Analysis of the Development Path of China's E-sports Industry Chain based on the SCP Paradigm

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Abstract

Nowadays, E-sports has evolved from a sport to an emerging industry with huge development potential, with huge economic and social effects. This article takes the E-sports industry as the research object and the SCP Paradigm analysis as the theoretical basis. It mainly analyzes the three aspects of market structure, market behavior, and market performance. It uses the literature method and logical analysis method to discuss the development of China's E-sports industry, and According to the existing problems, an innovative development path of China's E-sports industry chain is proposed, which provides certain theoretical support for its development and further promotes the sustainable development of China's E-sports industry chain.

Keywords

E-sports; SCP Paradigm; Industry Chain; Development Path.

1. Introduction

Since 2003, the State Administration of Sport of China designated E-sports as the No. 99 official sports competition item, and in 2008, the State Administration of Sport of China re-appointed it as the No. 78 official sports competition item, the development of E-sports has begun to enter a brand new one. era. In 2018, the Chinese team achieved good results in a number of international E-sports competitions, which accelerated the development of China's E-sports industry, and public opinion paid unprecedented attention to E-sports. The latest statistics from the "2019 China E-sports Industry Research Report" show that the number of E-sports users in China reached 130 million in 2016, and the number of E-sports users in China will reach 430 million in 2020, a year-on-year growth rate of 20.8%. In 2016, the scale of China's E-sports market reached 42.98 billion yuan, and in 2020 the size of the E-sports market will reach 135.31 billion yuan, a year-on-year growth rate of 214.8%. Compared with Europe and the United States, China's E-sports started late, but China's E-sports has developed rapidly in the past five years, and both the number of E-sports users and the size of the E-sports market have grown rapidly.

It is undeniable that China has become one of the most active areas in the world of E-sports industry, and its future development also has unprecedented huge potential. With the huge E-sports market and population scale, China's E-sports industry has a long way to go. It provides a path for sustainable development through research on the status quo and problems of the current industrial chain development, which is of great practical guiding significance and academic value.

2. Theoretical Background

On the basis of absorbing and inheriting Marshall's perfect competition theory, Chamberlain's monopolistic competition theory and Clark's effective competition theory, Joe Bain analyzed the industry according to structure, behavior, and performance, and put forward a "structure-behavior-performance" analysis. Paradigm (Structure-Conduct-Performance), referred to as

SCP Paradigm. This paradigm believes that the industrial structure determines the state of competition within the industry, and determines the behavior and strategy of the enterprise, which ultimately determines the performance of the enterprise. This theory has practical guiding significance for the study of the internal market structure of the industry, the behavior of the main market and the market performance of the entire industry. It is the orthodox theory of industrial organization in industrial economics. In the SCP framework, the role of market structure is emphasized, and it is believed that market structure is a factor that determines market behavior and market performance. Therefore, the way to improve market performance is to adjust the market structure through industrial policies.
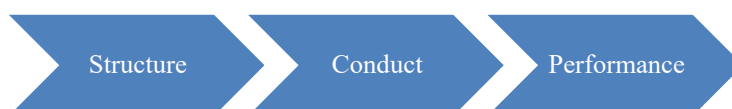

Figure 1. Structure-Conduct-Performance Model

At present, the SCP Paradigm has become the main tool for traditional industrial organization theory to analyze corporate competitive behavior and market efficiency. Although the E-sports industry is an emerging industry, it still has the characteristics of a general industry. Therefore, this article will use the SCP Paradigm to conduct an in-depth analysis of the development of China's E-sports industry from three aspects: market structure, market behavior and market performance.

3. Analysis of Market Structure of China's E-sports Industry

The market structure refers to the comprehensive state of the number of buyers and sellers within an industry, their size distribution, the degree of product differentiation, and the difficulty for new companies to enter the industry. The factors that determine the market structure mainly include market concentration, product differentiation, and the level of entry barriers.

