

# Systematic Analysis of the Video Game Industry

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## Introduction

The video game industry is a key player in global recreational consumption. It requires careful observation and study of the impacts it can have on consumers, with respect to its market structure and consumer surplus. Within the United States, the video game industry has a myriad of difficulties regarding its measurement and impact on the population, given the novelty of the industry. Although it is an example used in various industrial organization publications, there is a fundamental lack of research in the video game industry. The difficulties arise from complementary goods required for the industry ranging from internet access to required technological devices. In the eyes of researchers, there is a profound lack of acknowledgement of what separates the video game industry from the software industry as well as North American Industry Classification System (NAICS) codes. This paper serves as a brief introduction of the industry through an industrial organization lens.

## Importance of Research

The NAICS codes overgeneralize the video game industry, where it considers the industry as just a software firm. It is important to study the industry by implementing its own code to aid the accelerated growth and impact it will have on global recreational consumption. The industry revenues are estimated to be 180 billion United States dollars (USD), which serves an estimated 3 billion consumers solely in 2021. It is also worthy to note that the majority of these consumers reside in the Asia-Pacific region. Moreover, the industry is expected to remarkably grow and as investment increases within the field it will become a key player in the global economy.

## Market Structure and Market Power

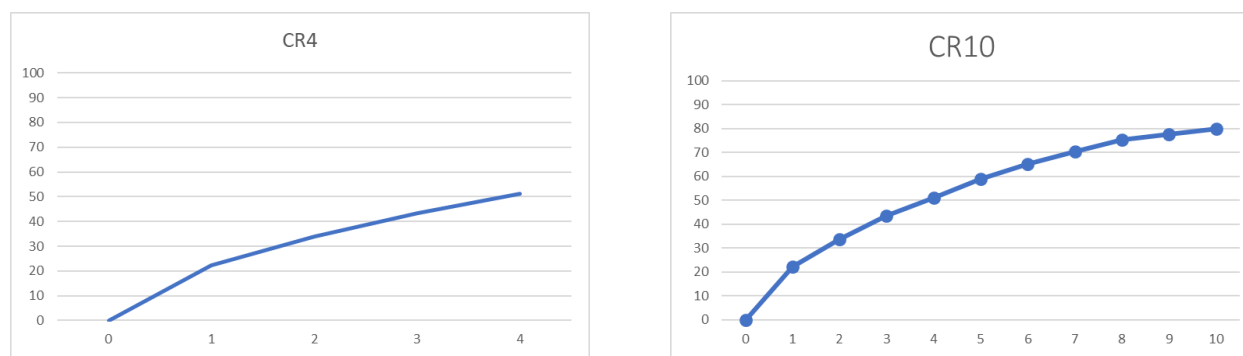


Figure 1.1: The two graphs represent two concentration curves, CR4 is the concentration of 4 firms and CR10 is the concentration of 10 firms.

When measuring the market structure and market power, the revenue taken at the third quarter of 2021 was utilized. During the third quarter, data was collected and calculated to present the concentration of revenue from video games world wide. The results of this data presented a concentration of four firms holding 50% of the global gaming-related revenue in the world. The results of the CR10 shows that the last 50% of the global market is in a greater competition for the remaining spots. The next 6 firms hold 30% of the market while the rest is held by smaller firms in the industry. The CR10 demonstrates that 80% of the global revenue in a single quarter is solely obtained by a few firms; which is evident of an oligopolistic industry. Ultimately, this oligopoly rises from the non-price competition that occurs in the industry and higher fixed cost.

### Non-Price Competition

Given the nature of the industry and the necessity to only sell heterogeneous products, Cournot and Stackelberg models cannot be applied to the industry due to the selling non-identical products. However, competitions still exist within the industry in two major aspects: marketing and technological advancements. These two factors have raised the cost of production within the industry at an exponential rate.

