

How Can Latecomer Enterprises Achieve Rapid Catch-up in a Dynamic Environment: A Case Study on Chi Forest's Business Model Innovation

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Abstract

The development of the socio-economic environment has brought about significant changes in the business landscape for latecomer enterprises. Instead of competing directly with industry giants using traditional business models, these enterprises can leverage business model innovation, which presents lower risks and clear advantages. This strategy has been recognized as a key approach for latecomer enterprises seeking to catch up. This article analyzes a notable case in the fast-moving consumer goods industry, "Chi Forest," to summarize its business model based on data element innovation. The insights gained from this case can offer valuable lessons for latecomer enterprises in their pursuit of competitiveness.

Keywords

Business Model Innovation; Latecomer Enterprises; Case Study; Chi Forest.

1. Introduction

After decades of rapid development, the business environment of various industries in China has been very different from the past; enterprises are facing a more dynamic competitive environment, and there is also a possibility of dynamic changes in the industrial structure of the industry. At the same time, big data is flourishing than before, and therefore presents more requests for higher quality development for enterprises. These changes create new opportunities for latecomer enterprises to achieve rapid catch-up. Through business model innovation, emerging firms can rehabilitate industrial policy, reorganize the division of labor of the industry, new process of development will be built, and the industrial value chain will be remolded finally, so as to achieve differentiated competition with the existing industry giants in terms of mode. Nowadays, many latecomer firms in China have carved out unique development paths, leveraging innovative business models to achieve remarkable success. Therefore, this paper adopts a business model innovation perspective to investigate the mechanisms by which latecomer enterprises catch up in dynamic environments by analyzing the case of Chi Forest

2. Theory and Development of Hypotheses

2.1. Research on Business Models

Since the early 21st century, the concept of business models has gained widespread attention in innovation and entrepreneurship research. Lang (1947) first proposed the term business model[1], and its connotation and definition have been constantly evolving without reaching a unified view. Based on the viewpoint of elemental composition, business models consist of products, services, information flows, specifically including stakeholders, resources, revenue, potential value (Morris, 2005)[2]; from the perspective of value creation, the business models serve as systems for value creation not only for customers but also for all stakeholders (Amit et

al., 2001; Lei Yuan, 2007)[3][4]; based on the viewpoint of enterprise operation, it is proposed that business models can enhance firms' ability to generate value, reduce transaction costs, and improve efficiency (Zott et al., 2007)[5]. In general, despite the diversity of viewpoints, the academic community has basically reached a consensus that the business model encompasses a firm's enterprise value proposition, value creation, value delivery, and capture activities (Zhang Lu, 2019)[6].

2.2. Research on Business Model Innovation

In dynamic environments, business model innovation has become an essential pathway for latecomer enterprises to survive and gain a competitive edge. Given their limited resources in technology, market access, and funding, late entrants often find technological innovation alone insufficient. However, by innovating their business models, these firms can gain an advantage and deliver value to target consumers at reasonable costs (Chesbrough, 2007; Casadesus-Masanell, 2010)[7][8], or integrating business model innovation and technological innovation can generate more opportunities for development and catch up more quickly (Eyring et al., 2011)[9]. In the period of social and economic transition, China's institutional and market transformations have fostered an environment conducive to new business models, offering more catch-up opportunities for latecomer enterprises (Ping Zeng et al., 2015)[10]. Another concern is that big data has been used more often in China, which has become a critical competitive enterprise asset (Jichang Zhang et al., 2022) [11], positively influencing business model innovation and offering strong technical support (Yunfei Shao et al., 2024)[12].

Overall, existing research on business models and business model innovation is diverse and extensive, providing a solid theoretical foundation for this paper. Scholars have shown that business model innovation offers latecomer firms a feasible and efficient catch-up path compared with technological innovation. Based on this, this paper analyzes and summarizes Chi Forest's mechanisms of catching up to contribute both theoretical insights and practical guidance for latecomer enterprises.

3. Research Design

3.1. Research Method

This study uses the single case research method, which is a fundamental approach in management research. Case studies allow for an in-depth examination of specific phenomena or issues and help uncover the underlying mechanisms at play. Given the focus on how innovation in business models enables latecomer enterprises to catch up with their competitors, the case study method is especially suitable. In single case studies, the selection of cases is characterized by their typicality and extremity. This selection process helps identify key success factors and presents them within a focused scope. Additionally, the successful case chosen in this study demonstrates replicable patterns that can provide valuable insights into the mechanisms that facilitate rapid catch-up in dynamic environments.