3.1. Market Concentration

An important indicator that reflects the degree of concentration in a particular market and measures the market structure is the degree of market concentration. According to the classification standards of the American economist Bain and the Japanese Ministry of International Trade and Industry on the degree of industrial concentration, the industrial market structure can be roughly divided into two types: oligopolistic ($CR_8 \geq 40\%$) and competitive ($CR_8 < 40\%$). The oligopolistic type is further subdivided into extremely high oligopolistic ($CR_8 \geq 70\%$) and low concentration oligopolistic ($40\% \leq CR_8 < 70\%$); the competitive type is further subdivided into low concentration competitive ($20\% \leq CR_8 < 40\%$) and decentralized competitive ($CR_8 < 20\%$). There are many calculation methods for the industry concentration index. This article uses the following calculation method: $CR_n = \frac{\sum(X_i)_n}{\sum(X_i)_m}$. Among them: CR_n represents the industry concentration of the top 4 or 8 largest companies; X_i represents the sales, sales, output value, etc. of a certain company; n is generally 4 or 8; m represents the total number of companies in the industry. The concentration of the top 4 or top 8 companies in the industry is usually used to represent the concentration of the industry.

According to data from the "2019 China Game Industry Report", the total revenue of China's E-sports industry in 2019 reached 230.88 billion yuan, an increase of 16.44 billion yuan compared with last year, an increase of 7.7% year-on-year. From the perspective of market concentration,

the top eight companies in the E-sports industry in terms of revenue in 2019 and their revenue are shown in Table 1 below, and the market share of each company is shown in Figure 2 below.

Table 1. The top eight companies in China's E-sports industry and their revenue in 2019 (unit: 100 million yuan)

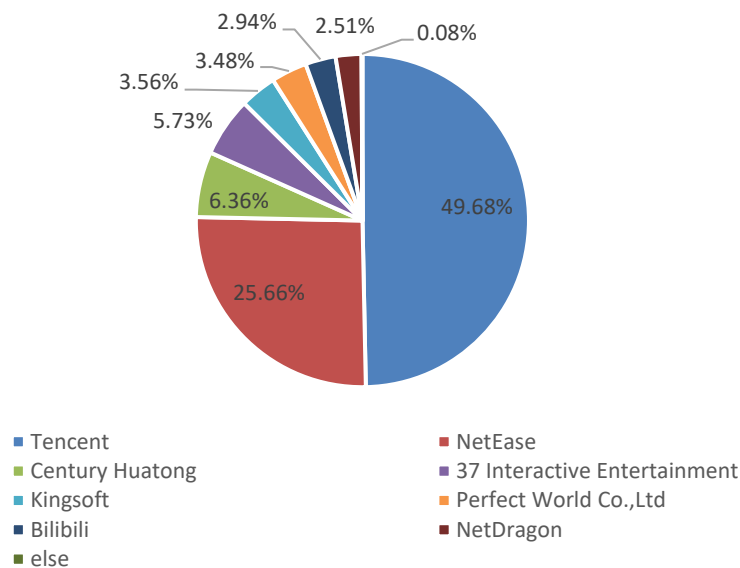| Company Name	Revenue	Company Name	Revenue
Tencent	1147.00	Kingsoft	82.18
NetEase	592.41	Perfect World Co.,Ltd	80.39
Century Huatong	146.90	Bilibili	67.78
37 Interactive Entertainment	132.27	NetDragon	57.93

Figure 2. Market share of the top eight companies in China's E-sports industry in 2019

From the above chart, Tencent, the industry's number one, has an annual revenue of 114.7 billion yuan, which is close to 20 times the annual revenue of the eighth-ranked NetDragon, and its market share is close to 50%. At the same time, the calculated market concentration CR8 is as high as 99.92%, indicating that the current E-sports industry in China is in a state where many companies participate but are controlled by several large companies, and it belongs to a very oligopolistic market structure.

3.2. Product Differentiation

The so-called product differentiation means that the company uses various methods to create specificity that can trigger customer preference in the products it provides to customers, so that customers can effectively distinguish it from similar products provided by other competitive companies. So as to achieve the purpose of enabling the enterprise to occupy a favorable position in the market competition. For the E-sports industry, product differentiation is mainly reflected in the design of game content, the beauty and texture of the screen, the experience of the game, and the diversity of competitive modes.

The survey shows that most of the products launched by Chinese E-sports companies are not distinctive. Most of them are designed to follow the trend and imitate each other. The more popular game products are imported from abroad and have a certain monopoly position, which leads to the concentration of E-sports industry is relatively high.

