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Feasibility Analysis of Listing of Weifang Liyang New Material Co., Ltd. in Shandong Province

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Abstract

Weifang Liyang New Material Co., Ltd. was officially established on June 27, 2011. Its main business is the R & D, production and sales of polyvinyl alcohol (PVA) and its derivatives. The company uses advanced ERP resource management system for control. This paper mainly analyzes whether the company meets the listing requirements of small and medium-sized board from the perspectives of relevant national policies, product gap at home and abroad, factors affecting industry development and risks of the company. The analysis shows that the company has the main conditions for listing on the gem.

Keywords

Polyvinyl alcohol • Vinylon Industry; SWOT analysis; PEST analysis.

1. Introduction

Weifang Liyang New Material Co., Ltd., founded in 2011, is an important chemical joint manufacturing enterprise in Shandong Province. Its main business is the R & D, production and sales of polyvinyl alcohol (PVA) and its derivatives, with total assets of more than 8 billion yuan. The origin of the company is distributed in Shandong, Jiangsu, Anhui and other places. The company has mature enterprise production capacity, and the production and sales of products have been in the forefront of the same industry in China for many years; Polyvinyl butyral (PVB) resin and film are in the forefront in China, and PVA optical film is the first in China. The company is a new material technology enterprise, with a number of R & D institutions, as well as scientific and technological workstations and studios. Weifang Liyang New Material Co., Ltd. is located in Shandong Province. According to geographical advantages and policy support, it has strategic advantages. This paper analyzes the financial situation, industry development, risks faced by industry development and influencing factors of industry development of Weifang Liyang New Material Co., Ltd., so as to judge whether the company has the main conditions for listing.

2. Financial Analysis

The main methods of enterprise financial analysis include ratio analysis, comparative analysis and trend analysis [1]. This section mainly analyzes from the perspective of statements in combination with the specific situation of Weifang Liyang New Material Co., Ltd.

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2.1. Analysis of financial statements

2.1.1. Balance sheet

This paper mainly analyzes the balance sheet of Weifang Liyang New Material Co., Ltd., and analyzes the rationality, composition, increase and decrease of its balance sheet structure. By analyzing the company's balance sheet, we can deeply understand the company's financial situation and short-term solvency. This part mainly makes a comparative analysis of the balance sheets in recent three years. The details of the company's assets and liabilities are shown in the following table:

Table 1. Balance sheet of Weifang Liyang New Material Co., Ltd. main indicators (Unit: Yuan)

Assets	2019	2018	2017
Current assets			
Monetary Fund	5,996,749.78	3,051,177.51	11,461,521.75
Short term investment			
Notes receivable	1,019,280.00	1,216,500.00	600,000.00
Accounts receivable	19,592,920.29	7,920,604.67	4,469,918.75
Less: provision for bad debts	97,964.60	39,603.02	22,349.59
Net accounts receivable	19,494,953.69	7,861,001.65	4,447,569.16
Prepayment	2,903,910.64	5,292,752.60	5,400,334.15
Other receivables	1,623,119.43	4,357,552.76	402,117.91
Deferred expenses	223,032.65	305,873.00	382,341.00
Stock	22,830,773.97	29,608,885.22	33,568,247.05
Total current assets	54,091,822.16	51,713,742.74	56,262,121.02
long-term investment			
long-term investment			
Fixed assets			
Original value of fixed assets	318,382,389.61	234,482,718.95	165,671,218.74
Less: accumulated depreciation	146,443,643.22	85,154,055.83	68,224,697.11
Net value of fixed assets	171,938,746.39	149,328,663.12	97,446,521.63
Liquidation of fixed assets			
Construction in progress	59,000,150.67	50,583,266.24	63,286,007.65
Net loss of fixed assets to be disposed			
Total fixed assets	230,938,897.06	199,911,929.36	160,732,529.28
Intangible assets and deferred assets			
Intangible assets	1,420,000.00		
Deferred assets	2,818,920.00	3,523,650.00	173,118.07
Total intangible assets and deferred assets	4,238,920.00	3,523,650.00	173,118.07

