

Tencent's Success in Video Streaming: An Economic Theory-based Analysis

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Abstract: With the rise of internet technology and the popularity of mobile devices, the video industry has become an increasingly important part of the global entertainment landscape. This paper discusses the pricing strategy of Tencent in the video streaming industry. The paper states that Tencent has used the Bertrand Model to set prices equal to marginal costs to attract customers and expand its market share. However, in the case of Tencent Video's subscription price hike, the Cournot Model may be more applicable as the firm assumes that customers will continue to subscribe during the pandemic period. Despite the subscription price increase, the change in the price would be larger than the change in demand, leading to higher profits. The article also discusses the increase in demand for Tencent Video memberships and the factors contributing to it. From a game theory perspective, Tencent and its members can be modeled as playing a classic prisoner's dilemma game. Finally, the article discusses the opportunity cost for consumers and the concerns regarding the fairness of the increase in membership fees. This paper also utilizes the SWOT analysis.

Keywords: video streaming industry, pricing strategy, economic models

1. Introduction

From the GlobalNewswire, because of the rising use of smartphones and tablets, the popularity of online streaming, and the quick pace of technical innovation in the region, the Asia Pacific is predicted to expand at the greatest CAGR during the projection period. [1]. It could infer that, in recent years, the video industry has become an increasingly important part of the global entertainment landscape. With the rise of internet technology and the popularity of mobile devices, more and more people are turning to online video platforms to consume their favorite shows and movies. This has led to a significant shift in the way that content is distributed, with traditional TV networks and cable providers facing increasing competition from new, digital players. During the pandemic, in particular, the number of people working and resting at home has increased rapidly, and the increasing number of viewers who watch videos and follow TV series has also brought considerable profits to many websites. At the same time, the economics of the video industry have also undergone significant changes. As a result, most video content is distributed through a handful of large companies, such as YouTube and Hulu. Taking a closer look at China, IQIYI and Tencent dominate the online video streaming market as an oligopoly. The vast majority of profits are coming from subscription fees. The rapid development of technology and the entertainment sector in China, coupled with the

increasing willingness of Chinese consumers to pay for high-quality content, has led to significant growth in the country's video market. After the IQIYI video platform announced a hike in membership fees at the end of 2020, Chinese video websites, led by Tencent Video, have chosen to implement a subscription price hike of up to 50% in 2021 as well. According to a recent announcement by the Shenzhen-based firm, Tencent Video will raise the annual cost of its VIP membership from CNY198 to CNY253 (up to USD39), an increase of between 17% and 50% [2]. Furthermore, in 2019, Tencent faced criticism on Chinese social media for its move to charge premium subscribers an extra fee for early access to episodes of a popular TV series. This issue arose when Tencent acquired the copyright for the widely-watched drama series "Cheng Qing Ling" in the summer of 2019 and introduced an additional charge for premium users to watch the last six episodes before the scheduled release. Despite the drama's captivating storyline, over 2 million users opted to pay for early access, but the move still resulted in a negative impact on Tencent's reputation. I am going to use the Bertrand Model, the Demand-Supply model, and the game theory to further illustrate this issue.