3.3. Barriers to Entry

Entry barriers refer to the extent to which existing enterprises in the industry have certain advantages over potential enterprises and new enterprises that have just entered the industry. It is an important factor that affects the market structure. In recent years, with the holding of various E-sports events, China's E-sports industry chain has continued to improve, attracting a large amount of capital inflows, and some traditional companies have also entered the field of E-sports through acquisitions. From the perspective of the market, the market will be restricted by its own rules of operation and will naturally have certain barriers to entry. For example, platform construction and system maintenance require a lot of capital and technical support. But in terms of China's E-sports industry as a whole, the current barriers to entry are relatively low.

4. Analysis of Market Conduct of China's E-sports Industry

Market conduct refers to the various decision-making conducts taken by companies on the basis of fully considering the supply and demand conditions of the market and the relationship with other companies, including R&D conduct, pricing conduct, and marketing conduct.

4.1. R&D Conduct

Whether a game can attract players, the most important thing is whether the development and design of the game is unique enough. According to the survey, people's requirements for the screen design of online games and mobile games are getting higher and higher. It can also be seen that major operators also pay great attention to the exquisiteness of the game screens, and even many large-scale games are based on their well-made CG animation promotional videos. And the whole network is hot. In addition to the exquisite graphics, developers also need to focus on creating game connotations, bringing players an emotional connection besides competition, and creating unique game cultural connotations. For example, several popular E-sports games "League of Legends" and "King of Glory" are currently on the market. Each character in the market will have its own unique skills, voice acting and body movements, and their styles and personalities are also very different. The characters also have a story background, creating their own world of the game.

The life cycle of commercial games is generally short. In order to extend the life cycle of game products, R&D and design are particularly important. Only by constantly launching new products-heroes, game modes, and competition rules can players maintain their expectations and freshness in the game.

4.2. Pricing Conduct

Most of the operators of E-sports platforms in China actively expand value-added services through service differentiation. In E-sports games, general players can register and play games for free, but at the same time, operators will also charge for some value-added services. Consumption after experience. The value-added service of the game platform is based on the function of the game platform. Its core purpose is to make users recognize and stick to the platform and form consumption habits through diversified and personalized service content.

"League of Legends" is a competitive game of summoning heroes. The heroes in the game are the basic products of the game. Players can choose to pay to quickly unlock their favorite heroes. After unlocking the hero, players with certain financial ability will expect the hero to have a certain difference in appearance. "League of Legends" has designed different styles of skins for different heroes, and each skin also has different attack effects. , Different action effects. On the basis of not affecting the fairness of the game, Tencent, the operator of "League of Legends", also provides summoners with double experience cards, double gold coin cards, rename cards and other items, so that players who purchase these items can enjoy certain value-added

services. , Which not only meets the needs of some players, but also does not destroy the environment of the game, increasing the loyalty of the players to the game.

4.3. Marketing Conduct

E-sports is also a sports item. Unlike ordinary products, most E-sports companies do not rely on rigid publicity such as TV advertisements, but rely on holding large-scale events and creating E-sports star players for publicity. Through the splendid E-sports events, every interested game player is attracted to perceive the charm of the new product through personal experience, so that the player has a strong desire to consume during the experience. "League of Legends" is to use this marketing model just right, and quickly expand its influence by holding competitions in major Internet cafes, schools, and regular stadiums. In recent years, major game operators have also begun to increase traffic by looking for celebrities to endorse games and holding All-Star Games to increase the attention and love of players.

At the same time, the operator will also carry out reasonable sales promotion in a timely manner, such as launching various hero skin discount activities from time to time, lucky draw to send skins and other activities. Most of these promotions are launched during holidays, and operators will also launch holiday-limited skins to stimulate consumption and increase user stickiness.

