

Research on Product Development of China's Telecommunication Market Based on Pricing Strategy Taking China Unicom as an Example

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ABSTRACT

The growing maturity of 5G technology provides development space for China's mobile communication market, but it also brings more challenges. Taking China Unicom as an example, this paper analyzes the pricing of three major telecom products: voice package, product fixed fee and data package, as well as their ways of attracting customers from the perspective of price discrimination, two-rate pricing and peak pricing. Combined with the technology and customer demand in the new era of 5G, we put forward two suggestions from the perspective of differentiated pricing, including differentiated product design and segmentation of the user market. Applying these suggestions to product innovation is conducive to promoting the development of the mobile communication market.

Keywords: Telecommunications; Price Discrimination; Two-part pricing; 5G Era; Differentiated Pricing.

1. INTRODUCTION

1.1. Research Background and Significance

As the basic industry of information construction in China, the telecommunication industry occupies an essential position in the market economy [1]. China's communication market is a monopoly market. In 2008, China entered the communications market, forming China's telecommunication market characteristics monopolized by the "three oligarchs" (China Mobile, China Unicom and China Telecom). After decades of development, the proportion of mobile users of China Mobile, China Telecom and China Unicom is 6:2:2, and the income is 5:3:2. The whole communication market is stable in the pattern of China Mobile being the first, China Telecom the second and China Unicom the third [2].

The emergence of 5G technology has changed China's communication market, and the main business of telecom enterprises has gradually shifted from voice services to non-voice field. As shown from Figure 1, voice service income used to account for about 22% of the company's total revenue in China Unicom, but it has been declining year by year in recent years, with voice business revenue declining 33.69% year-on-year from 2017 to 2020. However, the performance of non-voice

business is improving year by year and becoming the pillar of future development of the communications industry.

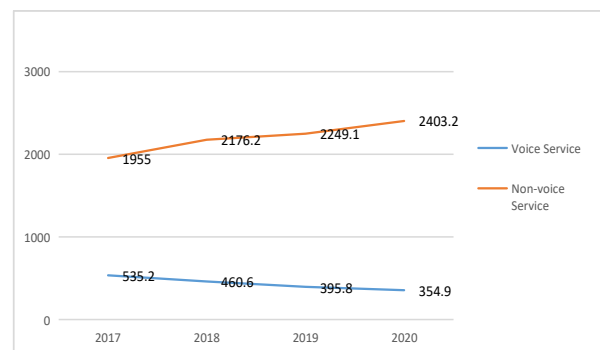


Figure 1. Total cost for China Unicom during 2017 to 2020

Resource: China Unicom 2020 annual report

1.2. Thesis Framework and Ideas

Taking China Unicom as an example, this paper analyzes three product types and their ways to attract customers from pricing strategy through two-level price discrimination law, two-level fixed price law and peak pricing law. Combined with customer demand in the 5G era, this paper puts forward relevant suggestions on

product design of the future communication market from the perspective of pricing, to promote the development of the communication industry.

2. ANALYSIS OF EXISTING PRODUCTS IN CHINA'S TELECOMMUNICATION MARKET

2.1. MMS Package Products under Second-degree Price Discrimination

Second-degree price discrimination, which refers to posting discontinuous decreasing price lists for products of different quantity ranges, is widely used for voice service package products in China's mobile communication industry. Under secondary price discrimination, the larger the purchase, the lower the average price paid, meaning that secondary price discrimination encourages consumers to buy products in large quantities at once. In China Unicom, users may pay a higher price to buy MMS within a specific range and enjoy a particular percentage discount if they buy many MMS packages. Table 1 shows the basic statistics of each component of China Unicom's MMS package business plan in Hunan Province.

