INTERNATIONALIZATION STRATEGY MANAGEMENT FOR SMALL AND MEDIUM-SIZE ENTERPRISES: A CASE STUDY OF LED INDUSTRIAL ENTERPRISE

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Abstract

With China's "One Belt, One Road" (OBOR) cooperation initiative in 2013, more and more Chinese SMEs enterprises (SMEs) are heading overseas to international markets (Li, 2020). In the early stage of internationalization, most Chinese SMEs still focus on traditional export trade. By 2023, after ten years of development of the Belt and Road initiative (BRI), the traditional export trade model is no longer sufficient to support Chinese SMEs to cope with competition in the international market (Han, 2021). However, most Chinese SMEs do not have a clear internationalization strategy, so the development of a clear internationalization strategy has become an important research topic for Chinese SMEs. This paper takes D&H company as the research object, uses the PEST analysis model, and the internal factor evaluation (IFE) and external factor evaluation (EFE), internal and external environmental factor analysis matrix to sort out the advantages, disadvantages, opportunities and threats faced by the company, and applies strengths-weaknesses-opportunities-threats (SWOT) and the quantitative strategic planning matrix (QSPM) tools to study the internationalization paths and plans of D&H. This paper explores the new situation of internationalization in a practical sense and provides research examples and methods for Chinese SMEs to develop internationalization routes with some reference value.

Keywords: Internationalization, SMEs, Strategic Management, Overseas Markets, Enterprise Development

1. INTRODUCTION

The internationalization of enterprises is the main way for enterprises to participate in the global division of labor (Ding, 2021). It is the global layout of production factors including production, management, talents, capital, market and services. By participating in the global division of labor and wealth distribution, enterprises obtain markets and profits, and finally form cross-border business activities (Gao, 2017). A company's internationalization strategy is a combination of strategies based on a global perspective, internal resources, external opportunities, target markets, business choices, entry modes and other factors.

There are huge market opportunities for enterprises to develop internationally, but Chinese enterprises lack reference experience for successful internationalization (Chen & Tan, 2023). SMEs enterprises (SMEs) usually do not have obvious
financial advantages (Ge, 2023). Many large enterprises with funds and strength will fail. The internationalization process of SMEs will inevitably encounter various difficulties (Wu, 2020). When funds and resources do not have a monopoly advantage, recognizing the advantages and disadvantages of one’s own resource capabilities, formulating appropriate international strategies and implementation plans, giving full play to strengths and making up for shortcomings are the key first steps (Cai & Nong, 2021).

The research significance of this paper is, first of all, through theoretical practice, for the enterprise itself, it mainly analyzes and summarizes its own resource capabilities, sort out and formulate appropriate international strategies and implementation plans, improve the success rate of enterprise entrepreneurship, and avoid extensive development that will bring great time to the enterprise. Cost loss or even failure. On the other hand, the significance is based on the classical theories of internationalization strategy formulation and management, as well as the past experience of successful internationalization cases of Chinese enterprises, to explore and summarize private start-ups, in the increasingly complex international environment, to find effective paths and method to achieve international development and achieve global competitiveness, and provide a reference model for Chinese enterprises’ international operations through practice.

In this paper, D&H company is the research object. The PEST analysis model, and the internal factor evaluation (IFE) and external factor evaluation (EEF), internal and external environmental factor analysis models are used to sort out the advantages, disadvantages, opportunities and threats faced by the company. Strengths-weaknesses-opportunities-threats (SWOT) and the quantitative strategic planning matrix (QSPM) tools study the internationalization paths and plans of D&H.

The rest of this paper is structured as follows. Section 2 reviews the relevant literature while Section 3 summarizes the applied methodologies in this study. Meanwhile, Section 4 and Section 5 provide the result and its discussion, respectively. Finally, the conclusion is presented in Section 6.

2. LITERATURE REVIEW

In recent years, academics have studied the internationalization behavior of firms and scholars have proposed many different theories (Yao, 2023). Some theories such as monopoly advantage theory, product life cycle theory, marginal industry expansion theory, internationalization theory, and international production eclectic theory have been put forward one after another, and the internationalization theory has been developed rapidly (Du, 2023).

As more developing country SMEs start to participate in international business, the old theories cannot fully explain the internationalization behavior of these firms (Jin & Su, 2022). After research, scholars put forward the stage theory of enterprise internationalization, pointing out that stage and gradualness are the behavioral characteristics of the new type of enterprise internationalization operation (Yu et al., 2023). Li and Chen (2022) think enterprise internationalization can be summarized into four business stages: 1) direct export trading activities, 2) exporting through overseas agents, and 3) outward foreign direct investment (OFDI) to establish factories overseas.

Internationalization strategy is the enterprise’s overall planning and decision-making in choosing the market of the destination country, the market entry mode, the path, the scope of business development and other relevant enterprise management levels in order to achieve the enterprise’s transnational development and operation goals (Zheng, 2023). Internationalization strategy can be a strategic decision at the corporate or business level, and in the case of multinational SMEs, the corporate strategy is also the business strategy of the enterprise (Yang, 2022).