5. Market Performance Analysis of China's E-sports Industry

5.1. Industry Income Level and Profit Margin

With the continuous development of China's E-sports industry, the market size of the E-sports industry is also growing rapidly. According to statistics, in 2019, China's E-sports event revenue accounted for only 1.3% of the overall E-sports industry revenue. The E-sports event revenue was 1.43 billion yuan, a year-on-year increase of 30.81%, and the future increase will be large. In 2019, the top ten E-sports games in the world have accumulated a total of 190 million U.S. dollars, an increase of 57.36 million U.S. dollars from the 130 million U.S. dollars in 2018. At present, the main organizers of E-sports events in China are mainly game companies, followed by other event organizers and the government.
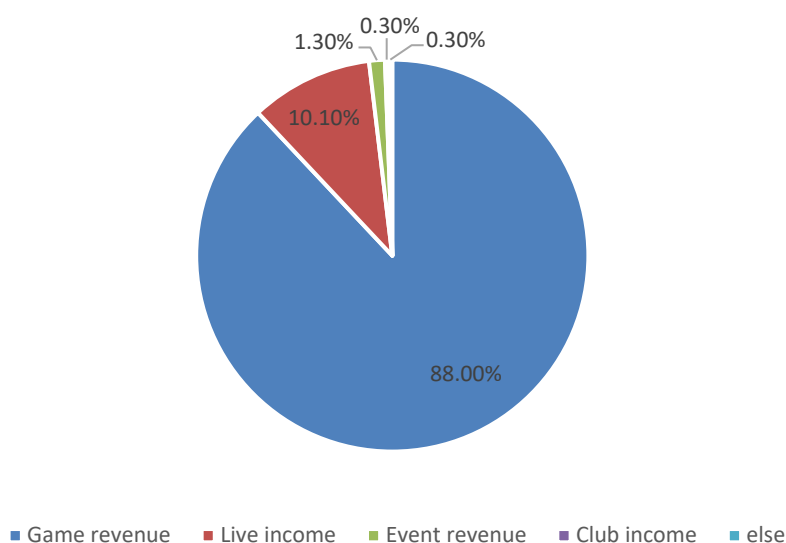

Figure 3. Analysis of the revenue composition of China's E-sports industry in 2019

According to statistics, in 2019, the revenue of China's E-sports industry is dominated by games, and the proportion of game revenue is as high as 88.0%, while event revenue only accounts for

1.3% of the E-sports industry's revenue. According to estimates and statistics from the global data agency Newzoo, in 2020 global E-sports revenue, China alone ranks first with 35%, which is far ahead. The "China Game Industry Report" shows that in the first half of 2020 alone, China's E-sports revenue has reached 71.936 billion yuan, a year-on-year increase of 54.69%.

5.2. Technological Progress

Technology is the core and pillar of the E-sports industry, and the advancement and update speed of technology directly determines its industrial development. Advances in science and technology have driven the development of China's E-sports industry. Especially in recent years, China's E-sports industry has made great progress in both hardware and software technology. As a new format of the digital cultural economy industry, the E-sports industry market is constantly being explored. On November 30, 2020, the 2020 Guangzhou E-sports Industry Summit with the theme of "Young Power · New Kinetic Energy" was held in Guangzhou. Many industry leaders and industry elites shared their views on the future development of E-sports. With the advancement of new technologies, such as virtual reality, artificial intelligence, haptic feedback and other technologies, E-sports has achieved faster development regardless of the growth of its own industrial mechanism, rich content and form, or cross-industry integration. In the future, E-sports sports will be fully integrated and developed with high technology such as drones, robots and artificial intelligence. Under the wave of technological change, the further integration of E-sports and technology has once again boosted the upgrading of the E-sports industry; on the other hand, in the context of "new infrastructure", the deployment of 5g networks has further accelerated, and the E-sports industry has ushered in new opportunities.

6. Problems in the Development of China's E-sports Industry Chain

With the rapid expansion of the E-sports market, the E-sports industry is continuously integrating information, sports, culture and other industries. China's E-sports industry chain has also formed its unique development model, which can be roughly divided into upstream, midstream, and downstream and the downstream derivative industries. The upstream E-sports industry includes E-sports product software vendors, hardware manufacturers, E-sports platform operators, etc., midstream industry media and E-sports events, and downstream industries include event sponsors. Combining the above analysis results of the SCP Paradigm, it can be seen that the current Chinese E-sports industry has high concentration, low entry barriers, and poor independent research and development capabilities. Although the market value of development has great potential, all links in the entire E-sports industry chain are There are still many problems, and it is still necessary to continuously reform and innovate the path of industrial development in order to achieve sustainable development.

6.1. Upstream of the Industrial Chain: Core Resources are Monopolized

The developers and publishers of large-scale games are the upstream of China's E-sports industry chain, but these companies only develop and distribute games for a certain part of the game, and are not responsible for research and development. At present, China mainly relies on online games developed by the United States and South Korea, and game manufacturers in the Chinese E-sports industry are more focused on game publishing and game operations. At present, the main problem in the development of China's E-sports industry is that the upstream of the industrial chain is overly dependent on game manufacturers, and the core resources of the industry are monopolized by leading companies.

