

# ***Exploring the Social Network Structure Differences Between Team and Individual Video Games in the Market from an Economic Perspective***

Yu Chen<sup>1, a, \*</sup>

<sup>1</sup>*Santa Monica College, 1900 Pico Blvd, Santa Monica, United States*

*a. chen\_yu05@student.smc.edu*

*\*corresponding author*

**Abstract:** The video game industry has undergone exponential growth and transformation, adding various economic models and social networking influences. This study aims to dissect these complexities by comparing the economics of team and single-player games, analyzing the role of social networks in shaping consumer purchase behavior and taking a closer look at different monetization strategies. Using a combination of literature reviews, case studies, and quantitative analysis, the study reveals the significant impact of social networks on consumer choice, with team-based games often enjoying higher long-term profitability due to their inherent social elements and micro-event-based models. Single-player games, on the other hand, offer unique value through narrative depth and personal experience. This research is of critical importance to stakeholders such as video game developers, digital marketers, economists, and policymakers working on or studying the digital economy. While the study provides important insights, it also acknowledges the limitations posed by the rapidly evolving nature of the industry. Future research should focus on emerging technologies such as virtual reality and blockchain to fully understand their impact on the video game economy.

**Keywords:** video game market, social network structures, economic models, monetization strategies, consumer behavior

## **1. Introduction**

### **1.1. Research Background and Significance**

Today, with the rapid development of digitization and the Internet, the global game market is characterized by rapid growth and great potential [1]. From the early days of arcade games and home consoles to today's mobile games, video games have always been an important part of the entertainment industry. With the global video game market growing year over year from \$134.9 billion in 2018 to a projected \$19.8 billion in 2022, the segment has undoubtedly become an economic force to be reckoned with. Among them, as two important branches of the market, team games and individual games have their own unique social network structure, which directly or indirectly affects their performance in the market [2]. The global COVID-19 pandemic in 2020 has had a significant impact on this market. People rely more on electronic entertainment, which accelerates the consumption of video games. In addition, the rapid development of cloud gaming and virtual reality

(VR) technology has also brought new opportunities to the market. Against this background, this paper aims to explore the economic differences between team games and individual games in the structure of social networks. This paper will delve into how these differences affect revenue models, user engagement, and market acceptance in order to provide valuable insights for game developers and market analysts [3].

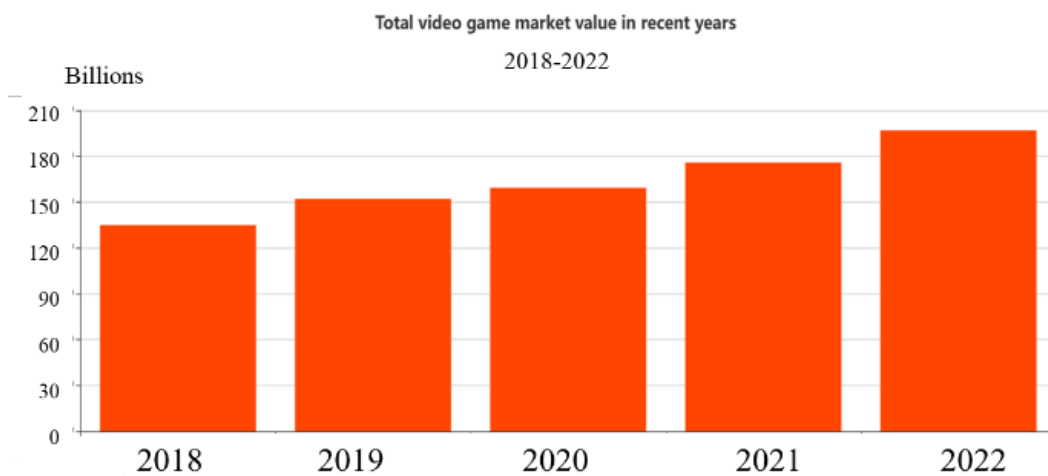


Figure 1: Total video game market in recent years.

In nearly five years (from 2018 to 2022), the video game market expanded from \$134.9 billion to an estimated \$196.8 billion. The overall increase was about 45.82%. Continued growth, even in challenging times, indicates a strong and resilient market. Constant technological innovation shows that the market is rapidly evolving and adapting. Future innovations are likely to continue to shape and possibly enhance market value (in Figure 1).