It can be seen that if consumers do not customize any MMS package, that is, choose the "standard package", each MMS will be charged 0.3 yuan, but if consumers choose the "2 yuan package" and send 10 MMS per month, the average price of MMS will drop to 0.2 yuan. Similarly, if the "5 yuan package" is selected, the average price of each MMS message will continue to drop to 0.17 yuan. It is worth noting that when consumers choose "10 yuan package" or "20 yuan package", the average price of each MMS will rise to 0.2 yuan. This sales strategy essentially means that China Unicom will discount a certain number of MMS to compete for low-end customers, while high-end customers who are not sensitive to price will increase the price. In this process, the transfer of consumer surplus can be realized.

Table 1. Summary statistics of China Unicom's MMS package business (Hunan Province)

MMS package name	Number of MMS included	Illustrate
Standard package	0	0.3yuan/piece
2 yuan package	10	2yuan/month within 10 pieces,0.3 yuan/piece for the exceeding part
5 yuan package	30	5 yuan/month within 30 pieces, 0.3 yuan/piece for the

		exceeding part
10 yuan package	50	10 yuan/month within 50 pieces,0.3 yuan/piece for the exceeding part
20 yuan package	100	20 yuan/month within 100 pieces, 0.3 yuan/piece for the exceeding part

Resource:China Unicom Hunan Sales Office Official Website

2.2. Fixed Costs of Product under Two-part Pricing

In the Telecommunication industry, due to the need for infrastructure construction such as building communication base stations, setting up lines, and installing signal receivers, there are high barriers to this market entry, which also makes telecommunication products in this market must contain a fixed part. China's telecom market adopts a two-tier pricing method to control the fixed cost of products, such as network access fee, monthly fee, allocation of network construction capital, and charging basic call fee according to the tariff standard set by the telecom market. For example, For example, when the monthly price of China Unicom is 50 yuan, the network usage fee is 2.5 yuan/hour, and when the monthly fee is 100 yuan, the network usage is 2 yuan per hour. Another example is to charge a certain monthly rental fee and then add additional charges based on phone calls and other services. The "long-distance call package" also involves two pricing methods, requiring consumers to pay a fixed fee of 5 yuan/month and then pay 0.1 yuan per minute to make long-distance calls nationwide (excluding Hong Kong, Macao and Taiwan).

Consumers pay a fixed fee before consuming telecommunications products, and this fixed fee does not cost consumers. In order to prevent this part of the sunk costs from being "waste", consumers tend to increase additional consumption, and this psychologically guided behavior has brought high profits to Chinese telecom enterprises.

2.3. Data Products under Peak-load Pricing

China telecom market adopts peak pricing strategy based on consumption period for traffic products. Consumer demand for traffic use is divided into periods, generally manifested as more in the daytime, less in the middle of the night, increased demand on holidays, and reduced demand on working days. During peak hours, consumer demand is high, and the marginal cost to operators is larger, with correspondingly higher tariff levels. However, telecommunication equipment purchased to meet peak load demand becomes a huge idle

cost during off-peak hours. As a result, many data products in the telecom market adjust their pricing by time of day and whether it is a holiday or not, setting low relative prices to entice users to spend when their devices are idle. For example, China Unicom's timeshare data is more expensive during holidays than usual, with data plans that users use between 11pm and 7am being half as expensive as the rest of the day. This pricing scheme obtains additional consumer surplus and satisfies the need for cost compensation, which helps telecommunication companies make full use of network resources, improve equipment utilization, and reduce operating costs.

3. CHALLENGES AND SUGGESTIONS

3.1. Challenges in China Telecommunication Market

The growing maturity of 5G technology has brought both development space and more challenges to China's mobile communication market. In 2019, The Ministry of Industry and Information Technology of China issued 5G licenses, marking that 5G has been commercially available in China for more than two years. However, mobile communication consumers have not yet experienced the benefits brought by 5G technology. Consumers are not satisfied with the existing mobile communication products, and they have higher expectations for cheaper costs, innovative products and new terminals [3]. The Internet model of the post-3G mobile market not only fully arouses the enthusiasm of all parties, but also impacts the traditional business model of telecom operators. The existing three mobile communication giants need to find new product development paths and market paths that meet the company's development needs. Therefore, differentiated product innovation based on consumer demand becomes more important for mobile communication enterprises to serve consumers in the 5G era better.