3.2. Case Selection and Background

This study examines Chi Forest (Beijing) Food Technology Group Co., Ltd., a typical latecomer enterprise established in 2016. The company is particularly popular among young consumers and is renowned for its 'customer first' ethos. Chi Forest offers a variety of beverage products, including Chi Forest Sparkling Water, Alien Electrolyte Water, Burning Tea, and Chi Forest Full Milk Tea. Before Chi Forest entered the market, the Chinese beverage industry was already dominated by giants like Coca-Cola, Pepsi, and Nongfu Spring. In addition to these major players, numerous small and medium-sized beverage companies cover nearly every market segment, resulting in intense competition. Despite this challenging environment, Chi Forest has experienced rapid growth and achieved remarkable results in just seven years. For example,

during the 2019 Double Eleven shopping festival, Chi Forest's online sales ranked second in the beverage category, surpassing both Coca-Cola and Pepsi. In 2021, Chi Forest Sparkling Water, its core product, sold over 100 million boxes, generating sales that exceeded RMB 7.3 billion. According to Nielsen data, by the end of 2022, Chi Forest ranked 12th among Chinese beverage manufacturers, making it the youngest company on the list. To date, Chi Forest's products have been exported to more than 40 countries and regions worldwide, establishing a new consumer empire valued at RMB 71 billion. The development process of Chi Forest is illustrated in Figure 1.

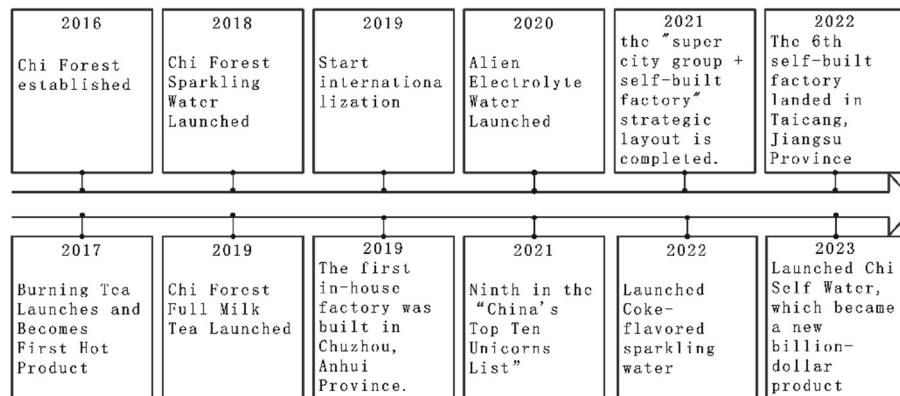


Figure 1. The development process of Chi Forest

Overall, it is no coincidence that Chi Forest can stand out among many beverage brands and become the favorite sparkling water beverage brand of Chinese consumers in China. Its success is a microcosm of how latecomer enterprises in China can achieve a counterattack through innovative business models in a dynamic environment, having deep enlightenment and reference value. Dig deeper into the elements and mechanisms of Chi Forest's endogenous growth can provide more practical experience for latecomer enterprises.

4. Chi Forest's Business Model Innovation Process

4.1. Exploration Phase of Business Model (2015–2017)

In 2015, the Chi Forest Food Research and Development Center was established. The following year, Beijing Haofan Technology Co., Ltd. was founded, which later changed its name to Chi Forest (Beijing) Food Technology Group Co., Ltd. In September 2016, the company experimented with fruit teas, focusing on themes of slimming and beauty, but the market response was lukewarm. In 2017, it launched "Burn Tea," a sugar-free tea, a sugar-free beverage that became its first successful product. However, Burning Tea did not gain significant market traction and did not establish Chi Forest's brand recognition. During this period, the company continuously explored its business model, particularly by implementing a data-driven product testing process. Compared with the long cycle of traditional beverage companies developing new products in terms of years, Chi Forest adopted the A/B testing method from the internet industry, which shortened research and development cycles from one year to just 3 to 6 months. In the early stage, the exploration mainly focused on taste testing, while packaging design and formula development handled by professionals. Once a product was developed, it was tasted by sales staff, and only after receiving positive feedback was it put on sale. After the first iteration, the product will be given directly to target users, particularly college students.