Team games are games that require teamwork to complete tasks together. For example, League of Legends or Valorant. Individual games are games that a single player can play independently, like “Breath of the Wild” or “Angel Comes”. According to data shared by the famous game platform Steam, seven of the ten best-selling games in 2022 are multiplayer games and three are single-player games [4]. However, Statista’s November 2021 data shows that a whopping 59 percent of US gamers prefer to play video games alone [5] (in Figure 2).

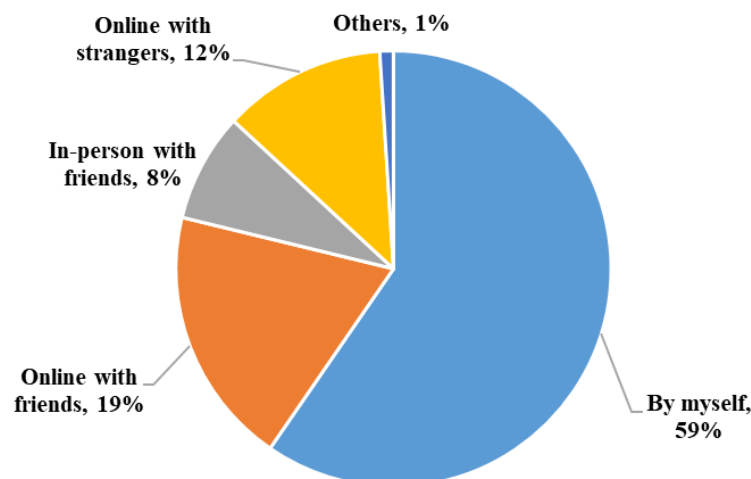


Figure 2: American player preference.

## 1.2. Literature Review

The rapidly growing video game industry has attracted a lot of attention not only because of its huge market size but also because of the complex dynamics of its continued growth. While there is a large body of literature examining various aspects of video games, such as technology adoption, consumer behavior, and economic models, there is still a clear research gap when it comes to taking an integrated look at how the structure of social networks affects the economics of different types of games, especially team games and individual games. Video games are increasingly being defined as social platforms that transcend the boundaries of pure entertainment. Researchers study video games from a framework of social interaction, focusing on in-game communities, social capital, and network effects. Meanwhile, on the economic side, a lot of research is exploring monetization models, including free-to-play models, microtransaction, and secondary markets for virtual goods. However, these surveys are often conducted in parallel and rarely cross over to provide a comprehensive understanding of how the structure of social networks affects the economic viability and sustainability of video games. Furthermore, while there are studies that measure consumer preferences for team or single-player gaming experiences, these studies are not sufficiently linked to economic contexts. Factors such as peer pressure in a team environment, the influence of social media, and even the “viral” potential of a game can significantly alter revenue streams and market acceptance and therefore require more careful investigation.

This literature review aims to bridge these gaps by synthesizing key findings from economic disciplines in the context of the social networking and video game industries. In this way, the author hopes to gain a better understanding of how the social network structures of team games and individual games differ, and how these differences affect their respective economic models and consumer behavior.

## 1.3. Research Content and Framework

In the context of the dynamic development of the video game industry, this study aims to comprehensively examine the economic complexity of team and single-player games. The study builds on existing academic literature to shed light on the unique revenue models of each game genre. Using a variety of methods, including literature reviews, case studies, and data analysis, the author dissected various revenue streams and assessed the sustainability of the revenue models in both categories. This research suggests that social networks are crucial in influencing players’ purchase decisions. This aspect gives game developers a way to specialize in promotions based on the type of game (whether team or single-player). Social networks further facilitate trade and cooperative play, contributing to the economic landscape. The study also takes an in-depth look at marketing strategies tailored to each game genre and assesses their effectiveness. In addition, this paper investigates consumer behavior to identify spending patterns, with a focus on the economics of virtual goods and in-game purchases.

## 2. Differences in Economic Models

### 2.1. Comparison of Income Sources

The video game industry has multiple revenue models, the most important of which can be divided into game sales and game top-up systems.

In the video game market, the various revenue models have their own unique advantages and limitations, which are largely influenced by the type of game and the target audience. The traditional game sales model, the one-time purchase model, often works well for individual games that focus on narrative or a single experience. This model provides an initial funding stream for game developers,

but long-term revenue will be limited unless game makers release more downloadable content (DLC) or sequels. On the other hand, the game store system, in which players use game currency to buy their favorite game items, provides a consistent monetization model for developers. This approach is consistently profitable by constantly introducing new accessories, but too many new designs can lead to player fatigue, which can affect the reputation of the game. These models and their respective strengths and weaknesses not only reflect differences in the structure of games' social networks but also have profound implications for the long-term economic sustainability of games [6].