In the context of the Belt and road cooperation initiative, Chinese enterprises are actively entering the international market (Guo, 2020). The “Belt and Road” initiative (BRI) can create new space for Chinese enterprises, bringing new market opportunities, favorable political environment, and reshaping the spatial location advantages of countries (Li, 2019). Wei and Chen (2022) believe that under the background of “One Belt, One Road” (OBOR), the internationalization of Chinese enterprises should be guided by the state and relevant departments, adapt to local conditions, pay attention to the difference of target markets, and achieve sustainable international development. Yang (2017) believed that under the implementation of the “Belt and Road” strategy, a large number of enterprises have entered the international market, and they have felt the difficulties brought about by cultural differences and political environment while gaining benefits. Therefore, Chinese enterprises should match their corporate culture with internationalization and provide guarantees for enterprises to go global (Shen, 2019).

In addition, from the perspective of the internal and external environment of enterprise internationalization, Ma (2022) seemed that in the new era when the global economy maintains a low growth rate, enterprises should comprehensively analyze and consider the internal and external environment before formulating and implementing strategic management policies. Medium-sized enterprises face external environmental changes, and their own conditions are limited, so they must carefully analyze the environment, capture opportunities, control threats, establish a suitable strategy, and be able to grasp the future of the enterprise (Zhang et al., 2020). Yang (2011) pointed out that in a complex and changing environment, companies should conduct research and exploration on the mechanism and construction of internationalization strategic control capability, so as to broaden their internationalization vision, correct possible problems in the operation process, create effective value and promote the development of internationalization. Tang and Guergan (2018) analyzed the relationship between the target country’s economic environment, enterprise size, international experience, and enterprise ownership strategy on the basis of investigating multiple companies. We can conclude that the enterprise’s understanding of the international environment is the key to establishing an international strategy.
As for the analysis of enterprise internationalization strategy, Liu and Lu (2022) adopted SWOT methodology to analyze the development of international markets by Chinese SMEs. The study concluded that Chinese SMEs can promote the internationalization of enterprises through foreign export strategies, imported material processing and assembly trade strategies, SME cluster strategies, and foreign direct investment strategies. In addition, Yu (2021) combined the PEST analysis method and pointed out that in order for Chinese enterprises to accurately position themselves in the complex international environment and accurately grasp the macro environment and industry competition, they need to objectively evaluate themselves, formulate practical internationalization strategies, and implement them flexibly. Taking M company as an example, Liu and Su (2020) analyzed the internationalization strategy of the company in the Southeast Asian market and pointed out the choice of internationalization strategy for SMEs: 1) to cooperate with domestic enterprises to explore the international market and 2) to explore the blank space of products in the target market.

At present, Chinese enterprises are latecomers in international operations (He & Qian, 2023). They lack the collective influence and advantage of developed countries. At the same time, they have not accumulated much successful experience in international operations. Moreover, due to the rapid economic development in the past and the rapid changes in the external environment, past successes have the era in which an enterprise operates determines different era backgrounds and opportunities (Mou, 2021). The experience of most successful enterprises cannot be completely replicated (Tang & Wang, 2021). It is an indisputable fact that Chinese SMEs are becoming increasingly active on the international stage and playing an increasingly important role in the global economy (Wang, 2021).

From the research of the above scholars, it can be seen that formulating an international development strategy is very important for the international development of SMEs. Especially after the impact of COVID-19, what kind of new international development strategy SMEs should formulate, how to effectively implement the new internationalization strategy, and maintain the sustainable development of enterprises is a question worth studying.

3. RESEARCH METHODOLOGY

In order to find the best strategy for the internationalization development of D&H, the methodology of the research is based on strategic management theories and tools, taking D&H as the research object, taking semi-structured interviews with the management of the company, and using PEST analysis model and IFE, EFE internal and external environmental factors analysis matrix to sort out the strengths, weaknesses, and advantages that the company is facing, opportunities and threats. Finally, using tools such as the SWOT model and QSPM analysis matrix, the internationalization path and strategy of D&H company are studied.

The participants were general manager, senior managers, R&D director, marketing director, and after-sales director. The participants’ answers were recorded. After that, they were analyzed using EFE and IFE the QSPM. There was no ethical or commercial confidentiality.

Semi-structured interviews for D&H company internationalization strategy is available in Appendix.

3.1. Case presentation

D&H company was established in Dongguan, China in 2018. Its main business is the R&D, production and sales of LED lighting equipment. The company currently has 45 employees, including five senior management personnel, 15 R&D personnel, 20 marketing personnel, and five after-sales service personnel. D&H’s business covers China, the United States (US), Germany, the United Kingdom (UK), Singapore, Malaysia, France, Chile, Brazil, the United Arab Emirates (UAE) and other countries. With stable product output and high-quality service, the company has won the trust of a large number of domestic and foreign customers and established good business partnerships. D&H company is a very young SME.

