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# NS TECHNOLOGY

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## ABSTRACT

NS Technology co., LTD., specializing in inflatable waterborne flame retardant varnish. The company's products are safe and environmentally friendly, with a wide range of application. Under the premise of ensuring the fire protection effect, the original beauty of the coating is maintained. "Affinity, sincerity, mutual benefit and inclusiveness, people-oriented" is the company's purpose. "Innovation, green, open, win-win" is the corporate culture. Being close to employees, treating customers sincerely, adhering to the principle of mutual benefit, inclusiveness and promoting cooperation are the general principles leading our company to move forward steadily and prosper. The company is located in the Yangtze River Delta region, with Jiaxing as the center, connecting Jiangsu, Zhejiang and Shanghai. The payback period of the project is 1.60 years, NPV value is 23,915,400 yuan, IRR is 36.40% and PI=1.24, It is a city cluster and a huge economic block. Jiangsu, Zhejiang and Shanghai are centers of science and technology and culture as well as economic centers. Developing Jiangsu, Zhejiang and Shanghai will have a positive impact on the development of the surrounding areas. It is geographically superior and is a kind of green and environmentally friendly modern company.

**Keywords:** Waterborne flame retardant varnish, Green, Environmental protection

## INTRODUCTION & COMPANY DESCRIPTION

NS Technology Co., LTD., where "NS" stands for nature and science, the company's products are water-based products to meet the decorative and flame retardant needs of wood products, but also green. NS science and technology, at the embroidery of the city, in living to carve one meng, all show green quiet, in peace. NS technology, is the crystallization of the collective wisdom of our company, the interpretation of our company's most real humanistic portrayal.

### **Industry Analysis**

#### **Porter's five Forces analysis**

##### **The threat of entry by potential entrants**

Technical advantages

There are high barriers to entry. The development of flame retardant varnish industry needs a lot of technology and experiments.

##### **Buyer's bargaining power**

Bargaining advantage

The bargaining power of suppliers is weak. Because most of the flame retardant varnish industry inputs are homogeneous.

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### **Bargaining power of the supplier**

Part of the increase from the supplier is passed on to the customer

End consumers of flame retardant varnishes are price-conscious and more green and health-conscious, but the impact on the company's profit margins has not been extremely negative.

### **The threat of substitutes**

There is little space for newcomers

The flame retardant varnish industry is highly competitive and growing slowly, so there is little room for new entrants who do not have an absolute advantage.

### **Competition from competitors in the industry**

Distinct differentiation

Brands are very successful in product differentiation, which virtually prevents buyers from switching brands.

### **Market Analysis & Marketing Plan**

#### **S Strengths**

S1 product technology advanced, excellent flame retardant effect

S2 Advantages of entrepreneurial team

S3 comprehensive sales model

The S4 is widely applicable and in high demand

#### **W Weaknesses**

W1 entered the market late and lost the initiative

W2 company has weak capital strength and poor living environment

#### **O opportunity**

O1 Promote the construction of ecological civilization, supported by national policies

O2 enjoys stable economic growth and good development prospects

O3 consumption concept changes, and green environmental protection becomes the mainstream