## **2.2. The Profit Model and Benefits of Team Games and Individual Games**

Team games tend to be free-to-play, earning revenue through in-app purchases, advertising, and collaborative activities [7]. League of Legends - a famous MOBA game with hundreds of millions of players worldwide. It's a free game, so how does it make billions of dollars a year?

The first is the in-game mall system, where players need to buy in-game virtual currency if they want to get nice in-game accessories (skins). This allows the game to be highly profitable at almost zero cost. In addition, the development of e-sports is also one of the main ways for the League of Legends to profit [8]. Riot holds world-class competitions to attract players around the world to buy tickets and other derivative products, such as "favorite e-sports player uniforms" and "dolls of game characters" [9,10]. Another group game monetizes a little differently than League of Legends. A famous example is Counter-Strike - a steam FPS game. One of the main ways it makes money is by selling keys, which are dropped during the game and must be purchased to open it. Once unlocked, the player will receive weapons of varying value depending on their luck. One of the most interesting points is that the weapons players get by opening chests can be traded. Valve built a strong and stable trading system, but it never interfered with players' trading behavior, and even Valve's chairman had to go to the market to buy a certain weapon skin. All players control the direction of the market, and game accessories can be worthless or valuable. Another important way Valve makes money is by charging commissions for trading in-game accessories.

Single-player games rely more on first-purchase or single-purchase models [11]. Unlike freemium group games, which are monetized, buyout games require a purchase to play, usually at a higher price. For example, the Steam platform game "Red Dead Redemption". Single-player games can only make more money through marketing campaigns and the launch of new Downloadable Content (DLC).

## **3. Spread and Influence of Social Networks**

### **3.1. Players' Purchasing Decisions**

Recommendations and word of mouth: Players are likely to buy a game based on recommendations from friends, family, or online influential people.

In the economic landscape of the video game market, social media platforms play an important role, especially in the context of the different social network structures between team and individual games. On the one hand, by sharing game screenshots, videos, or livestreams to social platforms, players can not only increase the visibility of the game, but also stimulate the interest of potential users, thus driving game purchases. This bottom-up approach opens up more possibilities for the game community to grow. On the other hand, through social network advertising, game companies can directly interact with the target audience and capture their interest and attention. This more direct and targeted marketing strategy not only increases the market reach of the game, but also provides the company with more diversified and flexible ways to monetize.

### **3.2. The Promotion Strategy of Team and Individual Games on Social Platforms**

In the video game market, team games and individual games show clear differences in social network structure in terms of content creation and sharing, as well as interaction and community engagement. Team games emphasize a spirit of cooperation, and their content is often shared on social media, including highlight moments, video clips of teamwork, and instructional content on game concepts. In contrast, individual games are more focused on the player's personal achievements and game walkthroughs, such as high score records, game walkthroughs, or solutions to specific levels. In terms of interaction and community engagement, companies of team games often organize tournaments and encourage players to create teams and share experiences through social networks. Individual games, on the other hand, are more focused on one-on-one interaction with players, such as responding to player feedback, issuing challenges, or launching specific social network achievement badges.

### **3.3. Facilitates Trading and Cooperation Between Players**

The rise of social networks and communication platforms has provided multifaceted ways for players to interact and collaborate, greatly enriching the ecosystem of MMORPGs and online multiplayer games. One of the key features of these platforms is to facilitate the exchange of virtual items between players, thereby enhancing the game's internal economy. Social networks act as marketplaces where players can easily find trading partners, accelerating the flow of in-game resources.

In addition, these platforms have become important hubs for communication strategy and team coordination. Tools such as Discord and Teamspeak provide real-time communication that facilitates strategic planning and enhances the overall gaming experience. This is especially important for games that require complex teamwork and completing common tasks or challenges. In many cases, large teams in MMORPGs are organized through social networks to work collaboratively on complex in-game activities, amplifying the potential for in-game social interaction and community building.

In addition, social networks enable game developers to incentivize collaboration through social reward systems. The ability to reward players who invite their friends to join the game or work together on a quest not only encourages existing players to become more involved but also serves as a marketing strategy to recruit new players. This creates a virtuous cycle that encourages players to share, recruit, and participate in the game, which in turn increases player retention and revenue. The synergy between social networking platforms and gaming environments helps create a more interactive, collaborative, and economically dynamic gaming ecosystem.