4.2. Maturation Phase of Business Model (2018–2022)

The launch of its signature sparkling water labeled “0 sugar, 0 fat, 0 calories” in 2018 marked the rise of Chi Forest. In 2019, the company introduced Chi Forest Full Milk Tea, which quickly gained popularity among the younger generation. As the business improved in terms of production and sales channels, Chi Forest's data-driven business model became increasingly evident. In product development, the company used erythritol, a healthier yet more expensive sweetener, to enhance the taste of traditional sparkling water and address health concerns associated with sugar. For distribution, Chi Forest focused on convenience stores instead of supermarkets, capitalizing on the growing trend of convenience shopping. This strategy enabled them to achieve rapid sales growth and capture the interest of young consumers. For marketing and promotion, Chi Forest adopted a youth-oriented design like the Japanese style of fresh, and aligned their campaigns with young people's lifestyles, maximizing publicity through elevator ads, web series sponsorships, and collaborations with variety shows. Through this multi-faceted approach, Chi Forest's concept of “0 sugar, 0 fat, 0 calories” has gradually taken root in the minds of consumers. The company experienced impressive sales growth from 2018 to 2021, with growth rates of 300%, 200%, 309%, and 260% respectively, culminating in a valuation of RMB 40 billion.

Chi Forest has increasingly refined its product testing model, developing a multi-stage testing system that includes evaluations for taste, e-commerce, convenience stores, and direct-to-consumer (DTC) channels. In May 2020, the company launched “Alien Electrolyte Water,” filling a gap in the Chinese market for this product segment. During the pandemic, the National Health Commission highlighted the importance of maintaining a balance of water and electrolytes for recovery. The company linked the product to recovery scenarios, making electrolyte water out of stock, pushing sales beyond RMB 1 billion. The rapid growth of Chi Forest attracted the attention of many industry giants, who pressured its suppliers, causing multiple supply chain disruptions from 2018 to 2020. Faced with supply chain bottlenecks from competitors, Chi Forest began building its factories in 2019. By 2021, it had built an innovative model of “super city group + self-built factory”, equipped with the most advanced sterile carbonated production lines. Notably, Chi Forest became the first Chinese beverage company to eliminate preservatives like potassium sorbate and sodium benzoate from its products. The establishment of its factories has also allowed Chi Forest to target product development and supply chains more strategically, enhancing its flexibility and ability to adapt quickly to changing market conditions.

4.3. Evolution Phase of Business Model (2022–Present)

Innovating its business model based on data elements has enabled Chi Forest to gain a competitive advantage and expand its market presence quickly. The beverage industry is facing increasing competition as major players rapidly enter the markets for unsweetened tea and plant-based drinks. In response, Chi Forest has broadened its market reach and upgraded its existing products to ensure the company's growth and sustainability while introducing popular new products and diversifying its income sources. Specifically, in terms of its product matrix, Chi Forest has enhanced and upgraded the formulas of its classic offerings and launched new flavors. It has also stepped out of its comfort zone of single fruit-flavored beverages by experimenting with combinations of classic flavors and sparkling water, including the introduction of cola-flavored variants. These efforts are aimed at building a sustainable competitive advantage. In 2023, Chi Forest launched “Chi Free Water” to cater to the growing health-conscious demands of young consumers. Within just four months of its release, it sold RMB 100 million units and exceeded RMB 1 billion in revenue by 2024, capturing 58.6% of the market share in Chinese health water, far surpassing its closest competitors.

In terms of process upgrading, Chi Forest established its sixth self-built factory in Taicang, Jiangsu Province, in 2022, which features 24 high-end aseptic production lines. This development positions Chi Forest to potentially become one of the leading beverage companies globally in terms of high-end aseptic carbonated production lines. Furthermore, Chi Forest has made a bold pledge stating that all future products will be free of preservatives, directly addressing consumers' growing health concerns. The company also aims to return to traditional enterprise principles by enhancing human efficiency and implementing fine management practices, while emphasizing the importance of data competitiveness.

5. Case Discussion

The key to Chi Forest's success in the food and beverage industry is its strategic product direction. By understanding its clients better, Chi Forest can meet customer needs and remain competitive in the market. This is achieved through continuous digitalization and innovation in its business model, which allows the company to take the initiative in sales. This is also the cornerstone of this "Chi Forest" that is able to thrive and keep growing.