Figure 1. D&H company organizational structure
3.2. Analysis of D&H company external environment

3.2.1. PEST analysis

Political environment factors

Since the implementation of the “Belt and Road” strategy, countries along the route have launched matching strategies to connect with it, which provides policy guarantees for the economic and trade of both countries (Liang, 2018). However, there are many unstable factors in the international political environment, and the political situation in some countries along the route is turbulent. The intensified competition between major powers has increased the political risk of corporate internationalization (Wu, 2019). The trade barriers of some countries have also had a negative impact on the internationalization of Chinese SMEs. In recent years, the trade disputes between China and the US have seriously affected Chinese companies’ expansion into the US market, as well as global economic and trade exchanges. On the other hand, the Chinese renminbi (RMB) is gradually accepted by more countries in international trade, which is conducive to the international development of Chinese enterprises. The Chinese government has adopted corresponding policies to continuously reduce taxes and burdens, facilitate electronic customs clearance, and fully support the international development of enterprises (Zhu & Wang, 2020).

Economic environment factors

Affected by COVID-19, the global economic recovery was sluggish, foreign demand slowed down and countries experienced slow economic growth. The Russia-Ukraine war affects geopolitical security and also affects the global supply chain, which affects the plan of Chinese companies in the Eastern European market. On the other hand, trade protectionism is prevalent around the world, and some governments have set up tariff barriers to hinder free trade and make global economic recovery more difficult (Yang et al., 2020). On the domestic front, after COVID-19, the Chinese government adopted a double-circulation policy to enhance the economy’s internal circulation capacity and promote external circulation, in the hope of recovering the domestic economy as soon as possible.

Social environment factors

China’s population growth is slowing down and the demographic dividend is gradually disappearing. The ageing of China’s population is accelerating, with nearly 20% of the country’s population aged 60 and over. The employment is down across the country due to the impact of COVID-19. On the other hand, due to the popularization of education, the education level of China’s working population has been greatly improved. Among them, the number of Chinese overseas students has increased significantly. They have good foreign language proficiency, international careers, and mastered the necessary skills for industrial development (Chao, 2016). This provides sufficient human resources for China’s economic development in the post-COVID-19 era and also provides an important guarantee for the international development of Chinese enterprises.

Technical environment factors

More than 90% of the global LED industry is in China. China has a complete industrial chain, lower labor costs, and a more mature logistics system, which has huge advantages over other countries (Li & Gammelgaard, 2014). On the other hand, the development of the Internet has promoted the rise of e-commerce, and the development of e-commerce has changed the way people consume. With the emergence of mobile payment, e-commerce has also occupied more and more market share. During the COVID-19 period, in order to avoid the spread of the virus, countries have adopted strict measures to control population movement and gathering, which also promoted the birth of “cloud exhibitions”. Technological innovation has also provided important support for the international development of Chinese enterprises.

Figure 2. D&H company PEST analysis

- The trade dispute between China and the US will seriously affect the development of the global economy.
  - Geopolitical instability due to the Russo-Ukraine war.
  - RMB internationalization enhances the internationalization capabilities of Chinese enterprises.
  - Government policies support the international development of enterprises.

- China’s aging population accelerates and the demographic dividend disappears.
  - The employment rate has declined due to the impact of COVID-19.
  - The popularization of higher education provides sufficient human resources for China’s economic development.
  - There is an urgent need for economic recovery in post-COVID society.

- Trade protectionism hinders global economic recovery.
  - The willingness of enterprises to invest has decreased after COVID-19.
  - The Russo-Ukraine war led to a rise in commodity prices.
  - The Chinese government adopts policies to expand domestic demand.

- China’s complete industrial chain is an international advantage.
  - Lower labor costs and a mature logistics system create conditions for internationalization.
  - Cross-border e-commerce has changed people’s shopping habits.
  - Technological innovations such as AI and cloud exhibitions help international development.
3.2.2. Analysis of external factor evaluation matrix

After a comprehensive analysis of the above external factors, a semi-structured interview was conducted with the management of D&H company. First, the company’s five senior management personnel, two R&D personnel, two marketing employees, and one after-sales employee, a total of ten people, discuss and formulate the weight points for each item, and then vote for each item separately, and finally, a weighted score is calculated as the average of the ten given results for each item. Key factors are assigned weights from 0.0 (unimportant) to 1.0 (very important), with influence ratings from 1 (moderate) to 4 (significant), and so on. Finally, the following external factor evaluation matrix table is obtained after summarizing and sorting out.

