weapon costs and rewards in CS2 [7]

Weapons	Price ($)	Reward for Kill
Pistols (except CZ-75)	0-700	$300
CZ-75	500	$100
Shotguns	1050-2000	$900
SMGs (except P90)	1050-1500	$600
P90	2350	$300
Rifles	1800-3300	$300
Machine guns	1700-5200	$300
Sniper rifles	1700-5000	$300
Grenades	300-600	$300
AWP	4750	$100
Zeus x27	200	$0

The economic compensation system, also called the losing streak reward, of Valorant and CS2 is very similar. In CS2, the compensation for losing a round is $1,400, and each consecutive failure will receive an additional $500. There will be no increase for 5 or more times. Valorant, on the other hand, stops growing after failing three times. Economic management is crucial to victory in both games, as proper allocation of funds is important to maintaining and increasing combat effectiveness. For example, both games have strategies on how to adopt strategies in times of financial difficulty, such as Eco rounds, half-buying, or full-buying, as well as how to purchase full equipment when funds are sufficient.

2.3. Rank settings

In Valorant, the ranking from low to high includes: Iron, Bronze, Silver, Gold, Platinum, Diamond, Ascendant, Immortal, and the highest Radiant. There are three sub-segments in each ranking, and the difference between each sub-segment is 100 points. Valorant's ranking system keeps the game fair and interesting by evaluating player performance to ensure players are matched with opponents of the same skill level.

In contrast, the ranking system of CS2 has made some adjustments based on the previous game CS:GO, introduced new ranking categories, and optimized the existing ranking mechanism. The

ranking of CS:GO from low to high is: Silver I to Global Elite, a total of 18 levels. In CS2, a player's performance in Premier mode is converted into a numerical rating. This rating is called the CS Rating, which ranges from 1 to over 30,000, with seven different colors used to divide different ranks (per 5000 points).

2.4. Comparison summary

Although Valorant and CS2 have many similarities in the basic game structure, they each have their own emphasis. Valorant emphasizes character diversity skill usage. Each agent has unique abilities, which increases the game's strategic depth and the complexity of team collaboration. In terms of economic system design, it is relatively simple. New players can quickly understand and master it. Through these designs, the game encourages players to explore the combinations and tactics of different agents, increasing the playability and viewing pleasure of the game, and attracting players who like strategy and team operations. In contrast, CS2 maintains the core elements of traditional FPS games, focusing on accuracy in marksmanship, map control, and tactical execution. A more complex economic system also makes the game more balanced and competitive. These designs emphasize individual skills and fast-paced combat, appealing to players seeking thrills and skill challenges. CS2 creates a more balanced and competitive environment that meets the needs of hardcore players by updating its ranking system and refining economic strategies. Overall, by highlighting these elements, the two games not only enhanced the depth and complexity of their respective games but also successfully created their own unique player communities and competitive scenes.

3. Game community and interaction

Gaming communities consist of players, stakeholders, developers, teams, tournaments, and brands of certain games [8]. This article focuses on the experiences and issues players have in the community.

The game community of CS2 inherits the characteristics of its predecessor, CS:GO, emphasizing competitiveness and skill level. There is widespread discussion in the community about skill and tactical understanding, including various strategies, control of specific map locations, and teamwork. However, this community also faces phenomena such as competitive comparisons, such as skin display and online gambling, which research indicates may lead to illegal gambling and the involvement of underage players [9]. The CS2 community communicates through various third-party platforms such as Reddit, Discord channels, and professional forums, but it must also deal with community issues caused by competitive comparison.

Valorant's community building focuses on diversity and inclusion, encouraging players of all backgrounds and skill levels to participate. Riot Games provides Valorant players with a variety of interactive tools, including in-game voice communication, social media groups, and officially sponsored community events. However, according to research, despite Valorant's attempts to build an inclusive environment, the level of intolerance towards female players in the community remains an issue, particularly with sexism common in voice chat and game interactions [10]. This may be due to the higher proportion of female players in the game, so the issue of sexism is often brought up. The Valorant community interacts through platforms such as official forums, social media, and Twitch live broadcasts, and despite efforts to increase inclusivity, these issues still need to be further addressed.