### **3.4. Marketing Strategy for Team and Individual Games**

The different strategies that team games and individual games employ when it comes to leveraging social media platforms have clear economic implications [12]. Team games typically focus on facilitating player interaction through in-game group events and esports tournaments. This interactive strategy not only cultivates a large base of loyal players but also generates positive word of mouth and creates a favorable gaming environment. Single-player games, on the other hand, primarily engage players by emphasizing narrative content, character development, and innovative game mechanics. Promotions may include the release of screenshots, trailers, and developer logs, as well as restricting access to the private beta to raise expectations and thus increase sales.

In terms of the application and efficacy of social network marketing tools, targeted advertising on platforms such as Twitter, Instagram and Facebook's Lookalike Audience tool has proven to be cost-effective for reaching potential players who are similar to existing players. Influencer marketing, driven by partnerships with well-known YouTube streamers and Twitch streams, taps into the trust between influencers and their audiences, resulting in increased engagement and player acquisition levels [13]. In addition, community building - achieved through the establishment and active

management of official social media accounts - becomes a two-way communication channel between developers and players. This not only improves player satisfaction and retention but also keeps players up to date on updates and future releases, enabling real-time engagement.

In summary, whether it's a team game or an individual game, the overall goal is the same: generate interest and drive sales. However, the specific social networking strategies employed are tailored to the characteristics and expectations of each game genre, differentiating their value and economic viability in the marketplace.

In addition, there is a commonly used marketing method. The company encourages players to interact and invite each other by studying the relationship network between consumers, to achieve the purpose of increasing the number of customers, to achieve viral marketing [14].

## **4. Differences in Consumer Behavior**

### **4.1. Player Spending Patterns on Team and Individual Games**

The drivers of in-game spending are different in team and individual games, reflecting the unique group dynamics and player motivations inherent in each form. In team-based games, team dynamics often put implicit peer pressure on players to buy upgrades, skins, or other in-game items to improve their skill level and aesthetic appeal. In addition, the ongoing roll-out of events, competitions, and challenges that require team participation creates an environment of continuous engagement that leads to a long-term revenue stream for developers. In contrast, individual games show different patterns of in-game purchases. Here, players are often guided by personal preferences rather than external influences, resulting in a custom payment structure. Additionally, while team games may prioritize cooperative items and features, individual games often emphasize personalization elements, forcing players to invest in aesthetic upgrades to their characters.

### **4.2. The Economic Impact of Virtual Goods and In-Game Purchases**

With the advent of virtual goods and in-game purchases, the monetization landscape for game developers has undergone a major shift, shifting the primary source of revenue from initial game sales to ongoing microtransactions. This change is not just an adjustment in revenue sources; It also has a profound impact on player retention and engagement. By constantly introducing new items, features, and content, developers can maintain and even improve the appeal and playability of their games over time. This iterative form of content delivery not only deepens player engagement but also provides a more sustainable revenue model. As such, the shift from a one-time purchase model to a focus on in-game stores and subscription plans represents an innovation in economics and gameplay that enhances the longevity and continued profitability of games.

## **5. Conclusion**

The video game industry has undergone a major transformation over the past few years, with its market size growing and its influence permeating all sectors of the economy. The changing dynamics between team and single-player games, the role of social media in shaping consumer behavior, and innovative monetization strategies have all contributed to the complexity of this industry. Understanding these elements is critical not only for stakeholders in the gaming ecosystem, but also for economists, marketers, and policymakers interested in the digital economy.

This research uses a variety of methodologies, including literature reviews, case studies, and data analysis. This paper explores the economics of team and single-player games by studying academic papers, industry reports, and first-hand data. In addition, this paper analyze how social networking platforms influence purchasing decisions and the effectiveness of different marketing strategies.



Statistical tools will be used to quantify consumer behavior trends. This finding suggest that social networks significantly influence consumer purchase behavior in the video game industry. In addition, team-based games often enjoy higher long-term profitability due to their built-in social elements and microtransaction models. However, single-player games still have a unique value proposition through narrative depth and individual player experience. The study should be of interest to video game developers, digital marketers, economists who study digital goods, and policymakers concerned about the regulation of virtual transactions. Understanding the complexity of the video game economy can lead to more sustainable business models and smarter regulatory decisions. While this research provides valuable insights, it is limited by the rapidly changing nature of the gaming industry and consumer trends. Future research should focus on exploring the impact of emerging technologies such as virtual reality and blockchain on the video game economy. This research fills a gap in understanding the economics of the video game industry, especially in the context of the impact of social networks and diverse monetization methods.

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