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Total Assets	289,269,639.22	255,149,322.10	217,167,768.37
Liabilities and shareholders' equity			
Current liabilities			
Short term loan	16,300,000.00	31,800,000.00	1,800,000.00
Notes payable	8,000,000.00		
Accounts payable	10,387,416.01	2,484,144.43	2,889,299.63
Advance payment	3,548,267.27	2,212,775.94	3,755,042.43
Other payables	16,091,680.40	15,685,895.71	11,494,237.62
Taxes payable	2,188,452.58	3,850,674.69	2,703,398.79
Welfare payable	3,080,921.86	2,127,294.16	744,402.86
Unpaid dividends			
Other unpaid expenses	531,723.34	143,515.11	525,861.96
Accrued expenses	471,306.24	6,814,127.22	5,104,592.23
Total Current Liabilities	60,599,767.70	65,118,430.26	29,016,835.52
Long term liabilities			
Long term loan	90,970,000.00	91,022,344.09	95,780,945.06
Long term accounts payable			
Total long-term liabilities	90,970,000.00	91,022,344.09	95,780,945.06
Total liabilities	151,569,767.70	156,140,774.35	124,797,780.58
Shareholders' equity			
Equity	90,000,000.00	88,295,079.78	88,295,079.78
Capital reserve	47,699,871.52		
Surplus reserve	10,713,467.97	4,074,908.01	
Including: public welfare fund	3,571,155.90	1,358,302.67	
Undistributed profit			
Total equity	137,699,871.52	99,008,547.75	92,369,987.79
Total liabilities and shareholders' equity	289,269,639.22	255,149,322.10	217,167,768.37

2.1.2. Income statement

The analysis of the income statement is mainly to understand how an enterprise organizes revenue, controls costs and obtains profits [2]. The income statement of Weifang Liyang New Material Co., Ltd. in recent three years is as follows:

Table 2. Profit statement of Weifang Liyang New Material Co., Ltd. main indicators (Unit: Yuan)

Project	2019	2018	2017
1. Main business income	299,853,371.10	303,562,130.21	185,137,870.62
Less: operating costs	226,535,978.93	205,493,820.09	135,135,532.00

Selling expenses	1,257,793.94	1,229,328.20	798,784.19
Administrative expenses	8,137,492.33	16,600,242.56	5,887,638.58
Financial expenses	6,102,696.98	12,640,021.84	2,117,624.73
Business tax and surcharges	1,420,945.61	1,689,858.85	892,158.36
2. Main business profit	56,398,463.61	65,908,858.67	40,316,132.76
Plus: other business profits	1,786,486.17	98,713.12	219,212.17
3. Operating profit	58,184,949.48	66,007,571.79	40,535,344.93
Plus: investment income			
Non operating income	420,077.08	52,123.50	18,346.13
Less: non operating expenses	58,077.04	4,372.25	7,343.70
Add: profit and loss adjustment of previous years			
4. Total profit	58,546,942.52	66,055,323.04	40,546,348.36
Less: income tax	19,320,491.03	21,798,256.60	13,380,294.96
5. Net profit	39,226,451.49	44,257,066.44	27,166,053.40

3. Industry Development Overview

In China, polyvinyl butyral (PVB) has been studied for a long time, but its development is slow and the product quality is not high. It is mainly used in coatings, adhesives and other fields. Therefore, no high-quality PVB products have been found on the automobile safety glass diaphragm. In recent years, the investment and construction of PVB resin and PVB intermediate production lines have been continuously strengthened, and the domestic PVB production capacity has been continuously improved. After some enterprises produced PVB resin by themselves, the intermediate membrane produced by domestic PVB has been guaranteed to a certain extent, and the production capacity has been released. In addition, PVA optical film has a good application prospect. At present, thin film transistor liquid crystal display (TFT-LCD) has a huge sales volume in the world and at home. The final demand of TFT-LCD also determines the application market prospect of PVA optical film. Therefore, on the basis of rapidly accelerating the process of industrial structure upgrading and industrial transformation, China has entered a key stage of development driven by neat structural adjustment and rapid transformation and upgrading. Every enterprise in the market should make active use of resource allocation, adapt to the industrial field of national development, develop new products with market potential, film materials and develop PVB resin and PVA optical film business [3].

