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INFLUENCE OF ECOLOGICAL INNOVATION ON THE FINANCIAL PERFORMANCE OF STRATEGIC EMERGING INDUSTRIES

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Influence of Ecological Innovation on the Financial Performance of Strategic Emerging Industries

Haiyan SUN[1]

Abstract

The paper uses DEA model to evaluate the financial performance of strategic emerging industries, and uses regression model to analyze the impact of ecological innovation on financial performance. The research shows that R&D expenditure has a significant positive correlation with the financial performance of strategic emerging industries. The coefficient is 0.5036, which is a significant test. It shows that the greater the R&D investment of strategic emerging industries can promote the overall technical efficiency of the industry and promote the industry. The full-time equivalent of R&D personnel has significant financial performance for strategic emerging industries. The positive effect, the coefficient of elasticity is 0.4211, that is, the financial performance of the industry increases by 0.4211% for every 1% increase in R&D personnel's full-time equivalent, indicating that the investment in basic research can promote the improvement of corporate financial performance; the investment and strategy of environmental pollution control investment The financial performance of emerging industries is negatively correlated, with a coefficient of elasticity of -0.1567; education expenditures show a positive correlation, but the elasticity coefficient and significance level are low, and the elasticity coefficient is 0.0021, which passes the test at the 10% significance level. It has less impact on the financial performance of strategic emerging industries.

Keywords: ecological innovation, strategic emerging industry, financial performance, social responsibility, social performance.

Introduction

The State Council promulgated the "Opinions on Accelerating the Construction of Ecological Civilization" in April 2015. The "Opinions" put "ecological civilization construction" on the national agenda, which represents China's upcoming economic situation of reversing high energy consumption and starting the economy. A

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development model that continues to symbiosis with the environment. In China's vigorous development of strategic emerging industries, the national focus on ecological innovation is growing stronger. Ecological innovation is considered to solve the problem of sustainable economic development. In order to meet the needs of the people's construction of ecological civilization, relevant national ministries and commissions have issued relevant the documents show that the protection of the ecological environment will be the top priority of the 13th Five-Year Plan. As the most influential and potential industry in the 21st century, strategic emerging industries are the landing points for China to solve resource shortages and tap new economic growth points. As a basic industry for China's economic transformation and promoting green development, it has undoubtedly become a high-profile industry focus. However, China's strategic emerging industries started late, and each aspect faces a series of challenges and problems that need to be solved urgently, and its financial performance is the most basic problem. Financial performance is a measure of the state's support for strategic emerging industries and a measure of whether the company's internal operations are effective. The objectivity and accuracy of strategic emerging industry performance evaluation have great significance for the formation of a good competitive environment, the improvement of national policies, and the vital interests of stakeholders. Is there a relationship between ecological innovation and strategic emerging industry financial performance? The existence of a certain relationship has become the focus of academic attention. In view of this background, this paper takes the financial performance of listed companies in strategic emerging industries as the research object, evaluates its performance, and empirically analyzes the impact of ecological innovation on its financial performance, and verifies whether there is some kind of relationship between ecological innovation and financial performance of strategic emerging industries. Linkages provide a reference for the sustainable development of China's strategic emerging industries.

Literature review

Ecological innovation

At present, scholars have relatively more research on the evaluation of ecological innovation ability, and the focus is mainly on the three levels of enterprises, industries and regions. Regarding the evaluation of the ecological innovation ability at the enterprise level, for example, Li (2009) used the Analytic Hierarchy Process (AHP) to determine the weight of the evaluation indicators, and at the same time evaluated the ecological innovation ability of the pulp and paper enterprises; Li (2013) in Hunan Province Taking logistics enterprises as an example, the support vector machine model was used to evaluate its ecological

innovation ability; Tan (2015) proposed a new evaluation index system based on the perspective of innovation capability structure; Sun and Cao (2016) constructed Multi-program evaluation model to analyze the ecological innovation ability of enterprises; on the evaluation of ecological innovation ability at the industry level, Xu and Qu (2014) evaluated and analyzed the ecological innovation ability of China's manufacturing industry; Yao (2016) strategically on Anhui Province The ecological innovation ability of emerging industries was analyzed. The evaluation of ecological innovation ability at the regional level, Song et al. (2010) evaluated and analyzed the FDI ecological innovation ability of various provinces and cities in China; Cao, Shi, & Zhao (2016) empirically analyzed ecological innovation capability in 31 counties from China; Zhang (2016) considers resource and environmental constraints.

