

Research on the Business Model Optimization of Bloomage Biotech

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Abstract: In recent years, with economic development and social progress, people's attention to biotechnology has gradually increased, and many biotechnology companies have also emerged, including Bloomage Biotech. However, with the rapid development of Huaxi Biology, the problems with its business model have also inevitably been exposed. This paper studies the business model optimization of Bloomage Biotech based on existing literature and data. The author first discusses the current situation of the business model, and then summarizes the business model based on its operational status. Finally, this paper proposes corresponding optimization suggestions. The results show that, in the rapid development of China's market economy, enterprises should optimize their cost structures, carefully select partners, and retain core scientific and technological talent. If an enterprise wants to develop healthily and sustainably, it must optimize its business model in a timely manner. Only by establishing a sound business model can the enterprise effectively ensure that its product development and innovation processes are full of vitality.

Keywords: Business Model Optimization, Bloomage Biotech, Entrepreneurship and Innovation, Open Innovation.

1. Introduction

Bloomage Biotech, with its scientific and technological innovation capabilities and strong market competitiveness, focusses on the research and development of cutting-edge pharmaceutical technology and product innovation. Currently, research on it mainly focuses on finance, customer relationships, products, and other individual aspects. For example, Zhang Qian believes that there is no synergy between the existing main business units in financial execution [1]; Liu Xiaoyang believes that the client relationship assets are imperfect, with issues of reliability and correlation in the processes of confirmation, measurement, and disclosure [2]; Jin Jing and Chen Qiuhong believe that it leads and promotes the reform and progress of the hyaluronic acid industry [3]. The company's business model has received relatively little research. Driven by the current environment, this study selects Bloomage Biotech as the core subject of discussion, to deeply analyze the current situation of its business model and corresponding optimization strategies. Open innovation emphasizes the interaction and cooperation between enterprises and the external environment to achieve the optimal allocation and efficient utilization of innovation resources. Business models provide a framework that integrates different research perspectives, focusing on how companies form and maintain their unique

advantages in a competitive environment and facilitating a systematic understanding of how companies balance the pursuit of consistency with differentiation. Optimizing the business model helps enterprises to balance short-term interests with long-term development and supports their sustainable growth. Bloomage Biotech's research reveals the reasons and key factors behind its success, offering useful references and inspiration for future innovation activities of enterprises.

2. Theoretical Principle

2.1. Overview of the Relevant Theories of Business Models

The business model describes the enterprise's operational framework, covers the main business operations, and clarifies the core attributes of customers, products, and services. It shows the company's operational structure and revenue and profit sources. At the enterprise strategy level, people often view the business model as a reflection of the strategy's essence, an indispensable tool in strategic management, a way to enhance the value chain's efficiency, and a conduit for strategy execution. In the current competitive business environment, companies must rely on a sound business model to support their long-term growth. To maintain competitiveness and achieve sustained profit growth, a good business model should be able to adapt to long-term market changes and respond flexibly to changes in the external environment[4]. This paper will reference the classic theory of business models to establish the theoretical basis for the subsequent analysis. It will also establish the business model canvas of Huaxi Biology, apply this framework to analyze the causes of the business model issues at Bloomage Biotech, and propose relevant suggestions.

2.2. Overview of the Theories Related to Open Innovation

Open innovation refers to a mode in which enterprises innovate by sharing knowledge, resources, and technology with external partners. Open innovation includes two forms: inward-oriented and outward-oriented. By integrating internal and external resources, it provides rich and flexible support for business model innovation and makes more effective use of internal knowledge resources to generate additional solutions and innovative ideas[5]. Open innovation improves the flexibility of an enterprise's business model, quickly adjusts internal processes and resources to respond to market changes, promotes new value propositions, and drives business model innovation.