3.1. Industry manufacturing scale

3.1.1. PVB resin industry scale

(1) Overview. According to statistics, 270000 tons of PVB resin were used worldwide in 2008, with a market scale of about US $2.2 billion. According to the preliminary market expectation, the demand for this product will increase at an average annual rate of 6%. With the development of China's automobile, photovoltaic and construction industries, the domestic market has a huge demand for PVB. From the use of glass glue, the proportion of composite glass in the whole glass is much lower than that in other countries. It is estimated that the capacity of China's PVB market will exceed 500000 tons in 2021, including more than 150000 tons of PVB for membrane and more than 60000 tons of PVB for other industries.

(2) Automobile industry. PVB resin is an indispensable material in automobile industry. PVB film is mainly composed of PVB resin. It is usually used as the middle layer of safety glass and is mainly used for front pane. PVB film has high transparency and good safety. In addition, the

use of PVB composite glass in automobile installation is also based on its characteristics of anti-theft, anti ultraviolet, anti ultraviolet, energy saving and other properties. With the continuous development of China's automobile industry, in addition to meeting the basic needs of consumers, China also exports cars to Africa, Latin America and other regions together with automobile manufacturers. According to the data of China Automobile Industry Association in 2013, China exported 948500 vehicles this year. In the future, with the gradual expansion of the scale of China's automobile industry, the number of automobile exports will continue to increase.

(3)) photovoltaic industry. PVB has a wide range of applications. In addition to the common automotive and construction industries, it can also be used in the production of photovoltaic panels. Its principle is to firmly connect the two by using solar cells and the surface of solar cells. In today's market, elastomer material EVA plays an important role in the field of sealing materials. Because PVB has good adhesion, strength, impact resistance, non corrosiveness, transparency, inorganic acid and grease resistance, light resistance, cold resistance and aging resistance to glass, it has attracted more and more attention and is an ideal material to replace EVA. With the support of national chemical fiber and chemical industry policies and the improvement of enterprise factory operation, China's photovoltaic industry has gradually improved, which is very conducive to the development of PVB industry.

3.1.2. Scale of PVA optical film industry

(1) Overview. PVA optical film is closely related to the application prospect of terminal products (TFT-LCD). The continuous development of TFT-LCD industry and the demand of end users for TFT-LCD determine the demand of PVA optical film. As the mainstream flat panel display technology, liquid crystal display is widely visible in many fields, such as LCD-TV, notebook, tablet computer, mobile phone and so on. At present, the global and domestic TFT-LCD shipments are huge, and the demand for TFT-LCD terminals is large, which brings huge space for the application market prospect of PVA optical film. ①Development of spherical liquid crystal display market. TFT-LCD has the advantages of low power consumption, long service life, thin volume, light weight and excellent picture quality. It is widely used in various electronic display devices. Among them, TV, PC and mobile phone are the most widely used fields of display panel, which have great potential in future market development. The demand for new scientific and technological products such as large public displays and medical specific displays may bring volcanic growth. At the same time, the demand for display panels has a strong positive correlation with the global economy, and the demand growth power is strong.②Development of LCD industry in China. In recent years, China's LCD panel has expanded rapidly, and the global production capacity has accelerated to the mainland of China. As China has the world's largest consumer group and market space, the LCD panel industry has a great chance to have a perfect and complete infrastructure system in the future, and will become the terminal of global LCD production capacity. According to the prediction of display search, during the "14th five year plan" period, China's panel display industry is expected to increase from the current global proportion of 5% to 20%, and maintain an average annual growth rate of 30%. The "14th five year plan" will be five years of rapid development of domestic panel display industry. ③Market demand of PVA optical film industry. With the increasing output of generation LCD panel production line year by year, the demand for PVA optical film in the Chinese market is also expanding. In 2013, China's demand for PVA optical film will reach 9000 tons, equivalent to about 96 million square meters, accounting for about 30% of the global demand for PVA optical film in the same period. By 2015, China's demand for PVA optical film will reach 14000 tons, equivalent to about 150 million square meters, accounting for about 35% of the global demand for PVA optical film in the same period.