Among the current major E-sports projects, "League of Legends", "King of Glory", "DOTA2", and "Overwatch" dominate the E-sports game market. The development or operation of these games is concentrated on the hands of several major game manufacturers. Here, including Riot Games, Tencent, Perfect World, Giant Network, etc. From the analysis of the E-sports market in

China, the core resources and profits of E-sports are in the hands of a few E-sports game operators or manufacturers. It can be seen that, unlike traditional sports events, E-sports projects are very dependent on game manufacturers and operators. The entire E-sports industry chain is monopolized in the hands of a few enterprise groups. Once the party that monopolizes resources changes the rules or encounters other risks, It will directly cause great damage to this industrial chain.

6.2. Midstream of the Industry Chain: Lack of Professional Talents and System

In the era of rapid development of China's E-sports industry, many capitalists have poured into the E-sports industry and become sponsors and operators of the E-sports industry. At the same time, this has also brought about a lack of E-sports professionals. In January 2019, the 15 new professional positions proposed by the Ministry of Human Resources and Social Security include E-sports operators and E-sports players. The related professional talents surrounding the operation of the E-sports industry are even more lacking, including referees, E-sports event operators, club managers, etc. These new positions still lack the output of the corresponding talent training system. Tencent E-sports released the latest data this year. By 2020, there will be a talent gap of 500,000 in the E-sports industry.

With the cultivation of E-sports talents blooming everywhere, there is still a lack of unified standards on how to truly train talents in accordance with the needs of talents and job requirements. At present, the E-sports majors that have been opened by universities at all levels are quite different in talent training concepts, employment directions, and curriculum systems. E-sports companies lack a unified talent measurement standard for job recruitment.

6.3. Downstream of the Industrial Chain: Insufficient Connotation Construction

Downstream of the E-sports industry chain are some live broadcast platforms, which are platforms that deliver product content to a wide range of E-sports audiences. At present, the communication and promotion of E-sports in China mainly relies on new media such as live online events and Weibo. Although it has achieved a good amount of communication and discussion, for many non-E-sports users who obtain information through traditional TV channels, E-sports Competitive communication channels are limited. From the current point of view, there is still a lack of full openness to E-sports in the traditional TV channels, so that non-E-sports users are not better able to participate in the E-sports industry.

The dissemination channels are restricted by national policies, mainly because of the insufficient construction of the connotation of E-sports itself. Compared with the high attention of E-sports, the social recognition, recognition and loyalty of E-sports are obviously insufficient. The nature of E-sports is still very vague. As an entertainment activity, it is a commercial activity; as a sports item, high bonuses are contrary to the spirit of sports. How to obtain the recognition of mainstream social value of E-sports is still a difficult problem in the further development of the industry.

6.4. Derivative Industries Downstream of the Industrial Chain: Limited Profit Channels

In the process of continuous development of China's E-sports industry, by strengthening the integration with other related industries, many derivative products can be launched, such as film and television works produced on the theme of E-sports game stories, and related peripherals. However, looking at the entire E-sports industry, there are still many manufacturers and operators who are still investing in the game itself, while ignoring the development of the E-sports derivative industry to a certain extent. In addition, even if there is a corresponding derivative industry, compared with the unabated popularity of E-sports events, E-sports has very limited profit methods and profit channels. Not only is it not conducive to the

better development of the E-sports derivative industry, it is also not conducive to using the derivative industry to continuously improve the influence of the E-sports industry.

7. Suggestions on the Development Path of China's E-sports Industry Chain

7.1. Pay Attention to Independent Research and Development

To break the current oligopolistic market structure of the industry, companies need to pay attention to independent research and development, and the government should also actively guide to ensure the healthy development of the industry. When developing and producing games, game manufacturers need to combine the peculiarities of game models and E-sports projects. At the same time, they need to dare to innovate and challenge, and enhance the player experience through competitive and beautiful graphics. Before making games, you can also consider collecting opinions from the public and holding more experience exchange meetings, to enhance the originality and competitiveness of Chinese E-sports brands.