The CS2 community focuses on in-depth discussions on technology and tactics, and its community activities usually focus on improving game skills and competitive performance. However, competitive comparison and gambling problems have affected the healthy development of the game. In contrast, the Valorant community emphasizes inclusivity and creativity, but still needs to work

hard to address remaining sexism issues. Valorant encourages players to participate in the multicultural construction of the community while enjoying the game. Valorant's community interaction focuses more on using visuals and character stories to enhance players' emotional connections, while CS2 focuses more on improving players' competitive levels and teamwork.

4. Business model

4.1. Skin trading

Skins in CS2 can be obtained by opening boxes, and this process requires purchasing keys, which has become an important way for the game to make money. CS2 inherits the skin trading system of CS:GO, which allows players to freely trade skins on the open market. Skins in CS:GO can be very expensive due to their rarity and uniqueness, with some rare skins having a market value of thousands of dollars. This open market model not only makes skins a trading commodity among players, but also an object of investment and collection [11]. In this way, CS2 provides a dynamic economic environment where skin prices fluctuate, adding an additional economic dimension to the game.

Compared with CS2's open market, "Valorant" adopts a more closed and controlled skin sales model. Valorant's skins are usually sold in packages with a fixed price. For example, a high-end skin might be priced between $70 and $100. Skins cannot be traded or sold between players. Although this model limits the secondary market trading of skins, it ensures the stability and predictability of skin prices and reduces market fluctuations and speculation. By this way, Riot Games are able to precisely control the game economy while ensuring fair access to skins for all players.

4.2. Comparison of pass systems

In terms of passes, CS2 inherits the CS:GO model. Players can unlock skins, stickers, and other in-game items by purchasing the battle pass. This pass is usually launched in conjunction with an in-game event or update, and the price varies depending on the season and content offered, usually between $10 and $15. "Valorant"'s battle pass system provides richer levels and tighter integration with game content. Each Season Pass is tied to the game's seasonal theme, offering skins, in-game currency, and exclusive customization items. Valorant's battle pass has two tiers, free and paid. The paid tier is usually priced at $10 to $15 and includes exclusive skins and other personalized items.

4.3. Comparative conclusion

CS2 and Valorant demonstrate two different business strategies on skin trading and pass systems. These differences not only affect players' economic activities, but also reflect different market positioning and player demand satisfaction strategies.

CS2's open market model concentrates more on players' individual needs and economic freedom. By allowing players to freely trade skins in an open market, CS2 creates a unique economic ecosystem where the price of rare skins is determined by supply and demand, stimulating trading activities among players. This model not only encourages players to choose and trade skins according to their own preferences, but also promotes community activity and interaction. However, the open market model also carries certain risks, such as market volatility and value instability, as well as the temptation that may lead some players to engage in gambling and speculation.

In contrast, Valorant's closed sales model focuses more on price stability and market control. To maintain a relatively stable price and a certain level of fairness, game developers restrict the distribution and sales channels of skins. This model provides players with a stable purchasing channel, reduces the impact of market fluctuations, and also allows game developers to better control market trends and economic conditions. However, the closed sales model may also result in some players

feeling restricted and unable to trade and choose skins as freely as they would in the open market model.

5. Conclusion

This article uses a comparative analysis of two popular first-person shooter games, Counter-Strike 2 (CS2) and Valorant, to describe their similarities and differences in terms of gameplay, community interaction, and business models. The study found that although the two games have many similarities in basic gameplay, they diverge in their focus on character design, community culture and the implementation of the economic system. Valorant prioritizes the inclusion of a wide range of characters and intricate skill systems, which enhances the strategic complexity and encourages collaborative efforts. On the other hand, CS2 maintains a stronger emphasis on conventional first-person shooter aspects and places greater importance on precise execution of technological tools and tactical maneuvers. CS2 operates under an open skin market business strategy, whereas Valorant follows a more closed and regulated sales model.

Nevertheless, this study is subject to many limitations, including the unavailability of direct gaming experience input from real users through surveys and the incomplete coverage of all possible aspects that impact game success. Subsequent investigations can delve deeper into players' genuine emotions and inclinations towards these game designs by employing questionnaires or conducting user interviews.

In the long run, research on this type of game can not only help developers better understand market demand, but also provide theoretical support and practical guidance for the continued innovation and development of e-sports games. As technology advances and player demands continue to evolve, continued research on game community culture and business models will significantly influence the future direction of the entire industry.

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