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3.2. Industry status

3.2.1. Membrane industry demand

The main products of film materials are PVA optical film, PVB resin and PVA optical film, which are respectively used in automobile, construction, photovoltaic and other industries and TFT-LCD liquid crystal display of LCD-TV, computer, notebook, mobile phone and other consumer products. At present, it is difficult for China to produce PVB resin and PVA optical film independently, because both technologies are monopolized by a small number of foreign manufacturers, so China can only use imported products for in-depth processing and reuse. However, the price of such purchased finished products is expensive, which makes the import amount very large. PVB resin and PVA optical film independently developed and produced by film materials can effectively replace imports, reduce the cost of enterprises, enhance their competitiveness, have greater advantages and have a very good market prospect.

3.2.2. Industry problems and key measures of the enterprise

(1) In terms of raw material procurement in the industry, the price rise of high technology may affect the cost of the company. Weifang Liyang New Material Co., Ltd. mainly adopts contract supply, agreement supply and other measures to keep the source and price of raw materials relatively stable. Relying on high-quality coal mines and convenient transportation, the company has convenient access to coal and coke for production and low cost. In addition, the company will adopt more perfect management methods and stricter assessment methods, and use emerging technologies and more energy-saving materials to reduce energy consumption and control product production costs.

(2) In terms of the development speed of the industry, the market competition is becoming increasingly fierce. It needs some efforts to survive in the hands of strong competitors. Weifang Liyang New Material Co., Ltd. has a variety of products, comprehensive and perfect specifications and certain technical force. It optimizes the product structure, vigorously develops high-tech products, improves the company's ability to improve product technology, improves the competitiveness of products in the market, and reduces the risks caused by industry adjustment.

(3) When facing the foreign exchange market, it is impossible to accurately estimate the trend of the foreign exchange market. Weifang Liyang New Material Co., Ltd. will pay close attention to the foreign exchange market, actively carry out foreign exchange hedging business, and select a currency favorable to the company for pricing and settlement, so as to avoid foreign exchange risk.

(4) In the technical field of the industry, immature technology will make it difficult to produce products. Weifang Liyang New Material Co., Ltd. is the main research and development unit of the production technology of ultra-high strength and high modulus PVA fiber products, and is very familiar with the production technology. In the production process, the company will continue to strengthen scientific research and technological innovation, focus on key links, make key breakthroughs, and constantly improve and develop the technology, so as to ensure the smooth production of such high-tech products.

3.2.3. Industry specific risks

(1) Production and operation risks. The raw materials required by Weifang Liyang new materials Co., Ltd. in production and operation mainly include acetic acid, limestone, methanol, caustic soda, sulfuric acid, etc., and the energy required is raw coal, coke and electricity. In addition to limestone using local resources to meet the production needs of the company, acetic acid, methanol, caustic soda, raw coal, coke, etc. mainly rely on the market supply, and the electricity also mainly uses the market price electricity. Therefore, the supply and price rise of raw materials, fuel and electricity will directly affect the production cost of the company's

products. Weifang Liyang New Material Co., Ltd. is a chemical and chemical fiber production enterprise with long production process and many process links. It has high requirements for all links in the whole production process [4]. The failure of some important links or major equipment may affect the product output, quality and consumption.

(2) Raw material price fluctuation risk. The main raw materials of PVB resin and PVA optical film are PVA. PVA is one of the products in the chemical fiber industry. Under the stable change of the development cycle of the chemical industry and the change of market supply and demand, the price of PVA will also be affected and change accordingly. If the price fluctuation range of raw material PVA is large, it may have a certain impact on the future production and profit of membrane materials.

(3) Technical risks of high-tech projects. Weifang Liyang New Material Co., Ltd. invested in three projects with the funds raised from the allotment. These three projects belong to the "double high" projects with high-tech content and high added value. Among them, the production technology of ultra-high strength and high modulus PVA fiber series products currently belongs to the world advanced level. Although Weifang Liyang New Material Co., Ltd. has completed the research, development and pilot test of this kind of products, and the production process is relatively mature, it does not rule out the technical difficulties in individual links.

4. Industry Competition

4.1. Risk analysis

4.1.1. Risk of rising prices of energy and raw materials

The total cost of main raw materials, energy calcium carbide and coal of Weifang Liyang new materials Co., Ltd. accounts for more than half of the company's main cost. The price fluctuation of these raw materials will directly affect the company's profits. In recent years, the prices of coal, calcium carbide and other products have remained stable, and the oil price remains high, which restricts the development of enterprises producing PVA by petroleum ethylene method. However, with the expansion of PVA application field, the product price has increased significantly, and the profit space of the company has gradually increased.