2. Analysis Based on Economic Models

2.1. Bertrand Model

The Bertrand Model proposes that in an oligopoly, firms will initially set prices equal to their marginal costs to attract customers and increase their market share. Particularly, from the Inomics, when two or more businesses manufacture the same type of good in an oligopolistic market, there is price competition known as Bertrand competition [3]. However, as both firms are competing for customers, they will engage in a price war, undercutting each other's prices until they eventually set prices equal to their marginal costs. This leads to zero profits and suggests that competition in an oligopoly result in prices that are close to marginal cost. On the other hand, the Cournot Model assumes that firms compete based on their quantity of output rather than price. Each firm assumes that the other's output remains constant and makes production decisions accordingly. The model predicts that firms will produce less output than in a perfectly competitive market, leading to higher prices and profits. In the context of the video streaming industry, both models can be relevant depending on the specific circumstances of each firm. For instance, according to the China Internet Watch, Tencent created Tencent Video in April 2011 and it is currently one of the most popular online video platforms. IQiyi is its main rival in China [4]. IQIYI and Tencent, dominating the Chinese market as an oligopoly, may use the Bertrand Model to set prices equal to marginal costs to attract customers and expand their market share. However, in the case of Tencent Video's subscription price hike, the Cournot Model may be more applicable as the firm assumes that customers will continue to during the pandemic period to subscribe. Despite the subscription price increase, the change in the price would be larger than the change in demand, leading to higher profits. According to the article, Tencent, a Chinese company, increased its profits to \$7.39 billion in the first quarter of 2021, according to Variety. Tencent's net profit for the period was RMB 47.7 billion (\$7.39 billion). In addition, Tencent's study shows that subscriptions for value-added services—including streaming music and video—and other items rose by 14% [5].

2.2. Demand-supply Model

According to the same article, the increased demand for Tencent Video memberships can be explained by the demand-supply model. From Tencent's perspective, the COVID-19 pandemic has led to a decrease in total factor productivity (TFP), which is a factor influenced by labor demand. In theory, the labor demand curve would shift to the left and the wage rate of labor would also decrease (see Figure 1(a)). Although the total cost of the company decreased, the decrease in total revenue had

a larger impact during the pandemic period, resulting in a deficit for the company (Profit=Total Revenue-Total Cost). Due to the uncertainty of the future development of pandemics, governments and businesses are more likely to consider the pandemic as a short-term situation, and therefore, the labor force is sticky in price. However, due to Chinese government regulations, employees are still able to receive their salaries with the real wage rate. This has enabled Tencent to reduce costs by increasing membership fees. Related to the Keynesian model, an increase in price should decrease demand, resulting in a leftward shift of the demand curve (see Figure 1(b)). From the news released by Economist Impact, It is not surprising that individuals choose to watch more movies, collaborate more, and learn through different video platforms given that the pandemic is the cause of this surge [6]. However, from an individual perspective, people are more willing to use online videos to pass the time during the pandemic, making their demand curve for Tencent Video less sensitive and causing the demand curve to shift to the right. This is also related to the price stickiness of the business, according to the journal from Federal Reserve Bank of New York, the propensity for pricing to hold steady in the face of shifting supply and demand [7]. This means that the decrease in demand when the price increases will not be as significant as predicted in theory. Therefore, Tencent can increase its membership fees to reduce costs without worrying about a sharp decline in the number of members. This reflects the price stickiness of the business, where changes in price have a relatively small effect on market demand. At the same time, Tencent has been able to meet people's needs by providing attractive content and convenient services, which has led to an increase in membership subscriptions. Furthermore, Tencent has actively promoted the construction of its content ecosystem in recent years, continuously expanding its content library and services through collaborations with companies in the film and television industry, music industry, game developers, and other upstream and downstream partners in the industry chain. This has increased user stickiness and loyalty, which is also one of the important factors contributing to the growth of Tencent Video memberships.