3.2. Suggestions

Economist Edwin Mansfield pointed out that Even if the products are completely different, price discrimination can occur if very similar products are sold at prices determined by different proportions of marginal cost [4]. To be specific, the price difference does not reflect the charge. Differential pricing is price discrimination in essence, because differential pricing sells the same or similar products at different prices, and other prices do not reflect the difference in cost.

According to modern marketing theory, product concept includes three levels of the core product, formal product and additional product, which is the "whole product concept" in a modern marketing sense. Telecommunication products are highly standardized

products [5]. The essential communication functions and quality of telecommunication products provided by different operators will be closer. That is to say, the differences of core products will converge. Therefore, Form products and additional products can enable consumers to obtain further benefits and make enterprises and competitors' products different, forming a noticeable "difference". From a products perspective, "price discrimination" is reasonable. As a kind of price discrimination, differentiated pricing is an appropriate pricing strategy of enterprises and an attempt to develop products in the mobile communication market under the current situation of oligopoly competition.

3.2.1. Segmented User Target Market

As the product overlap in China's communication market continues to increase, new enterprises are bound to enter the market and break the existing "three oligopoly" monopoly. From the perspective of current enterprise stability, in the increasingly developing market competition pattern, the market target based on market segmentation should become the inevitable choice for mobile communication enterprises.

Market segmentation is an important premise for enterprises to determine the target market and design a marketing mix. In China's telecom market, there is a segmentation strategy of dividing products into "high-end" and "low-end" according to the scale of customers, which can no longer meet the needs of the market, and the requirements of individual consumers should also be more considered. The increasing demand of individual consumers has become a vital force to promote the development of the telecom market. Reference to Japan, South Korea and so on the successful experience of the mature market segmentation, telecom market should be based on age, occupation, gender further subdivided market, and then make different marketing mix strategies, such as for young white-collar women consumers, and flow rate discount products, including shopping, hairdressing, and other standard sets of the application of such consumers.

3.2.2 Differentiated Product Innovation

After decades of development, voice products in the mobile communication market have entered a mature stage. The application of 5G technology makes the mobile communication market present a competitive pattern of coexistence of multiple technologies and diversified products. Therefore, mobile value-added products and mobile data products will play a more important role in the competition of the mobile communication market. Based on the "first-mover advantage" theory, mobile communication companies can break through technical bottlenecks by launching 5G-related products, establishing technological barriers to innovation, and gaining competitive market

advantages. At present, China Unicom and Internet companies have launched the "Gigabit Smart Home" strategy, using 5G technology to carry the technical bottleneck of digital platforms in traditional decoration, through the launch of 5G-related products, establish innovative technical barriers, and gain market competitiveness.

Currently, China Unicom and other Internet companies have launched the "Gigabit Smart Home" strategy, using 5G technology to equip digital platforms in traditional decoration space, solving the problem that consumers have no time to supervise in home decoration. The space solves the problem that consumers have no time to supervise the house decoration. The company's successful product innovation is worthy of reference for other companies and the development of the future market.

4. CONCLUSION

This article introduces the importance of China's telecom market, the basic situation and the market composition of today's mobile telecom market. As voice products have entered the mature stage, how to combine 5G technology to carry out product innovation is the challenge facing China's telecom market. Taking China Unicom as an example, this paper firstly analyzes the pricing strategies adopted by the three existing telecom products, namely voice package, product fixed fee and data package, and their separate ways to attract users from the perspectives of price discrimination, two-part pricing method and peak pricing method. Then, in order to meet the challenges, suggestions are put forward from price discrimination strategies from the perspective of 5G technology and customer demand in the new era. Specifically, the first suggestion for enterprises is to segment the market of individual consumer users from the perspectives of age, occupation and gender, and put forward traffic product innovation more in line with unique needs. The second suggestion is that telecom companies can cooperate with companies in other fields to integrate telecom technology into more areas of people's lives and inject new impetus into market development.

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