



Research on the Improvement Method of Electricity Marketing Management

Ning Wei ^{1*}, Yaoyu He²

^{1*}*School of Economics and Management, Taiyuan University of Technology, 15513862233*

²*School of Economics and Management, Taiyuan University of Technology, 13934239486*

corresponding Author: 489479895@qq.com, heyaoyu@tyut.edu.cn

ABSTRACT

With the rapid development of science and technology and economy in China, the living environment of electric power enterprises has undergone earth-shaking changes. In order to adapt to the current economic and social development situation, electric power enterprises have carried out corresponding reforms to promote their own development. Through the continuous reform, the electric power enterprises have also entered the new market system, and become the main body of the market competition to participate in the competition. In this context, the state Grid must constantly optimize the power marketing services, always withstand the test of the market, continue to deepen the reform of the power supply enterprise system, and formulate long-term planning and development goals. In short, the purpose of electric power marketing service is to establish an advanced corporate image, strengthen management awareness, seize the market, and win the trust of consumers. This paper takes the power enterprise as the research object, takes the long-term development of the future industry as the guidance, and explores the quality service and development strategy of power marketing ^[1].

Keywords: *electric power, marketing management, improvement method exploration*

1. INTRODUCTION

Due to many historical reasons, the power grid structure of China's power grid is relatively weak, and the reliability of power supply is relatively poor, which requires China to invest a lot of money to transform and improve China's power grid. For China's current power supply enterprises, the improvement of the power grid is an important work, the most important thing is to improve the company's profit and market position ^[1]. Therefore, China's power supply company must constantly strengthen the internal marketing management, improve their own quality service level, and promote the further development of the power supply company. Power supply companies should always take consumers and the market as the main body, develop the right marketing strategy according to the changes in their needs, and form the best form of service for the company at the least cost. For the operation and development of power supply enterprises, power marketing plays a very important role, and its main responsibility is to manage, operate, guide, inspect and coordinate the power service center. With the rapid development of China's economy, people's demand

for electricity is also increasing. The competition in the electricity market is becoming more and more strong, and the economic and social benefits of enterprises are also affected by the quality of electric power marketing services. Therefore, the power supply enterprises should reform and innovate the electric power marketing mode along with the demand of the market, so that the enterprises can develop steadily along with the market demand ^[2].

2. WHAT IS ELECTRICITY MARKETING?

Electricity marketing means that in the changing market environment, electric power enterprises provide electric power products and corresponding services to meet consumer demand through a series of market-related business activities for the purpose of meeting people's electric power consumption needs, so as to realize the realization of electric power. Enterprises open up the market, the goal of occupying the market. In order to achieve business goals, electric power enterprises conduct power market operation, planning, production and sales decisions, apply advanced technical means and

methods, and adopt certain procedures to systematically, purposefully, organized, and planned to collect, process, and process electricity. A series of research activities that collect market information and draw conclusions is called electricity market research. Electric power marketing management refers to the strict and effective management of the planning, implementation and implementation of activities by electric power enterprises in order to maximize the effectiveness and benefits of marketing activities.

3. MARKET SUPPLY AND DEMAND STATUS OF THE POWER INDUSTRY

With people's increasing demand, China's overall power supply capacity is constantly strengthened, and the power generation is constantly increasing. According to the China Power Union, China's electricity generation was at No.7.62 trillion KWH in 2020, up 4.0 percent compared to 2019. The statistical chart of comprehensive power generation in China from 2012 to 2020 is shown in Figure 1.