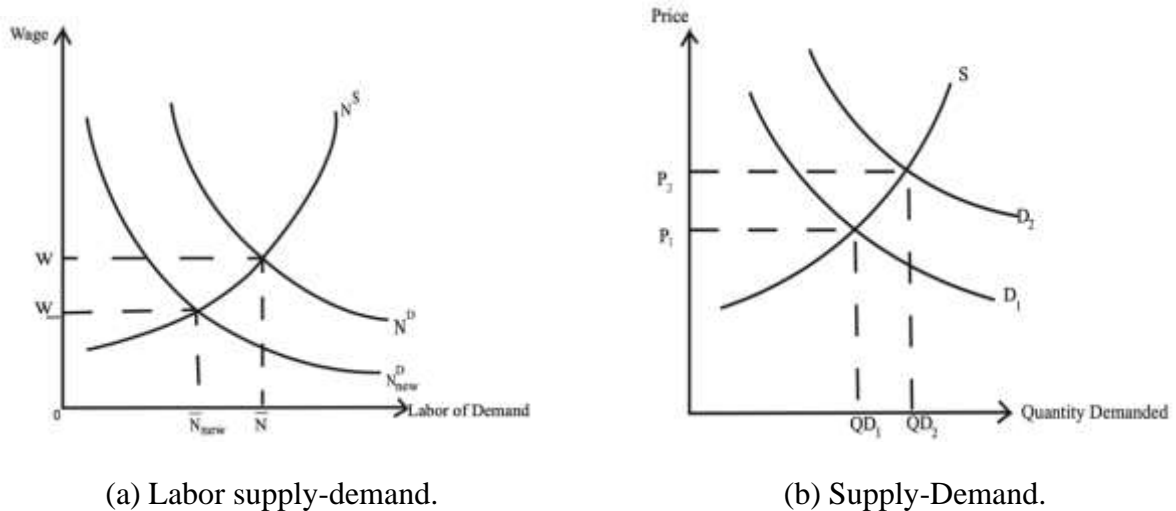


Figure 1: Demand and supply model.

2.3. Game Theory

From a game theory perspective, we can model Tencent and its members as playing a classic prisoner's dilemma game. The phrase "prisoner's dilemma" refers to a scenario in which two parties have conflicting incentives that force them to make a poor decision [8]. In this game, two prisoners are locked up in separate cells and cannot communicate with each other. They are told that if one confesses and the other remains silent, the confessor will be set free and the other will receive a long sentence. If both remain silent, they will both receive a short sentence because there is not enough

evidence to convict them. Applying this game to Tencent and its members, we can think of Tencent as one prisoner and its members as another. In this game, if Tencent lowers its membership fees, its members can choose to continue paying or to stop paying. If Tencent raises its fees, its members can only choose to continue paying or to give up their membership. Thus, if Tencent raises its fees, its members may feel compelled to pay more and choose to give up their membership instead. However, if the number of members decreases, Tencent's revenue will also decrease. Therefore, the relationship between Tencent and its members becomes a prisoner's dilemma. In this game, if Tencent chooses to raise its membership fees, its members have two choices: to continue paying or to give up their membership. If the majority of members continue paying, Tencent can gain more revenue. However, if the number of members decreases, Tencent's revenue will decrease. If Tencent chooses to lower its membership fees, it can attract more members to join, but if the number of members increases, Tencent's costs will also increase. Therefore, in this prisoner's dilemma game, if there is trust between Tencent and its members, they may reach a cooperative solution where Tencent does not raise its membership fees and members continue to pay their fees. This cooperation can benefit both parties, with Tencent maintaining its membership and revenue while members continue to enjoy Tencent's services. However, if there is a lack of trust between Tencent and its members, they may fall into the prisoner's dilemma and lead to Tencent raising its membership fees and members giving up their membership, resulting in both parties being worse off.

However, this increase in membership fees also presents an opportunity cost for consumers. Opportunity costs are the potential gains that a person, business, or investment forgoes while deciding between two options [9]. Consumers faced with the decision of whether to pay the increased fee for Tencent's services or seek alternative options. According to my research, there were some small video streaming companies that hadn't changed their subscription fee so far. In this situation, the substitution effect would dominate the wealth effect, people would be far away from the more expensive goods. In addition, there are concerns regarding the fairness of the increase in membership fees. Some consumers have argued that the increase is unjustified as Tencent has not significantly improved its services to justify the price hike. This could lead to a decrease in consumer loyalty and a loss of trust in Tencent as a company.