<table>
<thead>
<tr>
<th>Table 1. D&amp;H company external factor evaluation matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Opportunity</strong></td>
</tr>
<tr>
<td>1. The Chinese government promotes the “made in China 2025” plan.</td>
</tr>
<tr>
<td>2. The Belt and Road initiative expands trade channels for Chinese and foreign companies.</td>
</tr>
<tr>
<td>3. The internationalization of RMB reduces the transaction cost of enterprises.</td>
</tr>
<tr>
<td>4. The post-COVID-19 economy needs to recover.</td>
</tr>
<tr>
<td>5. China has a complete range of industries.</td>
</tr>
<tr>
<td>6. Development of artificial intelligence big data technology.</td>
</tr>
<tr>
<td>7. China signed free trade agreements with many countries.</td>
</tr>
<tr>
<td>8. The rapid development of the LED industry has a large market space.</td>
</tr>
<tr>
<td><strong>Threats</strong></td>
</tr>
<tr>
<td>1. China-US trade dispute affects companies’ expansion into overseas markets.</td>
</tr>
<tr>
<td>2. Geopolitical instability due to the Russia-Ukraine war.</td>
</tr>
<tr>
<td>3. Trade protectionism hinders internationalization.</td>
</tr>
<tr>
<td>4. Declining global demand due to COVID-19.</td>
</tr>
<tr>
<td>5. China’s population is ageing and the demographic dividend is disappearing.</td>
</tr>
<tr>
<td>6. COVID-19 leads to increased unemployment in China.</td>
</tr>
<tr>
<td>7. The Russia-Ukraine war leads to higher energy prices.</td>
</tr>
<tr>
<td>8. Significant exchange rate fluctuations increase foreign trade risks.</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Based on the above external environment evaluation matrix, D&H’s score is 2.96, exceeding 2.5. Generally speaking, it is appropriate to deal with the current external environment. In the future, it is necessary to assess the situation and ensure the matching of strategy and environmental changes. Among the challenges and threats facing D&H, trade disputes are the biggest threat to the development of the industry. The trade war launched against China is an aspect that D&H should focus on when formulating its development strategy.

3.3. Analysis of D&H company internal environment

3.3.1. Company analysis

Fundamental analysis

D&H company is located in Dongguan, a coastal city in the Guangdong-Hong Kong-Macao Greater Bay Area. The area where the company is located has complete industries, convenient transportation and logistics, a large number of SMEs, and an active economy. D&H employees are of reasonable age. Five (5) percent of employees are over 40 years old, 35% are 30–40 years old, and 60% are 20–30 years old (see Figure 3). It is a young and energetic SME.

D&H company regards the market and products as the core competitiveness of the enterprise. While investing heavily in product research and development, the company insists on synchronous and coordinated development of the market and products. D&H company has its own patents and brands in China, vigorously promotes domestic and foreign markets, and quickly establishes a market and popularity in the domestic market.

![Figure 3. D&H company age distribution of staff](image_url)

The company has developed long-term cooperative dealers in 38 large, medium and small cities across the country, providing development momentum and guarantee for the company’s internationalization. In the international market, by participating in well-known exhibitions in the industry, D&H quickly developed international distribution cooperation with overseas customers. At present, it has business contacts with more than 50 countries around the world, and 15 major countries have signed cooperative dealers.
**Analysis of the current state of internationalization**

Although D&H has business relations with many countries around the world, due to the short period of globalization, it has not formulated a systematic internationalization strategy. From the perspective of trade volume, China is still the largest single market, accounting for 30%, and other international markets account for 70%. The company’s current internationalization method is single, all relying on export trade. After developing to a certain level, it encountered obstacles to improvement, such as:

1. lack of in-depth cooperation, 2) lack of support for the local market, 3) inability to effectively manage distribution agencies, and 4) insufficient transnational service capabilities. In terms of international talents, the company simply recruited some foreign trade practitioners, but lacked a systematic international human resource management and training system, and the construction of international talents was in the exploratory stage. In addition, D&H does not have a clear international market positioning, and basically every region in the world has carried out market activities, and market awareness is insufficient. The company’s brand and patents have not yet been established in the international market, and overseas distributors are not motivated enough to promote them. At the same time, the lack of management mechanisms to discipline and incentivize overseas distributors has slowed the growth rate of the overall overseas market.

### 3.3.2. Analysis of internal factor evaluation matrix

After the same semi-structured interview with the management of D&H company, it summarizes the internal factors of D&H company’s international development and conducts IFE matrix analysis.

**Table 2. D&H company internal factor evaluation matrix**

<table>
<thead>
<tr>
<th>Internal factors</th>
<th>Weights</th>
<th>Score</th>
<th>Weighted score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Integration of production and research, leading technology and functions.</td>
<td>0.08</td>
<td>3</td>
<td>0.24</td>
</tr>
<tr>
<td>2. Self-owned factory, strong manufacturing and delivery capabilities.</td>
<td>0.07</td>
<td>4</td>
<td>0.28</td>
</tr>
<tr>
<td>3. The existing domestic market share has an advantage.</td>
<td>0.05</td>
<td>2</td>
<td>0.10</td>
</tr>
<tr>
<td>4. Employees are young, energetic and creative.</td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
</tr>
<tr>
<td>5. Diversification of online and offline marketing channels.</td>
<td>0.05</td>
<td>2</td>
<td>0.10</td>
</tr>
<tr>
<td>6. Strict cost control brings cost leadership.</td>
<td>0.06</td>
<td>3</td>
<td>0.18</td>
</tr>
<tr>
<td>7. Pricing advantage is conducive to quickly occupying the market.</td>
<td>0.04</td>
<td>2</td>
<td>0.08</td>
</tr>
<tr>
<td>8. Mature industrial chain integration capabilities.</td>
<td>0.06</td>
<td>3</td>
<td>0.18</td>
</tr>
<tr>
<td>1. Insufficient international management capabilities and poor risk response capabilities.</td>
<td>0.07</td>
<td>2</td>
<td>0.14</td>
</tr>
<tr>
<td>2. Insufficient brand international awareness and recognition.</td>
<td>0.06</td>
<td>1</td>
<td>0.06</td>
</tr>
<tr>
<td>3. The international quality management system needs to be improved.</td>
<td>0.08</td>
<td>1</td>
<td>0.08</td>
</tr>
<tr>
<td>4. Lack of international professionals.</td>
<td>0.07</td>
<td>2</td>
<td>0.14</td>
</tr>
<tr>
<td>5. Incomplete construction of international sales channels.</td>
<td>0.05</td>
<td>1</td>
<td>0.05</td>
</tr>
<tr>
<td>6. Insufficient communication and coordination with overseas distributors.</td>
<td>0.06</td>
<td>2</td>
<td>0.12</td>
</tr>
<tr>
<td>7. Insufficient patent construction for product and technology internationalization.</td>
<td>0.06</td>
<td>2</td>
<td>0.12</td>
</tr>
<tr>
<td>8. Insufficient tracking of after-sales service in overseas markets.</td>
<td>0.07</td>
<td>1</td>
<td>0.07</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1.00</strong></td>
<td></td>
<td><strong>2.15</strong></td>
</tr>
</tbody>
</table>