The government needs to promote relevant legislation and formulate relevant industry standards to ensure the fairness of industry competition. The National Information Center can issue a series of rules and regulations to regulate E-sports activities, set up special institutions for supervision, form a multi-party joint force mechanism, and clarify the scope of supervision and division of labor. At the same time, the government should also actively guide and encourage enterprises to increase game innovation research and development, build their own game brands, and provide appropriate support and assistance.

7.2. Promote Professional Development and Strengthen the Training of Employees

If an industry wants to achieve better and longer-term development, it is inseparable from the step of specialization. Only by continuously improving the professionalism of the game and the standardization of the industry can we better promote the effective development of China's E-sports industry chain. First, the E-sports industry chain needs to combine the development needs of the market to continuously improve the professionalism of events and players, and it also needs to continuously enhance its own management experience and development experience. Secondly, in the process of promoting professional development, we must promptly crack down on behaviors that affect the image of E-sports events, and we must develop a reasonable and effective professional event model.

From the current point of view, in the development process of China's E-sports industry chain, many E-sports practitioners still lack the corresponding skills and capabilities. The state should encourage cooperation between the E-sports industry and higher education, in the process of cooperation, strengthen the training of E-sports practitioners, and provide a large number of reserve competitive talents for the E-sports industry chain. In addition, companies can also fully open E-sports courses to allow E-sports practitioners to actively improve their own quality and abilities, and they can also offer E-sports industry management related courses for E-sports practitioners, which can improve their own quality and capabilities while enabling The level of its own management has been improved.

7.3. Broaden Media Channels and Enhance Cultural Connotation

The development of China's E-sports industry chain is inseparable from media publicity and promotion. Therefore, it is necessary to broaden media channels and increase dissemination to audience groups. At this stage, China's E-sports has not been spread through newspapers and television. It is mainly spread through Weibo, WeChat and other network channels, which has affected the awareness of E-sports by more people to a certain extent. Therefore, China can

appropriately open the TV live broadcast channel in accordance with national policies, which is not only conducive to making the E-sports industry more known to the public, but also conducive to making the public better feel the charm of E-sports events, which is beneficial to the E-sports industry in China. Attract more people, thereby effectively promoting the further development of China's E-sports industry chain.

Of course, if E-sports is to be fully recognized by mainstream social values, it must first eliminate the existing problems and enhance cultural connotation. The content must comply with China's Constitution and laws, and the game itself can overcome the lack of physical activity and other problems, and then it is possible to develop from a free and disorderly social dimension to school sports and competitive sports, and is recognized and accepted by the international community. Enterprises should make full use of traditional cultural elements and strive to develop online sports games with Chinese characteristics, which may become the innovative competitiveness of domestic E-sports games.

7.4. Encourage Diversified Development and Broaden the Profit Model

The profit model of E-sports mainly includes three aspects: game profit, event profit and derivative products. Among them, derivative profit is the most common use of game or competition elements to launch souvenirs, clothing, photo albums, water cups, hand-mades, etc. At present, the development of the downstream derivative industries of China's E-sports industry chain is still insufficient. The E-sports industry is hot and difficult to realize. It is urgent to explore a diversified development path and further broaden the profit model.

Enterprises should focus on improving the development capabilities of the E-sports IP derivative industry, and can actively cooperate with film, television, music and other fields. Not only can they promote the effective development of the E-sports industry, but also can produce E-sports-related TV series, movies, etc., in line with the current public The aesthetic needs of the E-sports industry can also effectively enhance the influence of the E-sports industry. Strengthen the cooperation and interaction between the E-sports industry and other entertainment industries to achieve a win-win situation.

8. Conclusion

The article analyzes the Chinese E-sports market through the use of the SCP analysis framework, and concludes that the Chinese E-sports market is in a very oligopolistic market structure with a high degree of market concentration. Although there are many companies participating, it is monopolized by several large companies. . Independent research and development capabilities are weak, industry operations are not standardized, pricing behavior is relatively single, and the efficiency of market resource allocation needs to be improved. In view of the problems existing in the upstream, middle and downstream of the industry chain and derivative industries, the government should first strengthen active guidance, maintain a fair and healthy development environment for enterprises, focus on independent research and development, and enhance cultural connotation. At the same time, we should strengthen the professional training of employees, establish a professional system, encourage diversified development, and broaden the profit model to achieve sustainable development.

Acknowledgments

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