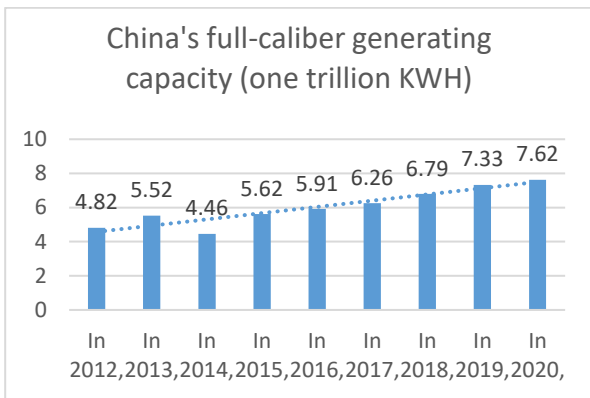


Figure 1. 2012-2020 China's full-scale power generation

According to the National Bureau of Statistics, power plants above the scale nationwide generated 7.417.04 billion kilowatt-hours in 2020, up 2.7 percent year on year. Among them, the electricity of hydropower was 1214.03 billion KWH, up 5.3% year on year, thermal power was 5279.87 billion KWH, up 1.2% year on year, wind power was 414.6 billion KWH, up 10.5% year on year, nuclear power was 3662.5 KWH, up 5.1% year on year, and solar energy was 142.1 billion KWH, up 8.5% year on year [3]. Figure 2 can show the distribution of China's power generation structure in the market in 2020.

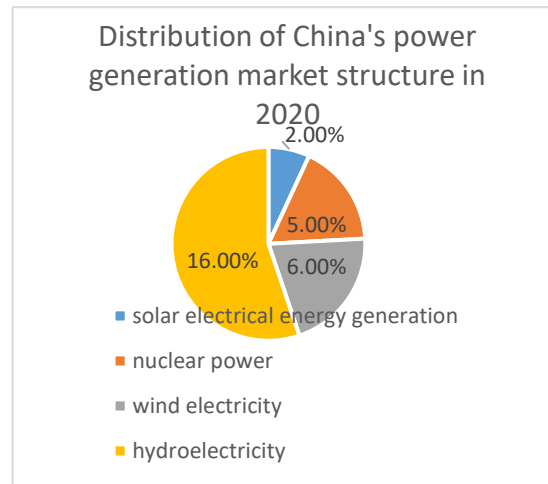


Figure 2. Distribution of China's power generation market structure in 2020

4. FACTORS OF ELECTRICITY PRICE IN CHINA

China's electricity price ranges from resource allocation, production to product distribution through market mechanism.

Reasonable electricity price system not only satisfies the market participants to maximize their own benefits, but also realizes the maximum social benefits. The price of electricity is closely related to the operation of national economy and people's life, which determines the result of interest distribution between power customers and power enterprises and between different power customers. Its price of electricity is affected by five factors. As shown in the figure.3 below:

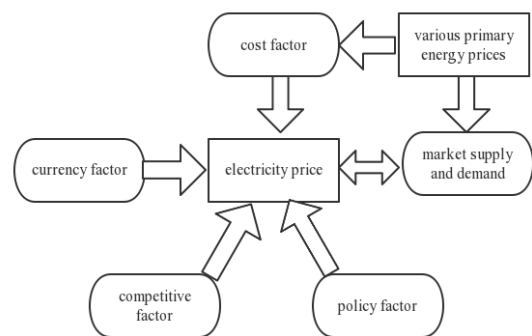


Figure 3. Factors affecting electricity price

4.1 Tariff structure

Use Tf, TP And Tg indicates the collection of peak load, waist load and valley load hour in a certain area, respectively. The corresponding time and the electricity produced are respectively tr, tp, tgAnd Er, EP, Eg. The average peak-load electricity price is rf, Average waist load electricity price rp. Average valley charge electricity

price r_g . And the calculation formula of the annual average electricity price, r , is as follows:

$$r_f = \frac{\sum_{r \in T_f} e(t)r(t)}{\sum_{r \in T_f} e(t)} \tag{1}$$

$$r_p = \frac{\sum_{r \in T_f} e(t)r(t)}{\sum_{r \in T_f} e(t)} \tag{2}$$

$$r_g = \frac{\sum_{r \in T_g} e(t)r(t)}{\sum_{r \in T_g} e(t)r} \tag{3}$$

$$r = \frac{\sum_{r=1}^{8760} e(t)r(t)}{\sum_{r=1}^{8760} e(t)} \tag{4}$$

In the above formula, $e(t)$ is the electric energy at t , and $r(t)$ is the electricity price at t .