D&H only scored 2.15 in the evaluation of internal environmental factors, far below the average level. Although the company performed well in production, R&D and domestic sales, it faced many problems in international development. For example, the awareness of internationalization is not enough, the internationalization talents are insufficient, the internationalization management system is not perfect, the internationalization method is too single, etc. Therefore, it is extremely important to carry out international operation and formulate a systematic international strategy.

## 4. EMPIRICAL RESULTS

After analyzing the internal and external environmental factors facing D&H’s internationalization, sorting out the SWOT situation matrix, enumerating the company’s internationalization strengths (S), weaknesses (W), opportunities (O), threats (T), and through the strengths-opportunities (SO), strengths-threats (ST), weaknesses-opportunities (WO), weaknesses-threats (WT) cross-analysis, as shown in Table 3.
Table 3. D&H company internationalization SWOT situation analysis matrix

<table>
<thead>
<tr>
<th>Strengths (S)</th>
<th>Weaknesses (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Integration of production and research, leading technology and functions.</td>
<td>1. Insufficient international management capabilities and poor risk response capabilities.</td>
</tr>
<tr>
<td>2. Self-owned factory, strong manufacturing and delivery capabilities.</td>
<td>2. Insufficient brand international awareness and recognition.</td>
</tr>
<tr>
<td>3. The existing domestic market share has an advantage.</td>
<td>3. The international quality management system needs to be improved.</td>
</tr>
<tr>
<td>4. Employees are young, energetic and creative.</td>
<td>4. Lack of international professionals.</td>
</tr>
<tr>
<td>5. Diversification of online and offline marketing channels.</td>
<td>5. Incomplete construction of international sales channels.</td>
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<tr>
<td>6. Strict cost control brings cost leadership.</td>
<td>6. Insufficient communication and coordination with overseas distributors.</td>
</tr>
<tr>
<td>7. Pricing advantage is conducive to quickly occupying the market.</td>
<td>7. Insufficient patent construction for product and technology internationalization.</td>
</tr>
</tbody>
</table>

**Opportunity (O)**

1. The Chinese government promotes the “Made in China 2025” plan.
2. The Belt and Road initiative expands trade channels for Chinese and foreign companies.
3. The internationalization of RMB reduces the transaction cost of enterprises.
4. The post-COVID-19 economy needs to recover.
5. China has a complete range of industries.
7. China signed free trade agreements with many countries.
8. The rapid development of the LED industry has a large market space.

**Strengths-opportunities (SO) combination**

1. With the help of China’s mature industrial chain, the company’s rich industrial experience advantages, strengthen the advantages of enterprise production and research integration and cost advantages, and expand market share.
2. Seize the macro policy opportunities of Made in China 2025 and One Belt One Road, and accelerate the layout of overseas markets.
3. Seize the opportunity of upgrading the commercial display industry, give full play to the advantages of cost leadership, deepen market competition, and increase market share.

**Weaknesses-opportunities (WO) combination**

1. Seize the opportunities of industrial foundations and provide support for overseas sales system, and establish a regional services center.
2. Deepen cooperation with distributors in the host country, improve service capabilities, and gradually establish a national International management system.
3. Strengthen and improve product design, improve R&D and innovation capabilities, accelerate international patent layout, establish and improve quality management system.
4. Accelerate and strengthen the construction of an internal control management system, and improve the professional quality of the marketing team and service team.

**Threats (T)**

2. Geopolitical instability due to the Russia-Ukraine war.
3. Trade protectionism hinders internationalization.
5. China’s population is ageing and the demographic dividend is disappearing.
6. COVID-19 leads to increased unemployment in China.
7. The Russia-Ukraine war leads to higher energy prices.
8. Significant exchange rate fluctuations increase foreign trade risks.

**Strengths-threats (ST) combination**

1. Persist in R&D investment, build up its own patent intellectual property reserves, give full play to the advantages of industrial chain integration capabilities, adhere to the “cost leadership” corporate strategic concept, create leading standardized products for the industry, and reduce customer use and management costs.
2. Carry out regional investment, joint ventures and cooperation to reduce geopolitical risks, trade war risks and ageing risks.