The main product PVA of Weifang Liyang New Material Co., Ltd. is produced by calcium carbide acetylene method, which belongs to the process route of coal chemical industry. In 2020, the main raw materials and energy such as calcium carbide, coal and electricity used by the company in the production of PVA accounted for 29.31%, 26.17% and 5.64% of the main operating cost respectively. The fluctuation of the price of these raw materials and energy will affect the profitability of the company's products. The company has the risk of fluctuation of gross profit margin due to the fluctuation of the price of main raw materials and energy.

In order to prevent the risk of rising prices of calcium carbide, coal, electricity and other main raw materials and energy, Weifang Liyang new materials Co., Ltd. mainly takes the following measures: first, the company increases scientific research investment, reduces the unit consumption level of raw materials and reduces the production cost of products through technological innovation. For example, the company's invention patent - large memory synthesis reactor has the function of improving production efficiency and reducing unit consumption of products. The implementation of PVA energy-saving technical transformation project newly invested by the company will save 25.92 million yuan per year, which is conducive to the company's control of energy consumption level. Second, the procurement department of the company actively conducts market research, widely collects price information of raw materials and energy, and implements bulk bidding for centralized procurement of main raw materials and energy, so as to reduce the procurement cost of raw materials. Third, the company adheres to the concept of circular economy and takes the road of gradient development of energy and comprehensive utilization of resources. Changing simple

heating to power generation before heating greatly improves the thermal efficiency and reduces the unit energy consumption of the product. At present, Weifang Liyang New Material Co., Ltd. basically realizes the recycling of industrial water, and the reuse rate of water resources exceeds 95%. Through technical transformation, the company purified and recovered the waste gas of closed calcium carbide furnace. As boiler gas, the company saved more than 10000 tons of standard coal every year, effectively reducing the production cost of PVA. Fourth, the company's proposed fund-raising project - technical transformation project of methyl acetate to acetic anhydride has the function of energy saving and consumption reduction [5]. The operation of the project will help the company control the level of energy consumption.

4.1.2. Exchange rate risk

All the high strength and high modulus PVA fibers produced by Weifang Liyang New Material Co., Ltd. are used for export. At the same time, some new and special PVA varieties have also gone to the international market. In recent years, the company has increased its export marketing efforts, and the total export revenue and its proportion in the company's main business revenue have increased rapidly. As the reform of RMB exchange rate formation mechanism in 2020 leads to RMB appreciation, RMB will continue to appreciate with the sustainable development of China's economy. With the further expansion of the company's business scale and the further improvement of export market share, the change of exchange rate will have a certain impact on the company's income.

4.1.3. Asset liquidity and solvency risk

In recent years, Weifang Liyang New Material Co., Ltd. has developed rapidly and its asset scale has expanded rapidly. Affected by the operation characteristics of the industry, the company has a large proportion of fixed asset investment and more bank loans. As of December 31, 2020, the company's current ratio and quick ratio are 0.40 and 0.27 respectively. The company has certain asset liquidity and solvency risks. However, the company's operating cash flow is in good condition. In 2020, the company's cash flow from operating activities per share was 1.06 yuan. Good cash flow can effectively resolve the above risks.

4.1.4. Risk of market segmentation

Weifang Liyang New Material Co., Ltd. will continue to implement the marketing strategy of "adjusting new and old users, adjusting use industries and adjusting sales areas" to enhance its rapid response to market demand. The company also strengthened its marketing efforts from both internal and external aspects: internally, the company vigorously promoted the "marketing responsibility system" in the sales department, strengthened the incentive and restraint mechanism, and strengthened market development; Externally, the company will continue to adopt fixed-point sales and expand sales agents to consolidate the traditional market. In addition, the company also uses electronic information means to actively develop e-commerce, a modern marketing method, and break through the regional restrictions of market sales.