3. Huaxi's Current Status in the Biological Business Model

The business model is based on its strong research and development capabilities and its complete industrial chain layout. Starting with the raw material business, the company has gradually expanded into medical terminal products and functional skin care products. In recent years, it has ventured the field of functional foods. In terms of brand layout, its functional skincare products hold the primary position, with several brands such as "Run Baiyan" and "Kadi" covering a variety of products, including secondary stock lotion, cream lotion, creams, and facial masks[6]. The company's sales model is based on offline channels, complemented by online channels, and utilizes platforms such as Tmall, TikTok, Xiaohongshu, and others to promote sales growth. In terms of research and development, Huaxi Biology has been a leading player in R&D investment. With its microbial fermentation and cross-linking technology platform, it has established a business system covering the entire industry chain, serving the fields of medicine, cosmetics, food, and other areas[6].

The core competitiveness lies in its underlying scientific and technological strength, which supports product innovation through the synthetic biology platform and the launch of high-tech personal health consumer products. The company pays attention to R&D investment. In the first three

quarters of 2021, R&D expenditure increased by 101.18% compared to the same period last year, accounting for 6.38% of operating revenue and ranking among the leading positions in the industry[7].

In addition, it has actively expanded into the international market, sold its products to more than 70 countries and regions, and established business cooperation with over 4,000 global brand customers, demonstrating its leading position in the global hyaluronic acid market[7]. In general, its business model centers on its professional research and development in the field of biotechnology and the layout of the entire industry chain as its core competitiveness. Through continuous product innovation and market expansion, it has developed a diversified business model.

4. Analysis of Current Stage Problems

According to the 2019-2023 annual financial report of Bloomage Biotech, the revenue in 2023 was about 6.076 billion yuan, a decrease of 4.45% year on year. This is the first decline (as shown in Table 1) in five years since the company's listing in 2019. For the problems it is facing at this stage, the following is a targeted causal analysis.

Table 1: Main Accounting Data and Financial Indicators for 2019–2023 (RMB)

	2023	2022	2021	2020	2019
Total operating revenue (RMB)	6,076 million	6,359 million	4,958 million	2,633 million	1,886 million
Year-on-year growth rate of total operating revenue	-4.45%	28.53%	87.93%	49.28%	49.28%

4.1. Inadequate Investment in Innovation, Research, and Development

According to the 2023 semi-annual report, Huaxi's R&D expenses (186 million) during the reporting period are far less than its sales expenses (1.42 billion). As a biomedical company, it positions itself as a high-tech enterprise and should focus on improving science and technology to enhance its core competitiveness. However, the company primarily uses an online sales model, investing a significant amount of capital in online operations and publicity. It relies too much on marketing to boost enterprise performance, which may improve the enterprise's visibility in the short term. However, from the perspective of the enterprise's long-term development goals, this approach may lead to a lack of innovation, weaken the enterprise's competitiveness in the future, and result in a weakened state of development.

4.2. Partner Selection Error

Bloomage Biotech and South Korea's Medytox established a joint venture, Medybloom Limited, in 2015, aiming to promote Medytox's Botox and beauty products in China. Since its attempt to register Botox products in 2019, Medytox has failed to complete the registration process in China. By 2023, Bloomage Biotech had terminated its cooperation with Medytox. This failure has not only highlighted the challenges of product registration but has also affected business growth.

From 2015 to 2023, Bloomage Biotech launched the Botox market in China, which emerged as the second-largest competitive hotspot in the medical beauty industry, characterized by fierce competition. A domestic pharmaceutical company in East China signed a contract with the Korean Jetema Company in 2020, with plans to list in 2024. In June of the same year, China approved the product from the British company Ipsen. In 2021, Meike and Haohai Biotechnology also joined the market competition. In February 2024, Huadong Pharmaceutical became the exclusive agent for

ATGC Company from South Korea, and its listing application was accepted. For Bloomage Biotech, the cancellation of the Botox cooperation resulted in missing out on the Botox market, which is a fatal blow. We need to find new growth points to expand our business territory.

4.3. Loss of Core Technical Personnel

For enterprises, R&D talents are the driving force of development and the core support of innovation. Although it began implementing an equity incentive plan in 2021, granting its core technical staff, including Li Huiliang, a total of 92,000 shares, in 2022, Li Huiliang resigned as the deputy general manager and chief technology officer of the company and ceased to be a core technical staff member. All of the restricted shares had not been granted before Li Huiliang left, resulting in their invalidation. The forfeited assets were valued at approximately 12,769,600 yuan. The move has brought about changes in management and equity turmoil and has also reduced the confidence and enthusiasm of employees within the company.