**Weaknesses-threats (WT) combination**

1. Insufficient international management capabilities and poor risk response capabilities.
2. Insufficient brand international awareness and recognition.
3. The international quality management system needs to be improved.
4. Lack of international professionals.
5. Incomplete construction of international sales channels.
6. Insufficient communication and coordination with overseas distributors.
7. Insufficient patent construction for product and technology internationalization.
8. Insufficient tracking of after-sales service in overseas markets.

The main advantages of D&H mainly include industry experience, a mature and complete supply chain, fast and flexible delivery capabilities, and relatively low labor costs in China. Opportunities come from the macro environment such as the upgrading of China’s manufacturing industry and the Belt and Road initiative. Threats come from fierce competition in the industry and changes in the external economic and political environment. The lack of international management ability and experience, as well as serious shortcomings in the construction of international channels, are important tasks that D&H needs to start to improve.

The SWOT situation analysis shows four directional combinations, which are SO, ST, WO, and WT combinations. According to the correlation induction and the development goals of D&H Company, the following three internationalization strategies are sorted out:

**Internationalization strategy (A) of localization construction of the whole industry chain:** 1) seize the opportunity of industrial innovation and upgrading, 2) give full play to the advantages of the company’s integration of production and research, 3) carry out localized brand building through localized production methods, and 4) at the same time complement the international market and service localization capabilities, 5) comprehensively enhance the company’s industrial competitiveness.

**Internationalization strategy (B) of capacity asset:**  Through the joint venture model, the company’s high-quality production capacity advantages are quickly transferred to the target market country. While avoiding the company’s lack of international talents and management capabilities, it combines local high-quality enterprise resources to achieve localized production and
services, and gradually builds an international management system in the process of cooperation. 

Internationalization strategy (C) of centering on the country's exports: 1) strengthen the construction of the internal control management system, 2) carefully carry out international business operations before having international management capabilities, and 3) develop and build a distribution system through the establishment of overseas sales service centers.

Conduct a semi-structured interview with the management of D&H company again, and use the QSPM to objectively compare and evaluate the three strategic alternatives A, B, and C obtained by SWOT. Firstly, the results and weights of internal and external factors are listed in the QSPM matrix. The alternative strategies summarized by the SWOT matrix are then listed for evaluation. Then determine the strategic attractiveness scores (attractiveness scores [AS]) corresponding to the environmental factors, and calculate the total attractiveness score (total attractiveness scores [TAS]), which is equal to the weight multiplied by the attractiveness score. Finally, the sum of the total attractiveness score (STAS) is calculated by adding the TAS from the ‘Alternative strategy’ column (Table 4).