4.1.5. Environmental risk

Weifang Liyang New Material Co., Ltd. is a chemical production enterprise. The main product PVA is produced by calcium carbide acetylene method, which belongs to the coal chemical process route. Certain industrial wastewater, waste residue and waste gas will be produced in the production process. If effective measures are not taken to control it, it will have a certain impact on the surrounding environment. The company's investment in environmental protection management has increased the operating cost of the enterprise. Weifang Liyang New Material Co., Ltd. strictly abides by relevant national policies and regulations in terms of environmental protection, and has taken positive countermeasures in combination with its own characteristics. Through the development of circular economy, the comprehensive

utilization and sustainable development of the company's resources have been realized, which not only fully solved its own environmental protection problems, but also created considerable economic and social benefits. Cement clinker products take the lead in solving the pollution problem of industrial waste residue, so that the waste residue produced in the process of chemical production can realize comprehensive utilization of resources. The company has successively built environmental protection projects such as recycling of carbide slag wastewater and fly ash wastewater, improved and eliminated backward high water consumption production processes, basically realized the recycling of production water, and the reuse rate of water resources exceeded 95%. Through technical transformation, the company purifies and recovers the waste gas from closed calcium carbide furnace. As boiler gas, the company saves more than 10000 tons of standard coal every year. On January 16, 2006, the company passed ISO14001 environmental management system certification.

4.1.6. Product market development risk

At present, the main products of Weifang Liyang New Material Co., Ltd. are PVA and high-strength PVA fiber. Polyvinyl alcohol (PVA) is a water-soluble polymer with a wide range of applications. It is non-toxic and harmless. It has unique characteristics such as adhesion, smoothness and colloidal protection. It is widely used in chemical, printing, papermaking, construction and other industries. As an auxiliary raw material for the production of synthetic fiber, plastic, adhesive, coating and new building materials, PVA has been widely used in food preservation, safety glass, liquid crystal panel, medicine and other fields in recent years. At present, more than 20 countries and regions in the world produce PVA, with a total unit production capacity of 1.1 million tons / year and an output of about 930000 tons / year. Asia is the PVA manufacturing center, and China is a large PVA producer and consumer. The development speed and consumption demand of PVA are in direct proportion to the development of the national economy. With China's entry into WTO, China's economy has ushered in a new accelerated development, and the use of PVA in construction, textile and other industries is increasing. Since 2001, China has become a net importer of PVA, with an average annual import volume accounting for 7-8% of the industry output. It is expected that the import will remain at this level in the next few years. In the field of PVA, the company is one of the best batch, continuous and stable manufacturers of high-performance differentiated PVA in China. The broad development space of the industry provides a strong guarantee for the company's future profitability.

4.2. Competitor analysis

At present, there are 13 sets of PVA production units in China, with a total production capacity of 550000 tons / year, ranking first in the world. Weifang Liyang New Material Co., Ltd. will produce 78400 tons in 2020, with obvious scale advantages. In addition, Weifang Liyang New Material Co., Ltd. has a rich variety of PVA products, with more than 40 varieties with different alcoholysis degrees, and is equipped with high alkali, low alkali and kettle production lines. In addition, most of the special PVA varieties with polymerization degree from 400 to 500 and polymerization degree above 2800 in China are produced by Weifang Liyang New Material Co., Ltd. , therefore, the company has a certain monopoly advantage.

5. Influencing Factors of Industry Development

5.1. Favorable factors

5.1.1. Strong support from national industrial policies

Made in China 2025 puts forward the strategy of building a strong manufacturing country, strengthens the research and development of basic and special materials, supports the promotion and application of key basic materials, speeds up the transformation and upgrading

of green manufacturing industry, and promotes the efficient recycling of resources The new material industry with functional polymer materials as the development focus is one of the key industries in China in the future. PVA and its derivatives produced by Weifang Liyang new materials Co., Ltd. comply with relevant national industrial policies and have broad prospects for product development. The national development and Reform Commission has put forward the requirements of breaking through the industrialization of main technologies in key areas of manufacturing industry and implementing the industrialization of main technologies in many key areas such as major technical equipment. It is included in the document of accelerating the development of China's advanced manufacturing industry and promoting the deep integration of Internet, big data, artificial intelligence and real economy. The key technology of new materials is to accelerate the industrialization of key technologies of functional membrane materials in advanced organic materials, and focus on the development of polyvinyl butyral adhesive film and other products. These policies are conducive to the development of Weifang Liyang New Material Co., Ltd.