3. SWOT Analysis

3.1. Strengths

The Bertrand Model and the Cournot Model are two powerful tools that can help Tencent company in the video streaming industry increase their market share and profits. The Bertrand Model, in particular, can be helpful for firms like IQIYI and Tencent, which dominate the Chinese video streaming industry as an oligopoly, by setting prices equal to their marginal costs. This can lead to a larger market share and greater profits. The Cournot Model, on the other hand, allows firms to compete based on their quantity of output, rather than price. This can be a suitable strategy for Tencent Video during the COVID-19 pandemic, as they can assume that customers will continue to subscribe during this period. By producing less output than in a perfectly competitive market, this model can help firms increase their profits and maintain their market share. Additionally, Tencent has been able to increase membership fees during the pandemic due to the Demand-Supply model, price stickiness of the business, and user stickiness and loyalty. If there is mutual trust, both Tencent and its members can benefit greatly from a cooperative solution where Tencent maintains its membership fees and members continue to pay, as members believe that Tencent Video offers higher quality videos.

3.2. Weaknesses

The Bertrand Model can result in a price war, where different video streaming firms undercut each other's prices until they eventually set prices equal to their marginal costs. The most representative example is the price war over electric cars. An article published in The New York Times shows that along with price reductions, businesses are also providing a variety of other incentives for their electric vehicles, including \$3,000 cash rebates, free charging credits, and other incentives [10]. Back to our case, this can result in zero profits and suggests that competition in an oligopoly results in prices that are close to marginal cost, with no real differentiation between video firms. The only thing that can make a difference is the quality of the film sources, which affects consumers' choice of video platforms. The Cournot Model assumes that each firm makes production decisions based on the assumption that the other's output remains constant. However, this may not be the case in reality, and competitive video firms may end up pursuing different strategies, which can lead to a loss of market share and reduced profits. Additionally, the increase in membership fees presents an opportunity cost for consumers who may seek alternative options. Some consumers may feel that the price hike is unjustified, which could lead to a decrease in consumer loyalty and a loss of trust in Tencent as a company. Lack of trust can lead to a prisoner's dilemma situation, resulting in Tencent raising its membership fees and members giving up their membership, leaving both parties worse off.

3.3. Opportunities

The Bertrand Model and the Cournot Model can be beneficial to firms like Tencent that want to attract customers and increase their market share. The Cournot Model, in particular, can be more applicable in the context of Tencent Video's subscription price hike during the COVID-19 pandemic. By expanding its content library and services through collaborations with companies in the film and television industry, music industry, game developers, and other upstream and downstream partners in the industry chain, Tencent can increase user stickiness and loyalty. This can lead to a larger market share and greater profits.

3.4. Threats

There is a risk that consumers may seek alternative options or lose trust in Tencent as a company if they feel that the price hike is unjustified. This move may bring some threats to Tencent. Firstly, if Tencent fails to provide sufficient high-quality services and benefits when increasing membership fees, members may become dissatisfied and cancel their membership. Secondly, if Tencent fails to explain the reasons and financial situation behind the increase in membership fees, members may perceive it as unfair and may negatively impact Tencent's reputation. Additionally, if Tencent's competitors offer better services and more favorable prices during the same period, members may switch to competitors, causing Tencent to lose market share and revenue. Therefore, Tencent needs to carefully consider how to increase membership fees and ensure sufficient value to maintain customer loyalty and trust.

4. Conclusion

The rise of online video platforms has changed the way content is distributed and created an oligopoly where large companies dominate the industry. In China, IQIYI and Tencent dominate the online video streaming market, with the majority of profits coming from subscription fees. Recently, Tencent Video announced a hike in membership fees between 17% and 50%, with the annual fee rising from CNY198 to CNY253, reflecting the price stickiness of the business. However, the company has still seen an increase in demand for its services during the pandemic, resulting in an increase in profits.

The Bertrand Model and Cournot Model are relevant in understanding the pricing strategies of firms in an oligopoly. Tencent may use the Bertrand Model to attract customers and expand market share, while the Cournot Model may be applicable to situations such as Tencent Video's subscription price hike, as the firm assumes customers will continue to subscribe during the pandemic. Tencent's increased profits can be explained by the Demand-Supply model, where the pandemic has led to an increase in demand for online video platforms, resulting in a rightward shift in the demand curve. Tencent has also increased user loyalty through collaborations with other companies in the entertainment industry, contributing to the growth of Tencent Video memberships.

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