5. THE CLASSIFICATION OF ELECTRIC POWER MARKETING SERVICES

Power supply enterprises provide a series of valuable electric power operation activities for power supply customers through labor services and constitute electric power marketing services. At this time, on the one hand, power supply enterprises should guarantee to provide users with safe and qualified electric energy resources. On the other hand, it provides users with information related to electricity. At present, the power marketing services of power supply enterprises mainly include the following aspects:

5.1 Pre-sale service of electric power marketing

Since the reform and opening up, many power supply enterprises have established and quickly occupied the power market, and the competition in the power industry has become increasingly fierce. In order to attract the attention of customers in a short time, power supply enterprises must do a good job in power marketing and pre-sale service. Power marketing and pre-sale service refers to the service before purchasing power supply products, that is, power supply enterprise through various

means, such as Internet, advertising, newspapers, magazines and other publicity products, establish a good brand image; some users who need electricity consumption, and provide users with quality power marketing and pre-sale service [3].

5.2 After-sales service of electric power marketing

The most important part of electric power marketing service is after-sales service. The main content of after-sales service is the complaint in the process of maintenance, maintenance and use, and its core is to provide users with good power tracking and management services. Power supply enterprises shall set up a special electric power marketing customer service center to provide after-sales service,

Regularly investigate user electricity consumption, constantly accumulate work experience, and effectively improve the quality of power marketing service.

6. BASED ON DSM

6.1 Basic hypotheses:

The total daily electricity consumption before and after the implementation of the tOU electricity price will remain unchanged.

The power transferred to a certain period is distributed equally by the timeline.

Only the impact of price on user demand is considered, and the influence of other factors needs further study; also only the impact of user demand on price is considered, while other factors (such as fuel price) are temporarily ignored.

6.2 Various parameters

6.2.1 Period division

The 24 hours a day was evenly divided into 3 time periods, T_f, T_p, T_g , satisfied:

$$T_f + T_p + T_g = 24 \tag{4}$$

among: T_f --- A peak time period, T_p --- One-flat value time period, T_g ---- A valley value period

6.2.2 Electricity price for each period

The electricity price of peak, flat and valley periods are: P_f, P_p, P_g , satisfied:

$$P_f = P_p + \xi \times \Delta$$

$$P_g = P_p - \Delta \tag{5}$$

among: P_r Electricity price during one peak period, P_p A normal section of the electricity price, P_g One valley

period electricity price, Δ one valley period electricity price to

The ratio of the electricity price of the peak period, the opening of the electricity price of the peak period and

the ratio of the electricity price of the valley period of the valley period. Table 1 shows the specific use comparison of user electricity charges before and after the implementation of the electricity price.

Table 1. Comparison table of user electricity charges before and after the implementation of time-of-use electricity prices

	MAXIMUM LOAD (10000.KW)	MINIMUM LOAD (10,000.KW)	USER ELECTRICITY BILL (MILLION)
BEFORE IMPLEMENTATION	155.6	98.2	1325.9575
AFTER IMPLEMENTATION	149.1	109.2	1250.1439

With the above data, the user gets the benefits, which encourages the user to use the power during the trough period. This method saves power investment and profit [4].

7. CONSTRUCTION STRATEGY OF POWER MARKETING SERVICE QUALITY MANAGEMENT SYSTEM FOR POWER SUPPLY ENTERPRISES

The key to improve service quality is to strengthen management and improve the quality of power marketing service. In the management system, power supply enterprises must base on customer needs, effectively build the whole process of service quality management system construction, and gradually improve the market competitiveness of enterprises. These effective measures can provide power supply enterprises to establish the quality of power marketing services. These measures include the following:

7.1 Change the marketing concept of electricity and improve the level of service

In order to better adapt to the development law of market economy, employees at all levels of power supply enterprises should accumulate and change the concept of power marketing service, strengthen the quality management of power marketing service, and improve the quality of power marketing service. Marketing quality service is the core content of enterprise management. Power supply enterprise managers should improve the service awareness of marketing personnel, instill the concept of "emotional marketing" to power marketing personnel, encourage marketing personnel to communicate with customers regularly, and require marketing personnel to communicate with customers to establish a good and harmonious cooperative relationship with customers, and actively develop long-term big customers. Secondly, in order to improve the efficiency

of power marketing, power supply enterprises should do a good job in the overall information supervision work plan of power marketing to truly realize the power marketing information management. In addition, power supply enterprises should focus on enterprises according to the current situation of production management, establish clear power marketing goals, constantly improve the power marketing service to formulate work rules and regulations, and gradually improve the level of power marketing service.