5.1. User-Side Innovation: Zero-Distance Customer Engagement

Traditional beverage companies primarily focus on distribution, investing heavily to create robust distribution systems. However, this approach often leads to consumers' voices being overlooked, resulting in product offerings that reflect availability rather than genuine consumer desires, and also making it difficult for companies to accurately grasp market demand, make timely adjustments to the product. With the change of the main contradiction in China's society, consumer spending has increased, and people's perceptions of consumption have shifted. There is now a greater emphasis on quality and health than ever before. Chi Forest has successfully identified and embraced this change. Unlike traditional beverage companies, Chi Forest gathers real feedback from consumers before launching new products. By utilizing data-driven product testing, the company has shortened the product development timeline from one or two years to as little as three months. This approach allows Chi Forest to quickly understand customer preferences and eliminate unsuitable products, ensuring that the final offerings on the market have significant growth potential.

During the product development process, Chi Forest encourages its internal staff to participate in flavor development and create products that resonate with their preferences. Since the primary consumer demographic for Chi Forest is young people aged 18-35, and most of the company's employees belong to this age group, it provides a valuable opportunity for Chi Forest to better understand the tastes and preferences of this audience. Following initial internal testing, Chi Forest adopts concepts from A/B testing, commonly used by internet companies, to create a distinctive method for testing new products. This approach allows the company to gather valuable feedback through various external testing methods, including taste tests, e-commerce trials, convenience store evaluations, information flow placement tests, and direct-to-consumer (DTC) channel assessments. Before launching a product, it conducts three rounds of external data collection. Firstly, through taste tests and DTC channel trials, the company efficiently conducts assessments at a low cost. In 2020, Chi Forest began utilizing a WeChat private domain, launching new product tests via a mini-program where individuals could sign up for the "Chi Experience Officer" activity. Those selected only need to pay for shipping to experience new products and provide feedback. Secondly, Chi Forest rolls out the product on e-commerce or online platforms for comprehensive testing, which includes evaluating consumer behaviors related to clicking, browsing, and purchasing. The e-commerce test yields standardized data, while the information flow placement test clarifies the effectiveness of marketing efforts by tracking clicks on various advertisements highlighting different selling points of the same product. Finally, once product data meets a specific threshold, it advances

to the convenience store testing stage. Analyzing offline data aids Chi Forest in forming a more holistic understanding of consumer recognition and acceptance of the product. Even after a product passes all the tests and is officially launched, the iteration process continues. Chi Forest remains committed to gathering user evaluations from platforms such as Weibo and Rednote to make continuous improvements.

Unlike traditional beverage companies that rely heavily on overwhelming advertising, Chi Forest takes a more thoughtful approach to its marketing content, formats, and channels. The brand strives to convey information accurately while maintaining a strong connection with young consumers. For example, Chi Forest frequently utilizes elevator advertisements, and the places with the most elevator ads are often office buildings, where the target group is concentrated. It also sponsors online variety shows, web dramas, and even invests RMB 150 million to secure the title sponsorship of Bilibili's New Year's Eve Gala. Through this strategic marketing effort, Chi Forest has rapidly gained popularity among young people and has become a national-level sparkling water brand.