Table 4. D&H company quantitative strategic planning matrix analysis

<table>
<thead>
<tr>
<th>Key factors</th>
<th>Opportunity</th>
<th>Threats</th>
<th>Strengths</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weights</strong></td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>AS</td>
</tr>
<tr>
<td>1. <strong>The Chinese government promotes the &quot;Made in China 2025&quot; plan.</strong></td>
<td>0.08</td>
<td>2</td>
<td>0.16</td>
<td>4</td>
</tr>
<tr>
<td>2. <strong>The Belt and Road Initiative expands trade channels for Chinese and foreign companies.</strong></td>
<td>0.09</td>
<td>2</td>
<td>0.18</td>
<td>3</td>
</tr>
<tr>
<td>3. <strong>The internationalization of RMB reduces the transaction cost of enterprises.</strong></td>
<td>0.05</td>
<td>2</td>
<td>0.10</td>
<td>3</td>
</tr>
<tr>
<td>4. <strong>The post-COVID-19 economy needs to recover.</strong></td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
<td>3</td>
</tr>
<tr>
<td>5. <strong>China has a complete range of industries.</strong></td>
<td>0.06</td>
<td>2</td>
<td>0.12</td>
<td>3</td>
</tr>
<tr>
<td>6. <strong>Development of artificial intelligence big data technology.</strong></td>
<td>0.06</td>
<td>3</td>
<td>0.18</td>
<td>4</td>
</tr>
<tr>
<td>7. <strong>China signed free trade agreements with many countries.</strong></td>
<td>0.05</td>
<td>2</td>
<td>0.10</td>
<td>3</td>
</tr>
<tr>
<td>8. <strong>The rapid development of the LED industry has a large market space.</strong></td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
<td>3</td>
</tr>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weakenesses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. <strong>Integration of production and research, leading technology and functions.</strong></td>
<td>0.08</td>
<td>3</td>
<td>0.24</td>
<td>4</td>
</tr>
<tr>
<td>2. <strong>Self-owned factory, strong manufacturing and delivery capabilities.</strong></td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
<td>3</td>
</tr>
<tr>
<td>3. <strong>The existing domestic market share has an advantage.</strong></td>
<td>0.05</td>
<td>4</td>
<td>0.20</td>
<td>4</td>
</tr>
<tr>
<td>4. <strong>Employees are young, energetic and creative.</strong></td>
<td>0.07</td>
<td>3</td>
<td>0.21</td>
<td>4</td>
</tr>
<tr>
<td>5. <strong>Diversification of online and offline marketing channels.</strong></td>
<td>0.05</td>
<td>2</td>
<td>0.10</td>
<td>3</td>
</tr>
<tr>
<td>6. <strong>Strict cost control brings cost leadership.</strong></td>
<td>0.06</td>
<td>3</td>
<td>0.18</td>
<td>3</td>
</tr>
<tr>
<td>7. <strong>Pricing advantage is conducive to quickly occupying the market.</strong></td>
<td>0.04</td>
<td>2</td>
<td>0.08</td>
<td>2</td>
</tr>
<tr>
<td>8. <strong>Mature industrial chain integration capabilities.</strong></td>
<td>0.06</td>
<td>3</td>
<td>0.18</td>
<td>4</td>
</tr>
<tr>
<td><strong>Opportunity</strong></td>
<td><strong>Weakenesses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. <strong>Insufficient international management capabilities and poor risk response capabilities.</strong></td>
<td>0.07</td>
<td>2</td>
<td>0.14</td>
<td>4</td>
</tr>
<tr>
<td>2. <strong>Insufficient brand international awareness and recognition.</strong></td>
<td>0.06</td>
<td>2</td>
<td>0.12</td>
<td>3</td>
</tr>
<tr>
<td>3. <strong>The international quality management system needs to be improved.</strong></td>
<td>0.08</td>
<td>2</td>
<td>0.16</td>
<td>4</td>
</tr>
<tr>
<td>4. <strong>Lack of international professionals.</strong></td>
<td>0.07</td>
<td>1</td>
<td>0.07</td>
<td>3</td>
</tr>
<tr>
<td>5. <strong>Incomplete construction of international sales channels.</strong></td>
<td>0.05</td>
<td>2</td>
<td>0.10</td>
<td>4</td>
</tr>
<tr>
<td>6. <strong>Insufficient communication and coordination with overseas distributors.</strong></td>
<td>0.06</td>
<td>1</td>
<td>0.06</td>
<td>3</td>
</tr>
<tr>
<td>7. <strong>Insufficient patent construction for product and technology internationalization.</strong></td>
<td>0.06</td>
<td>2</td>
<td>0.12</td>
<td>3</td>
</tr>
<tr>
<td>8. <strong>Insufficient tracking of after-sales service in overseas markets.</strong></td>
<td>0.07</td>
<td>2</td>
<td>0.14</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2.00</strong></td>
<td><strong>4.54</strong></td>
<td><strong>6.07</strong></td>
<td><strong>5.41</strong></td>
</tr>
</tbody>
</table>

From the QSPM analysis, it can be seen that strategic option B (capacity asset internationalization strategy) has the highest score of 6.67 points. Based on the general trend of globalization development, the penetration of the international market is an extension of the strength of enterprises, and it is also the necessary path for Chinese enterprises to participate in competition in the dual-cycle market. It is difficult to obtain industrial competitiveness in the international market by adopting the traditional export mode. At the same time, in view of the fact that the current enterprises do not have sufficient resources and capabilities for the construction of the entire industrial chain of international localization, the joint venture model can maximize the competitiveness of enterprises in the international market while minimizing investment. Therefore, plan B is more suitable for the company’s medium and long-term development strategy.
5. DISCUSSION

In the future, D&H will realize the international development strategy of production capacity assets through three stages. In the first stage, it is necessary to build and maintain continuous product competitiveness, take advantage of industrial upgrading opportunities, and realize product specialization capabilities. In terms of market development, establish a distribution system for international trade. In the second stage, transfer and upgrade from basic export trade to regional international operation, find suitable joint venture partners, gradually select suitable countries and regions for investment in production capacity assets, further strengthen the construction of local distribution system, and initially build an international service system. The third stage is to realize the transformation and upgrading to the global value chain division of labor, realize diversified operations, international manufacturing and production, international market services, and international operation management.

<table>
<thead>
<tr>
<th>Development outlook</th>
<th>The first stage</th>
<th>The second stage</th>
<th>The third stage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objective</strong></td>
<td>Complete the product layout and build a regional distribution system.</td>
<td>Improve regional product technical services.</td>
<td>Realize global product technical service.</td>
</tr>
<tr>
<td><strong>Development focus</strong></td>
<td>Improve the establishment of a product quality system internally. Establish a national and regional dealer system in key cities to build an international market foundation.</td>
<td>Based on the construction of the dealer system, carry out the layout of regional service agencies, and realize the local support and development of local projects by dealers.</td>
<td>Establish local market, logistics, after-sales and other service capabilities, deeply develop the local market, and further improve the local dealer management system.</td>
</tr>
</tbody>
</table>

The three stages of the internationalization development strategy developed for D&H are also in line with the general pattern of academic research on the internationalization development of enterprises. That is, the three stages of internationalization mentioned in the previous literature review: 1) direct export, 2) establishment of overseas agents, and 3) foreign direct investment. This also verifies that the internationalization theory is in line with the application of D&H in practice. Based on the formulation of the stages of development, implementation measures are proposed for D&H from four perspectives.