#### **T Threats**

T1 has a variety of similar brands and bears certain competitive pressure

T2 new market entrants need to increase their market share

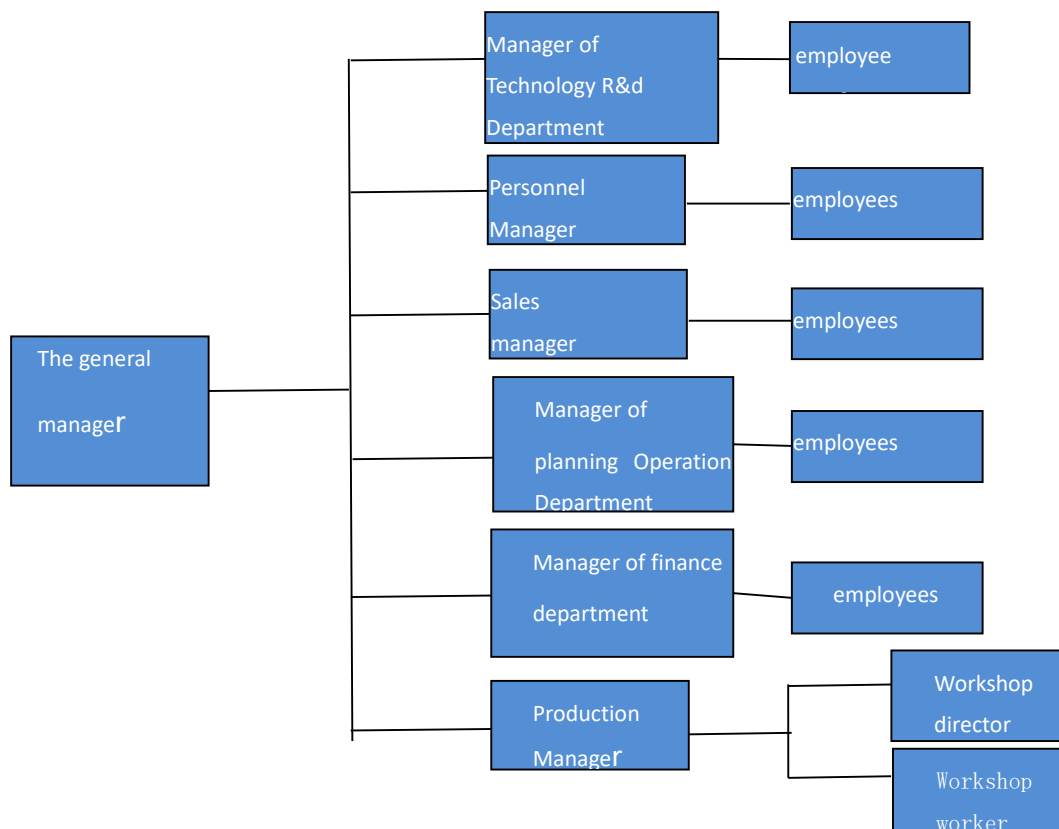
The company has strong internal advantages and numerous external opportunities, so it should take the growth strategy of giving full play to advantages, taking advantage of opportunities and being aggressive. It decides to adopt the strategy of combining S1O2, S3O2, S4O2 and other strategies to seize opportunities and quickly open the company's market by taking advantage of its own advantages.

Develop the sales target of NS company according to the company strategy. Sales target is divided into three stages: early stage, middle stage and late stage. Each stage of the company entering the market has its own characteristics, and the specific objectives are shown in the table: Market development objectives

**Table 1** Market development objectives

The target	strategy
In the early	Promote the company in Jiangsu, Zhejiang, Shanghai and Jiaying to establish the image of the company and win a certain market share
Mid -	On the basis of the early promotion results, with the help of the government's driving force and the support of relevant policies, the publicity to the urban areas of the country
In the late	Develop new products, expand the market development space, increase the company's competitiveness in the market, become the technology leader in the fireproof waterborne paint industry. Develop domestic market, establish brand image, increase brand effect, quickly occupy market share

**Management Team and Company Structure**



**Operations & Production Plan**

According to market research and customer needs, in order to better establish the brand and corporate image, the company in the establishment of customer service center on the basis of the majority of consumers to provide pre-sale service, sale service, after-sales service.

(1) Pre-sales service: fully understand the demand of the target market through the preliminary market survey.

(2) In-sale service: Sales personnel patiently introduce product performance to customers and explain in detail how to use the product.

(3) After-sales service: the company will provide guidance in the process of use for

consumers who buy the company's products. Free door-to-door delivery service will be provided in Baoding.

### FINANCIAL ANALYSIS & FEASIBILITY ANALYSIS

The registered capital of the company is 5 million yuan, of which 1.5 million yuan is self-raised by the entrepreneurial management team, 1 million yuan is invested by the patented technology, and 2.5 million yuan is invested by two or three venture capital companies. Since the company has a large demand for funds in the initial stage of establishment, it is expected to borrow 3 million yuan for the company's debt bearing capacity and future development.

Net present value method

$$NPV_t = -CF_0 + \frac{CF_{1,t}}{(1+r)^1} + \frac{CF_{2,t}}{(1+r)^2} + \dots + \frac{CF_{n,t}}{(1+r)^n}$$

**Table 2** Net present value calculation

Preparation Unit: NS Technology Co., LTD. Unit: Ten thousand yuan						
project	At the beginning of 2022	In 2022,	In 2023,	In 2024,	In 2025,	In 2026,
Net cash flows	-800.00	460.29	561.87	715.90	954.49	1070.38
The discount rate		5.00%	5.00%	5.00%	5.00%	5.00%
The discount factor	1.000	0.953	0.907	0.864	0.823	0.784
Present value	-800.00	438.66	509.62	618.53	785.55	839.18
The net present value						2391.54

According to the CAPM model, the discount rate is 5%. The calculated NPV value is 23,915,400 yuan. Projects with a net present value greater than zero should be accepted according to the NPV rule.

Internal rate of return method

According to the cash flow statement and the following formula, the IRR can be calculated by trial value method:

$$\sum_{t=0}^n (CI - CO)_t (1 + FIRR)^{-t} = 0$$

**Table 3** Calculation table of internal rate of return

<b>Preparation Unit: NS Technology Co., LTD. Unit: Ten thousand yuan</b>						
<b>Item net cash flow Internal rate of return</b>	<b>At the beginning of 2022</b>	<b>In 2022,</b>	<b>In 2023,</b>	<b>In 2024,</b>	<b>In 2025,</b>	<b>In 2026,</b>
	-800.00	460.29	561.87	715.90	954.49	1070.38
						36.40%

The calculated IRR of the project is 36.40%, much higher than the discount rate of 5%, so we should accept the investment project.