Strategic emerging industry financial performance aspects

Based on the analysis of grey theory, Zhang, He, & Wu (2010) established an evaluation index system and evaluation model that is in line with the characteristics of a strategic emerging industry in China's biomedical industry, with Jilin Tonghua Medical City, Shanghai Zhangjiang Medicine Valley, and Hunan Liuyang Biotechnology. The medical park industry group is the research object, and the empirical analysis is made. The article selects a second-level index of the first-level evaluation item, and uses the fuzzy majority decision-making model method to evaluate the program. Based on this, the gray correlation analysis method is introduced and proposed based on Grey Correlation Degree Fuzzy Multi-attribute Decision Making Model. Lu (2011) studies the innovation performance of strategic emerging industries by applying the micro-subject method in international innovation research, and believes that innovation performance and sales gross margin, total equity, the profit growth rate of the main business is significantly positively correlated, and the correlation with the innovation input and output of the enterprise is not obvious. He, Zhang, & Zhou (2010) used the analytic hierarchy process and fuzzy comprehensive evaluation method to empirically select and evaluate strategic emerging industries. Analysis, which quantifies the macroscopic and microscopic conditions of the region Processing and fuzzy operations reduce the subjectivity to a certain extent, making the evaluation more objective and scientific. After analyzing with relevant examples, the theoretical feasibility of the example is obtained (Huang *et al.* 2012). The economic effects and environmental effects put forward the evaluation indicators of the development effects of strategic emerging industries. The article briefly used relevant qualitative and quantitative analysis to provide reference for other relevant research. According to the author of the article, the article is only analyzed and judged in a thick line, which needs further revision and improvement. Dong (2012) used AHP to propose a complete set of evaluation system, from the advanced technology premise, potential market premise. The evaluation system is selected

by the direction of tie action, industrial substitution, comprehensive effect, etc., and the performance evaluation of strategic emerging industries is examined from the macro level. Xiao (2012) uses the balanced scorecard as the evaluation system. The performance evaluation system of strategic emerging industries is divided into financial dimensions, social responsibility dimension, internal business process dimension and learning growth potential dimension, using fuzzy evaluation method, analytic hierarchy process and factor molecular method to evaluate and analyze the relevant indicators of the above dimensions. Zhu and Xiao (2011) constructed using principal component analysis, a comprehensive evaluation model of financial performance, comprehensive evaluation of China's strategic emerging industries; the article selected a total of indicators of solvency, profitability, operational capability, development capability and research and development capabilities, the majority of the overall indicator system The role of innovation and intangible assets in the development of enterprises finally found that the comprehensive financial performance of listed companies in the industry in China accounted for a large proportion, the overall financial efficiency was not good, and the financial benefits of each company were not much different.