5.1.2. Industrial technology has competitive advantages

In the past development, Weifang Liyang New Material Co., Ltd. has increased the number of invention patents, realized industrialization, and has strong scientific and technological innovation and independent R & D capability. In the same industry, the company has made many technical application achievements and developed modified PVA fiber for concrete; Independent research and development of high strength and high modulus PVA fiber; Develop functional polyvinyl alcohol; PVA by-products were developed and industrialized; Using the waste residue in PVA production process to take the road of green circular economy; Breaking the traditional utilization mode; Fill the domestic gap of PVA related technology. The high value-added products independently developed by the company have created a number of excellent achievements in the industry. The company has led the process technology of green circular economy and become a brand product with a number of independent intellectual property rights, which plays a leading and reference role in the circular economy of the whole province and common enterprises across the country. The domestic sales of PVA products of Weifang Liyang New Material Co., Ltd. ranks in the forefront of the industry, and the independently developed process line also has a certain leading position in the world. After years of development, the company has won an advantage in market competition. The continuous strengthening of scientific and technological innovation and the continuous improvement of product quality have laid a solid foundation for the development and creation of new products.

5.1.3. Sustainable development opportunities for downstream industries

After years of fierce competition among industries, the PVA product market has gradually concentrated on advantageous enterprises with strong R & D ability and high market share, and the downstream industry has the opportunity for sustainable development. The continuous improvement of concentration will enhance the development advantage of PVA products of Weifang Liyang new materials Co., Ltd. in market competition. With the continuous development of China's economy and the increase of export trade volume, it is necessary to promote new technologies and products and expand and update broader fields. At the same time, because imported products are gradually replaced by domestic traditional products, the continuous expansion of PVA product demand gives this industry new development opportunities. Through technological innovation, Weifang Liyang New Material Co., Ltd. can break the industry characteristics of the basic balance between supply and demand of domestic ordinary PVA products, and make a great contribution to the profit growth of the developed high-end polyvinyl alcohol products. With the rapid development of downstream industries, Weifang Liyang new materials Co., Ltd. has gradually strengthened its research and development of PVA products. The production technology of high value-added products is

becoming more and more mature, filling in a number of gaps in domestic technical capacity, and continuously putting it into the market to observe benefits, so as to contribute to improving the main market share and realizing most of the import substitution, The downstream market of domestic PVA industry will also be further developed and expanded.

5.1.4. Advantages of management innovation

China is in the key period of changing its development mode, and the long-term good trend of China's economy has not changed. These policies have created favorable conditions for the stable growth of the real economy and the continuous development of the company. In recent years, the industry of polyvinyl alcohol and Vinylon Industry in China has been constantly updated, the main basic pattern of the industry has been basically formed, and the gradual progress of new technologies and processes has promoted the long-term development of products. Weifang Liyang New Material Co., Ltd. makes full use of its advantages to improve its market share. The main economic benefits and enterprise production capacity increase year by year.

5.1.5. Market environment brings opportunities to chemical industry

Polyvinyl alcohol • Vinylon Industry is a sub industry of the chemical industry and has a wide demand. It is mainly used in adhesives, textile pulp, papermaking and so on. With the continuous application and exploration of new technologies, new processes and new uses, polyvinyl alcohol vinylon also has a wide application prospect in film, soil conditioner, environmental protection and other industries. In the future, the development trend of the industry is to continue to develop towards high-precision products and high value-added special products, which are mainly used in fields with special requirements. China ranks first in PVA production capacity and output in the world. In the future world development, polyvinyl alcohol production technology is still dominated by ethylene method and acetylene method. Most foreign enterprises use ethylene method, but acetylene method still plays a leading role in domestic enterprises. In the future, the production capacity of other countries or regions will gradually decrease, and the capacity of Chinese mainland will continue to increase. However, the competition in the traditional PVA product market is still very serious. International production giants have turned to the downstream extension industry of PVA to produce high value-added extension products and withdraw from the traditional product market. China's position in the global traditional PVA product market is becoming more and more important. In recent years, foreign old PVA manufacturers no longer increase PVA production capacity, but instead develop new downstream application materials. The domestic PVA industry has basically completed the first round of reshuffle. At present, the domestic polyvinyl alcohol production capacity has formed a weak balance between supply and demand. At the same time, the disorderly competition of enterprises in the industry has brought great obstacles to the development of the industry. In the future, domestic PVA production capacity competition is still very fierce. China's polyvinyl alcohol • Vinylon Industry is a fully market-oriented competitive industry. With the continuous emergence of new technologies and processes, product import substitution, product upgrading and expansion of new application fields will inject vitality into the PVA industry.