Payback period method

Payback period (PP) = (positive year of accumulated net cash flow) - 1 + (absolute value of accumulated net cash flow of last year/current year's net cash flow)

**Table 4** Payback period calculation

<b>Preparation Unit: NS Technology Co., LTD. Unit: Ten thousand yuan</b>						
<b>project</b>	<b>At the beginning of 2022</b>	<b>In 2022,</b>	<b>In 2023,</b>	<b>In 2024,</b>	<b>In 2025,</b>	<b>In 2026,</b>
<b>Net cash flows</b>	-800.00	460.29	561.87	715.90	954.49	1070.38
<b>The payback period</b>						1.60 years

According to the calculation in the above table, the payback period of the project is 1.60 years, and the payback period of the project investment is short, so it is a considerable investment project.

**Profitability index**

$$\text{Index of the PI} = \frac{\text{Total present value of net cash flows for each year}}{\text{The total present value of the original investment}}$$

**Table 5** Calculation table of profitability Index

<b>Preparation Unit: NS Technology Co., LTD. Unit: Ten thousand yuan</b>						
<b>project</b>	<b>At the beginning of 2022</b>	<b>In 2022,</b>	<b>In 2023,</b>	<b>In 2024,</b>	<b>In 2025,</b>	<b>In 2026,</b>
<b>Net cash flows</b>	-800.00	460.29	561.87	715.90	954.49	1070.38
<b>Present value</b>	-800.00	438.66	509.62	618.53	785.55	839.18
<b>Index of the PI</b>						1.24

According to  $PI=1.24$ , the profit of this project is so substantial that it should be accepted.

### Sensitivity Analysis

**Table 6** Sensitivity analysis

Preparation Unit: NS Technology Co., LTD. Unit: Ten thousand yuan						
project	The product price		Production scale		investment	
Factor value change	- 10%	10%	- 10%	10%	- 10%	10%
Move the percentage						
The net present value	1019.04	3828.62	1267.99	3921.65	1924.23	3211.36
The net present value change	- 57.39%	60.09%	- 46.98%	63.98%	- 19.54%	34.28%
Move the percentage						
The internal revenue	26.00%	48.95%	33.56%	49.45%	37.23%	45.78%
The rate of						
The payback period	2.61	1.04	2.78	1.01	2.59	1.13

According to the analysis of the values obtained in the table, although the NPV of the three variables fluctuated greatly in the pessimistic case, the NPV was still greater than zero, the INTERNAL rate of return was greater than the discount rate, and the change of payback period was within an acceptable range. Therefore, we should accept the project through sensitivity analysis.

#### Break-even Analysis (taking 2022 as an example)

Break-even analysis is an analysis method to analyze the balance relationship between project cost and revenue through the break-even point (BEP). According to the calculation, the sales volume of the break-even point required for accounting profit is 360 tons. The estimated production and sales volume in the initial stage of the industry is 1,945 tons. When the actual sales volume reaches 18.51% of the estimated production and sales volume, the break-even can be achieved.

#### Comprehensive analysis

Based on the analysis of the above indicators, NPV and IRR, the main discounted financial indicators of the project, meet the requirements. The calculated NPV is much higher than zero, and IRR is much higher than the discount rate, indicating that the company's project has financial feasibility. By analyzing the payback period and discount payback period of the project, it is predicted that all the early investment can be recovered in 1.62 years, and the project will be less affected by unforeseen risks in the future. In order to predict the viability of

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the project when the economic environment deteriorates in the future, through the sensitivity analysis of the project, it is found that the company still has sustainable profitability when the economic environment is at a disadvantage and the change is no more than 10%. Based on the analysis of the above indicators, the company's project is fully financially feasible, with good indicators of profitability and anti-risk ability, and has a good development prospect.

## CONCLUSION AND FUTURE WORK

NS Technology will make rational use of various resources, grasp the opportunities in the industry, promote the rapid and stable development of the company, and quickly occupy a certain market.

(1) The company will take scientific and technological innovation as the core driving force for development, always pay attention to the leading technologies of relevant industries at home and abroad, and introduce new technologies while accelerating independent research and development to maintain the advanced technology of the industry.

(2) Increase investment in scientific and technological research and development, recruit excellent talents and establish first-class teams.

(3) Establish stable customer base and establish long-term strategic partnership with relevant industry leaders.

(4) Adopt growth-oriented development strategy to strengthen risk management in the operation process of the company.

(5) Implement diversified sales strategy and strive to open up international market.

(6) Make full use of national policies to reduce operating costs and accumulate company development funds.

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