**Talent perspective:** First of all, personnel training should be carried out. All employees of the company are required to know and recognize the internationalization strategy, and different trainings should be formulated for different departments, and relevant experts should be hired to carry out lectures and exchanges. At the same time, the company should organize management and employee representatives to visit excellent multinational companies from time to time to learn advanced management concepts and international business experience. On the other hand, the company needs to introduce outstanding talents from society and universities, and can sign cooperation agreements with universities in related fields to provide various talents for the company.

**Product perspective:** Increase investment in research and development. Continue to introduce advanced production equipment, rely on the scientific research and technology of large enterprises, and innovate product categories. At the same time, increase product differentiation and diversity, and broaden the width and depth of products. In the past, the company produced all low-end and mid-end products, so we can try to produce high-end customized products. Because the products want to enter the international market, we can design different product packaging for different markets, so that the packaging has an international style, so that our products are fashionable and more attractive to local consumers.

**Market perspective:** Change marketing concepts and enhance marketing capabilities. Company managers and employees should change the traditional marketing concepts of the past, take the initiative to conduct in-depth market research, segment and position the market, and always pay attention to the international market dynamics, especially the market dynamics of the target market, and formulate different marketing plans for different market conditions. The company should carry out regular trainings on product sales, market analysis, marketing planning, and marketing management capabilities for marketing personnel, especially training on international marketing, so as to better meet the needs of international development. In addition, the company should increase its publicity to enhance its international reputation. The company can increase the exposure rate of its products and enhance its international reputation through exhibitions, advertisements, social media, web pages, etc.

**Risk perspective:** In the process of international development, the company first needs to identify the risks existing in the host country. Professional risk assessment agencies can be hired to analyze and evaluate the possibility of risk occurrence, and countries with lower risk levels are given priority to carry out activities such as international trade. At the same time, a risk warning mechanism should be established. While establishing a risk management prevention and control system, the company should consciously strengthen the ability to collect and identify information, establish a contextual system dynamic monitoring and early warning mechanism for international business risks, pay close attention to and analyze the company’s key performance indicators in a timely manner, and formulate emergency plans in advance and control plans, prompting major risks in a timely manner.
6. CONCLUSION

This paper is based on a comprehensive assessment of the macro and micro environments by PEST and SWOT, and a scientific assessment of the competitive environment and situation of the enterprise by EFE and IFE internal and external environmental factors assessment tools, to fully understand the strengths and weaknesses, opportunities and challenges faced by D&H in the globalization competition, and to determine the development strategy and formulate relevant measures to look forward to the further development by means of QSPM analysis.

In addition, this article only discusses the internationalization issues of a specific SME in China in a specific industry, and does not apply to all industries. Based on the common characteristics of SMEs with international vision and lack of experience, this paper has not been able to propose more advanced and innovative solutions internationalization model. This is also the limitation of this article.

The first significance of this article is to analyze the advantages and disadvantages of D&H company itself, the opportunities and threats of the external environment, and formulate a suitable internationalization strategy and implementation plan. On the other hand, it is based on the theory of internationalization strategy formulation and management, as well as the experience of successful internationalization cases, to explore and summarize the paths and methods for SMEs to achieve internationalization in an increasingly complex international environment. The third meaning of this article is to hope that through this research, it can provide a certain reference for relevant academic research and business practice.

After ten years of development of the "Belt and Road" cooperation initiative, global economic activities have become highly integrated, and the need for division of labor in the value chain has become increasingly obvious (Xiong, 2021). China has concentrated the world's huge industrial advantages. China's SMEs should take advantage of the trend and seize the opportunity of globalization. We must seize opportunities, take advantage of the division of labor in the value chain, and "go global" with our industrial production capacity advantages. Only by participating in global industrial competition can enterprises gain a foothold in the future.

REFERENCES


APPENDIX. SEMI-STRUCTURED INTERVIEWS FOR D&H COMPANY INTERNATIONALIZATION STRATEGY

Part I. Basic information:
1. Your educational background is?
2. Your working years in the company?
3. Do you have experience working in an international company?
4. Are you proficient in a foreign language?

Part II. The current company’s internationalization strategy:
1. Do you understand the company’s internationalization strategy?
2. How did you learn about the company’s internationalization strategy?
3. Do you think the company’s current internationalization strategy is feasible?
4. Do you think it is necessary for the company to formulate a feasible internationalization strategy?

Part III. Problems and views on the company’s internationalization:
1. Do you think the company’s internationalization strategy model is single?
2. Do you think there is a shortage of resources in the company’s operation?
3. Do you think there are product quality problems in the company’s operation?
4. Do you think there is a problem of insufficient funds in the operation of the company?
5. Do you think there is any problem of insufficient management ability in the operation of the company?
6. Do you think there is a lack of research and development capabilities in the company’s operation?
7. Do you think there is any problem of insufficient marketing ability in the operation of the company?
8. Do you think there is a shortage of talents in the company’s operation?

Part IV. Suggestions for internationalization of company:
1. How do you think the company will enter the international market?
2. How do you think the company develops the international market?
3. How do you think the company can improve its talent pool?
4. How do you think the company can improve its research and development capabilities?
5. Any other suggestions?