Table 2: R&D Personnel Costs at Huaxi Biology for the First Half of 2023 (Unit: Yuan)

	The number of this period	The number of the same period last year
Number of R&D personnel in the company (person)	813	626
Total remuneration of R&D personnel (yuan)	81,423,108.72	89,837,961.60
Average salary of R&D personnel (yuan)	100,151.43	143,511.12

According to its 2023 semi-annual report, the number of R&D personnel increased compared to the same period last year, but the total and average salaries of R&D staff decreased (as shown in Table 2). If Huaxi continues to lower the average salary, it will be difficult for the company to retain core technical talent, and it may lack development motivation in the future.

5. Suggestions for Optimizing the Business Model

5.1. Optimizing the Cost Structure

Huaxi's strategy focuses on the comprehensive integration of various elements, including human resources, material capital, and financial assets. Its cost investment distribution needs to align with its development orientation. The core strategy of its development planning lies in fine budget management to ensure the effective implementation of cost control. M Biotechnology optimized its intelligent model to predict financial risks, allowing it to adjust the cost structure in a timely manner and provide a reference for Huaxi Biology[8]. Huaxi Biology should implement customized financial strategies for the dynamic development stage of innovative projects to achieve a reasonable allocation of resources and avoid excessive sales and management costs. They should seek external partners to share innovation costs and risks, improve resource utilization, and further strengthen close contact with the financial sector to actively seek financial support, ensuring the stability of funds for innovative projects.

5.2. Choosing Important Partners Carefully

Appropriate partners can bring long-term development benefits to the enterprise. When Bloomage Biotech chooses partners, it should not only consider economic interests but also evaluate technical,

market, and financial risks in detail. They should choose legally compliant partners, carefully investigate their business legal compliance, and assess future risks to minimize cooperation risks[9]. In addition, Bloomage Biotech needs to continuously pay attention to market trends, have researchers conduct market research, accurately identify consumer and industry needs, and choose the right partners based on the actual situation.

5.3. Consolidate Core Talent Resources

Starting with enterprise human resource management, it should improve its human resource structure, standardize internal rules and regulations, strengthen the diversification of talent recruitment channels, and attract more excellent and innovative talent to join the company. They should also establish an innovative talent training plan, provide professional training and development opportunities, and stimulate employee innovation. In terms of salary and compensation, it should provide sufficient material incentives to ensure that employees' work is directly proportional to their compensation. Additionally, by optimizing the performance appraisal process, the company can reward and recognize employees who propose valuable innovative ideas, thereby stimulating their enthusiasm for innovation [10]. The company should improve the relevant regulations for the equity incentive plan, particularly those that pertain to the equity profit distribution for core technical personnel. These regulations should be fair and just, help establish a large company's image, and instill confidence in internal employees.

6. Conclusion

This paper begins with the year-on-year decline in the company's operations, discusses in depth the current situation and issues with Bloomage Biotech's business model, analyzes the causes of these problems based on theoretical knowledge, and provides some feasible improvement measures and suggestions.

1)In terms of cost structure, the cost investment allocation of Bloomage Biotech is not consistent with its development positioning. Therefore, Bloomage Biotech needs to have a comprehensive understanding of the company's internal advantages, external environment, and competitors. It should clarify the future development direction according to the company's actual situation and formulate a resource allocation plan that aligns with its own circumstances.

2)In terms of key partners, Bloomage Biotech lacks awareness of its partners, resulting in the business sector lagging behind the market. Therefore, enterprises need to have a comprehensive understanding of their partners and choose carefully according to market trends and the actual needs of the company.

3)In terms of core talents, given the complexity of the innovation environment, Bloomage Biotech's crisis awareness is insufficient. Therefore, the enterprise needs to focus on various aspects such as structural optimization, performance appraisal, and material incentives, and comprehensively use these methods to enhance the company's ability to attract and retain core scientific and technological personnel, ensuring the success of Bloomage Biotech.

Although this paper analyzes the business model of Bloomage Biotech, it lacks an exploration of its digital transformation. In the future, it could specifically analyze business model innovation in the process of digital transformation.

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