7.2 Improve the service management mode and comprehensively improve the service quality

High-quality products are the key to ensure the sustainable and stable development of power supply enterprises. The competition of power marketing is always the competition of power product quality. Because power supply enterprises want to stand firm in the industry competition, and constantly improve the efficiency of power marketing, we must pay attention to the quality of power products. Therefore, power supply enterprises should improve the quality management mode of power marketing service, establish the whole-process management concept of "power generation, transmission, distribution and power supply", ensure the safe transmission of power resources to customers, and ensure safe electricity use. In addition, the power supply enterprise industry should also pay attention to technology research and development, and constantly encourage technicians to make full use of the existing scientific and technological means to comprehensively improve the quality of power products. Finally, power marketing personnel contact customers in time to solve the actual demand for electricity, and provide customers with quality power marketing services [5].

7.3 Strengthen the training of marketing personnel and optimize electric power marketing services

Power marketing quality of comprehensive marketing personnel will directly affect the quality of service, therefore, power supply enterprises must strengthen the introduction of high quality power marketing talents, strengthen the management of the status quo, the power marketing personnel skills training, training marketing service awareness improve quality management consciousness, regular professional skills training for marketing personnel, rich marketing power marketing skills and basic knowledge, into its corporate culture, enhance enterprise cohesion. During the process of skills training, the after-sales personnel should pay attention to after-sales technical training and service awareness training to ensure that the marketing personnel can timely solve various problems in the process; the power marketing personnel should pay attention to the training of power expertise, improve their ability to answer questions, and improve the efficiency of power sales and service. By strengthening the training of all kinds of talents, actively improve the overall quality of electric power enterprises, effectively improve the quantity and quality of electric power marketing service quality and management.

7.4 Improve the supervision and incentive mechanism and enhance the competitive strength of enterprises

In order to encourage the employees of power supply enterprises to work actively, we should gradually establish and improve the quality management, supervision and incentive system, implement the post responsibilities, and make clear the rewards and punishments. At the same time, the efficiency of power marketing and improving the quality of power marketing service should be included in the performance assessment of relevant departments. For serious and responsible work, good performance and good customer service quality marketing personnel, give encouragement, material rewards and improvement, to create a good working atmosphere within the enterprise, set an example for other employees. Appropriate rewards and encouragement; some inefficient employees should be severely punished and vigilant. Through this supervision and incentive mechanism, not only can fully mobilize the enthusiasm of employees, but also can gradually form a working

atmosphere for power supply enterprises to pursue excellence. Therefore, it is very important to strengthen the management system of enterprises, which can not only improve the economic benefits of enterprises, but also establish the brand image of the enterprise.

8. CONCLUSION

Under the vigorous development of the national economy, People's living standards are getting higher and higher, As the demand for electricity increases, Some related industries are also slowly growing, Marketing management of electricity market The problem of quality service management has also become important, The electric power industry, as the pillar of China's economic development, The competition it faces is growing, In order to promote the sustainable development of power supply enterprises, Power supply enterprises must actively transform their functions, According to the diverse needs of the family, Gradually improve the electric power marketing services, Formulate scientific and reasonable electric power marketing policies, At the same time, strengthen the electric power marketing service quality management, Expand power supply enterprises to establish a power marketing service quality management system, Ensure the development of power supply enterprises in a sustainable and stable direction.

REFERENCES

- [1] Q. Zhang. On the Improvement Strategy of Quality Service in Electric Power Marketing Management [J]. Power system equipment, 2021 (13): 168-169.
- [2] H. Y. Liu, L, H, Zhou. Analysis of Electricity Marketing Management [J]. Construction Engineering Technology and Design, 2018 (17): 3455.
- [3] G, S, Zhang. Analysis of Power Marketing Management of Power Supply Company [J]. Construction Engineering Technology and Design, 2018 (16): 3226.
- [4] X. L. Bao. Analysis of Power Marketing Management of Power Supply Company [J]. China High-tech Zone, 2019 (14): 237.
- [5] Y. L. Wei. Analysis of Power Marketing Management of Power Supply Company [J]. New Business Weekly, 2019 (15): 232.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