### Price Discrimination

The industry employs second and third degree price discrimination. Third degree is exemplified through finding consumers that live in different regions of the world and charging different prices per region. Where as second degree price discrimination is the most common in the industry, using a two-part tariff. The two-part tariff is brought from selling an initial good at a fixed price (i.e. games) and a second variable price inside the game. The utilization of both formats lead to higher profits for gaming firms. Thus, the method in price discrimination could only occur in necessary conditions to limit re-selling through database records of purchase and key redeeming on goods sold. It is common practice for firms to operate on the same fixed initial price of 60 USD even as the cost of production increases.

The industry is popular in the demonstration of bundling as a pricing method, and the importance of seasonality within the selling of goods. The video game industry has greater revenue per quarter in the fourth quarter of every year. This increase in sales is induced by seasonal holidays sales, with bundles including new and released games and the required complementary goods to utilize the goods such as consoles.

### Technological Development

Video games are a complementary good to computers and the internet and as a result we see a development of technological needs. Video games are dependent on other technological industries and their output on the market such as graphic cards, CPU's (Central Processing Unit), and co-processors.

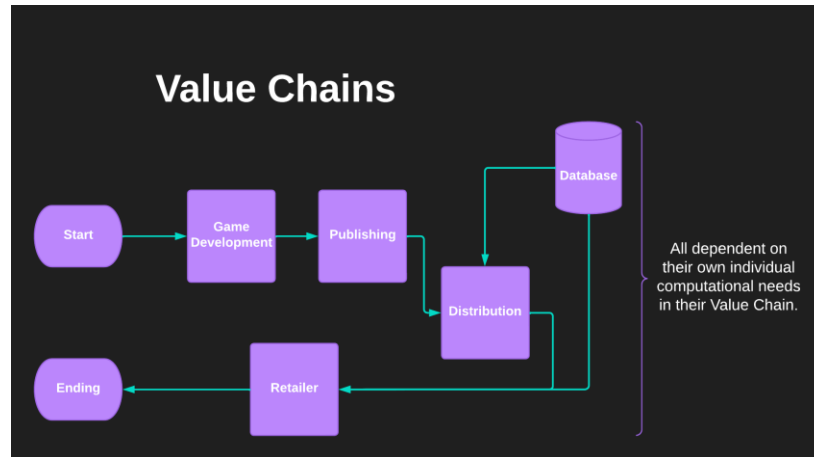


Figure 1.2: This graph was formulated to represent the value chains present in the industry

The video game industry exists in a long vertical chain of goods, known as value chains. There is software used to make video games, game development, publishing, distribution, retailer (online and physical), machinery for computational devices, raw resources for computer production resources like silicon, hardware/console makers and customers. Figure 1.2 works to present possible downstream and upstream effects in which mergers and acquisitions can occur. Each node represents a step on the production process towards a final product not accounting for the necessary device the consumer needs to purchase to utilize the final product. Every node within the chain presents different computational needs, which require different technology levels, through this value chain.

### Mergers and Acquisitions

There are multiple points of mergers that can occur through the chain, where firms operate and look for places to simplify the value chains. This serves as a way of obtaining an upstream or downstream effect. A recent acquisition occurred in January 2022, which resulted in the total cost of 68.7 billion dollars. This historical merger acquired the 6th largest firm, Blizzard, this acquisition is done by Microsoft to benefit from the game development aspect of the chain. Microsoft is a key player in the publishing, distribution and retailer and obtaining more game development firms allows for downstream effects to occur.

### Conclusion

In a retrospective analysis, the video game industry is a great case to study and observe through the eye of industrial organization. It demonstrates the way firms produce heterogeneous products and maintain market power using non-price competition. The industry shows the values of mergers at every single step of the process to increase profit and reduce multiple marginalization. Given the limitations of the data shared in the video game industry, there are fundamental limitations on research. Overall, the heterogeneous nature of the goods and complementary nature of the final goods produced, demonstrate the complex nature of the industry and the necessary capital a consumer must obtain to participate in the industry.

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