5.1.6. Strengthen environmental protection policies

Affected by the new national environmental protection regulations, capacity removal policies and the soaring raw materials such as coal, calcium carbide, methanol and acetic acid, the product cost has increased, while the downstream demand has not changed much, resulting in the prominent contradiction between production and marketing. However, due to the completion of the integration of the domestic PVA industry and the increasingly rational production and sales of major manufacturers, the price of PVA products has gradually increased since the beginning of the year, The overall trend is upward. In 2018, the price of PVA products

increased by 18.83% compared with 2017. Affected by the product supply and demand structure, the overall supply exceeds demand in the domestic market, the demand for conventional varieties is not strong and the operation is insufficient, but the medium and high-end varieties show a steady upward trend, and the market demand is strong.

5.2. Adverse factors

5.2.1. Project risk

The investment project must carry out market survey, feasibility demonstration and research and analysis results. However, due to the influence of market environment, timeliness, technological progress and macro policies, the project investment of Weifang Liyang New Material Co., Ltd. is uncertain.

5.2.2. Supply risk of energy and raw materials

The production process of acetylene method leads to high energy consumption and large fluctuations in raw material prices. It belongs to an industry with high dependence on energy and resources. Although over the years, Weifang Liyang new materials Co., Ltd. has done a lot of work in energy conservation and emission reduction and the development of circular economy, and achieved good results, there are still risks in the supply of energy and raw materials.

5.2.3. Risk of market competition

Due to the high technical content of PVA optical film, the global market and PVA raw material market for film are mainly monopolized by Japan, and the remaining 20% is almost mastered by Japanese synthetic chemistry. At present, China is in a state of complete competition, and the competition has gradually intensified, which will bring challenges and risks to the development of Weifang Liyang New Material Co., Ltd. With the continuous transfer of global LCD production capacity to China, the competition in the domestic polarizer market is becoming increasingly fierce, major manufacturers are more strict in cost control, and the demand for the localization of upstream raw materials is becoming increasingly urgent. VAE emulsion has permanent softness, water resistance, weather resistance, low temperature resistance, and versatile adhesives for various polar and non-polar materials, among which adhesive is the most widely applied field of VAE emulsion. China is the most powerful country in the market of VAE emulsion, but there are still many defects in domestic demand.

5.2.4. Technical risks

There is still a gap in the internal quality of domestic PVA products compared with foreign products, especially the functional application of polyvinyl alcohol has not been effectively solved, which seriously restricts the expansion of PVA application field. In the future, domestic PVA products will mainly develop in the direction of high scientific and technological content and high added value, such as high-end polyvinyl alcohol for membrane and high-end PVB resin for membrane, so as to completely solve the problem that high-end polyvinyl alcohol is heavily dependent on imports and inefficient production capacity. At present, the domestic polyvinyl alcohol industry as a whole has weak R & D ability and weak innovation ability, so it can not have a certain style in the fierce and cruel competitive market. Foreign enterprises have always controlled high value-added polyvinyl alcohol products. Therefore, only by strengthening scientific research, launching high-quality products, improving their market competitiveness and squeezing the market space of foreign products to the greatest extent, can the domestic polyvinyl alcohol industry promote the development and growth of China's polyvinyl alcohol industry. The company needs to continue to increase investment in scientific research, deepen cooperation with colleges and universities and improve the sustainable and stable R & D capacity of new products. However, due to the great difficulty and complexity of the technology itself, Weifang Liyang New Material Co., Ltd. may have problems in technology.

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5.2.5. Risks of environmental protection policies and safety production

With the full implementation of the sustainable development strategy, the national awareness of environmental protection has been continuously strengthened. The implementation of the new environmental protection law shows that the state attaches importance to environmental protection. The production and operation of Weifang Liyang New Material Co., Ltd. is accompanied by the discharge of three wastes, but incorrect treatment may bring environmental pollution to the environment and affect the company's image. The company's special treatment for the discharge of "three wastes" caused by accidental factors is unstable and has certain risks.

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