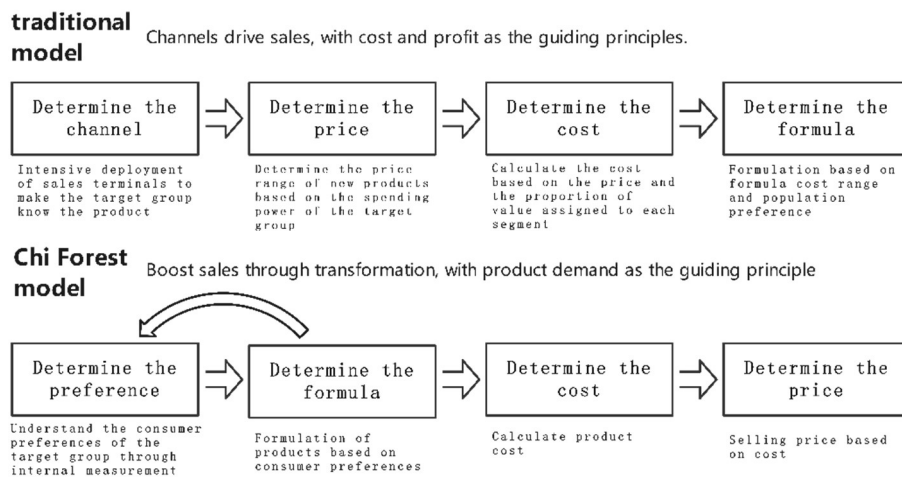


Figure 2. Comparison of Traditional Product Logic and Chi Forest Product Logic

5.2. Partner-Side Innovation: Restructuring Distribution Channels

Under the traditional distribution model, businesses typically need to hire a large sales team to obtain actual sales, which not only consumes significant resources and can be challenging to manage. Additionally, the multi-layered system of information transfer makes it difficult for companies to obtain timely data. Chi Forest has built a new model of cooperation with distributors and outlets based on digitalization. It partnered with a data provider named “Code Win,” which allowed Chi Forest to access terminal POS data and directly obtain transaction information from business outlets. Furthermore, Chi Forest implemented smart refrigerators equipped with sensors that monitor consumer behavior, such as whether products are taken out or returned. This technology enables real-time tracking of retail sales conditions. The company also uses an AI system to provide actionable suggestions to store clerks. In addition, based on business and logical consistency, Chi Foerst can infer the business conditions of distributors without accessing their data as much as possible by modeling business logic. By modeling business logic, Chi Forest can infer the business conditions of distributors with minimal direct data access. This model supports accurate planning via artificial intelligence, significantly reducing the risk of over-ordering by distributors and enabling quick responses to underperforming sales channels. Additionally, it allows the company to monitor the sales of new products post-launch, helping determine whether to remove items from shelves or to promote them more vigorously.

As an FMCG company, the distribution channel is crucial for its survival. Chi Forest's early use of the "online + convenience store" model not only maximizes input and output but also cleverly avoids direct competition with traditional giants. It was one of the earlier brands in China to enter the e-commerce platform, with online sales accounting for 30% of its total revenue, significantly surpassing that of its competitors. Chi Forest began to develop the WeChat private domain traffic in 2020 and successfully accumulated a large number of loyal fans. By employing these two strategies, Chi Forest's direct marketing ratio is approximately 17% higher than that of similar enterprises, bringing them closer to their customers. Overall, the company has reconstructed the channel relationship. This allows for more precise and effective identification of issues within the sales process and distribution channels. Additionally, it enables accurate assessments of various factors, including user profiles, purchasing behaviors, product decisions, and channel selections.

5.3. Organizational Innovation: Flexible and Digital Structures

Innovating Traditional beverage companies typically organize their departments based on functions and processes. For example, when developing new products, each product manager is responsible for 1-2 new products from research and development (R&D) to market launch. The key aspects of this process, such as product development, packaging design, and brand planning, are often delegated to functional departments or outsourced to specialized companies, and the product manager acts primarily in a supervisory role. Such a way can effectively manage risks and create economies of scale, but not enough incentives for innovation. The output and rewards of the staff are not fully equal, even if the product is successful. Additionally, communication costs can be prohibitively high. The coordination between departments is often time-consuming and labor-intensive; important decisions require reporting and approval at multiple levels. As a result, the time taken to move from product proposal to market can be too lengthy to meet the rapidly changing demands of consumers today. In response to these challenges, Chi Forest has adopted an internal organization model centered on digital innovation, so as to make it more flexible and agile to adapt to the changes on the user and cooperation side.

Chi Forest's product development process utilizes the amoeba model, where employees with diverse specialties and responsibilities work together throughout the entire new product development and launch process, organized into teams. This structure promotes horizontal communication and, due to the streamlined organizational scale, significantly enhances communication efficiency, ensuring timely information sharing. From a vertical perspective, the product teams are empowered to make important decisions, which reduces the communication hierarchy and offsets the situation of encouragement deficiency. Chi Forest believes in the potential of young people and encourages everyone to be bold, innovative, and to create products they would like to drink. Each product team operates under a "horse race" mechanism, resulting in an average product development cycle of only 5.5 months.

To align the group's goals with the company's objectives, Chi Forest has introduced an organizational digital tool called Flying Book, with which the company has continuously strengthened its innovative organizational model. On this basis, Chi Forest has partnered with Guanyuan Data, which has integrated the interfaces of Feishu, Enterprise WeChat and other platforms. This integration allows for the rapid circulation of data among enterprises, streamlining processes by reducing unnecessary intermediaries. In terms of performance evaluation, Chi Forest has moved away from traditional Key Performance Indicators (KPIs) and adopted the "Objectives and Key Results" (OKR) management system commonly used by internet companies. This approach focuses on goals more effectively and fosters greater self-motivation among employees.

Furthermore, Chi Forest's "Three Loves" values serve as an intrinsic motivation that drives continuous innovation. The youthful energy within the company infuses Chi Forest with vitality, enabling its dynamic growth through limitless creativity.

6. Conclusion and Implications

6.1. Research Conclusion

In the context of a new era, the rapid rise of latecomer enterprises is closely linked to their innovative business models. This is especially true in mature sectors like fast-moving consumer goods (FMCG), where competing with established brands using traditional models can be costly and inefficient. This paper analyzes the latecomer company Chi Forest and finds that data-driven business model innovation is an effective approach for enhancing competitive advantage. Chi Forest emphasizes data capability and digitizes its entire business chain. By implementing standardized data sharing and consistent digital processes, the company creates a unique user-centered growth system that integrates research and development, sales, and feedback. Its growth mechanism is characterized by three main aspects: First, the user side. Overturning the traditional logic of pricing and product decision-making in the beverage industry. Chi Forest innovatively develops a mechanism of demand-driven product selection, with the power of digitalization to achieve accurate information reach, a zero-distance link to the user, and finally firmly grasp the young consumers. Second, the cooperation side. Reshaping channel relationships by leveraging real-time sales data, enabling optimal decision-making and enhanced responsiveness to market demand. Third, the organization side. Employing flexible amoeba team structures and "Three Loves" value-driven management, supported by digital tools like Feishu to liberate employee productivity and achieve efficient communication.

6.2. Research Conclusion

Latecomer enterprises should prioritize business model innovation. As the largest developing country in the world, most enterprises lack early-mover advantages in capital or technology in China. Relying solely on technological innovation to catch up with industry leaders is risky and limited. The evolving economic and technological environment offers fertile ground for business model innovation, which can help latecomers overcome weaknesses, effectively integrate emerging technologies, and achieve rapid progress. Therefore, latecomers should view business model innovation as a critical strategy for enterprise development.

Moreover, latecomer enterprises should pay attention to digital development and build data competitiveness. The social informatization has been further enhanced in an increasingly digital world, and digitalization is undoubtedly the top priority for future enterprise development. Leveraging data resources and digital tools is essential for iterating business models and establishing core competencies and sustainable competitive advantages. By doing this, latecomers can improve the efficiency of their business model innovation and hasten their catch-up process.

References

- [1] Lang F(1947). Insurance Research. *Journal of Marketing*, vol.12, no.6, p.66-71.
- [2] M. Morris, M. Schindehutte, and J. Allen (2005). The entrepreneur's business model: Toward a unified perspective. *Journal of Business Research*, vol. 58, no. 6, p. 726-735.
- [3] Amit R and C. Zott (2001). Value creation in e-business. *Strategic Management Journal*, vol. 22, no. 6/7, p. 493-520.
- [4] Lei Yuan (2007). Reconstruction of business model theory system. *China Industrial Economics*, no. 6, p. 70-79.

- [5] C. Zott and R. Amit (2007). Business model design and the performance of entrepreneurial firms. *Organization Science*, vol. 18, no. 2, p. 181–199.
- [6] Lu Zhang, Qi Zhou, Jingqin Su, and Qing Chang (2019). How can entrepreneurial firms realize business model innovation?—A vertical case study based on resource-focused action perspective. *Management Review*, vol. 31, no. 9, p. 219–230.
- [7] H. Chesbrough (2007). Business model innovation: It's not just about technology anymore. *Strategy & Leadership*, vol. 35, no. 6, p. 12–17.
- [8] R. Casadesus-Masanell and J. E. Ricart (2010). From strategy to business models and onto tactics. *Long Range Planning*, vol. 43, no. 2–3, p. 195–215.
- [9] M. J. Eyring, M. W. Johnson, and H. Nair (2011). New business models in emerging markets. *Harvard Business Review*, vol. 89, no. 1–2, p. 88–95.
- [10] Ping Zeng, Yang Liu, and Ying Ying (2015). Latecomer firms in transitional economy—Technology innovation or business model innovation? *R&D Management*, no. 3, p. 1–7.
- [11] Jichang Zhang, Jing Long, and Feng Chen (2022). Big data capability, knowledge-based dynamic capability, and business model innovation: Moderating effect of innovation legitimacy. *Economy and Management*, vol. 36, no. 5, p. 19–28.
- [12] Yunfei Shao, Kaiyue Luo, and Haipu Kong (2024). How can digitization drive manufacturing SMEs to build closed-loop business model: A longitudinal case study from the perspective of dynamic capability. *Journal of Management Case Studies*, vol. 17, no. 6, p. 898–912.