The relationship between ecological innovation and financial performance

Teece, Pisano, & Shuen (1997) pointed out that companies can transform heterogeneous resources into competitive advantages through dynamic capabilities, that is, integrating, constructing and reconfiguring internal and external resources to cope with the rapidly changing environment. Ecological innovation can also be seen as the company's dynamic capabilities. It evolves into the company's green capabilities along with organizational support, organizational actions and structures, ecological infrastructure and ecological technology. Brasil, Abreu, & Leocadio (2016) found through empirical research on the Brazilian textile industry that ecological product innovation will have a positive impact on economic performance, while the impact of ecological process innovation on economic performance is partly due to ecological product innovation, and ecological innovation can be used in different degrees. Increased resource use efficiency, regulatory compliance and reduction in sanctions costs, and increased reputation for corporate environmental leadership. In addition, scholars also pointed out that there is a general delay in the realization of the economic benefits of ecological innovation. Hart (1997) pointed out that the improvement of corporate environmental performance usually requires considerable internal and external integration and reconstruction processes, which prolongs the payback period of corporate investment pollution prevention. Li *et al.* (2017) believe that green innovation is not only an important way for enterprises to gain competitive advantage in the future, but also a basic requirement for enterprises to obtain legality. Reinhardt (1998) argues that green product innovation not only protects the natural environment, but also brings greater benefits than traditional products. Przychodzen & Przychodzen (2015) found that

ecological innovation inputs usually bring higher return on assets and return on shareholders' equity and less retained earnings. Jin (2011) selected more than 100 high-tech listed companies and found that R&D investment has a positive effect on the profitability and growth ability of China's high-tech enterprises.

In summary, we can find that there are few studies on the financial performance of eco-innovation and strategic emerging industries at home and abroad, most of which focus on the ecological efficiency of strategic emerging industries. In view of this paper, empirical analysis has verified the ecological innovation to strategic emerging industries. The impact of this, I hope to provide theoretical reference for the development of strategic emerging industries.

Estimation of financial performance of China's strategic emerging industries

Model Construction

This paper chooses data envelopment analysis to measure the financial performance of China's strategic emerging industries. This method is based on mathematical statistics planning theory and is the target decision-making method for evaluating multi-input and multi-output efficiency issues. The method can determine whether the efficiency value of each decision unit is valid. For the invalid decision unit or the weakly effective decision unit, the projection value analysis can be used to find out the cause of the gap and improve it accordingly. The data envelopment analysis evaluates the financial performance of each decision-making unit from a macro perspective, whether it needs to be adjusted, and find out the direction of adjustment.

The DEA analysis method is evaluated from the point of view that is most conducive to the decision-making unit (DMU). It emphasizes the optimization of the elements of each decision unit and can indicate the adjustment direction of the related metrics. Therefore, this paper uses the DEA principle to construct an analysis model for the financing efficiency of listed companies in China's new energy industry. Through an empirical analysis of the financing efficiency of listed companies in China's new energy industry, we will develop a strategy that will help improve the financing efficiency of Chinese new energy industry listed companies.

The DEA model refers to the "unit" or "department" to be evaluated as the DMU, and each $U_{DM_j}(j = 1,2,3,\cdots,\mathrm{n})U_{DM_j}(j = 1,2,3,\cdots,\mathrm{n})$ has r term inputs.$X_j = (x_{1j},x_{2j},\cdots,x_{rj})X_j = (x_{1j},x_{2j},\cdots,x_{rj})$and s term output $\mathrm{Y}_j = (y_{1j},y_{2j},\cdots,y_{sj})^T\mathrm{Y}_j = (y_{1j},y_{2j},\cdots,y_{sj})^T$, where $x_{mj}x_{mj}$represents the mth type of input of the jth $U_{DM_j}U_{DM_j}$The quantity, $y_{lj}y_{lj}$denotes the input quantity of

the jth $U_{DM_j}U_{DM_j}$, $x_{mj} > 0$, $y_{lj} > 0x_{mj} > 0$, $y_{lj} > 0$,m=1,2,3…,r, l=1,2,…,s_0. The construction model is as follows:

$$\min\theta_i:$$

$$\text{s.t.} \begin{cases} \sum_{j=1}^{n} \lambda_j X_j + s^- = \theta_i X_i, \text{i=1,2,…,n,} \\ \sum_{j=1}^{n} \lambda_j X_j - s^+ = Y_i, \text{i=1,2,…,n,} \\ \lambda_j \geq 0, \text{j=1,2,…,n,} \\ s^+ \geq 0,\ s^- \geq 0 \end{cases}$$

Where θ_i is the effective value of U_{DM_j}, and the closer the effective value is to 1, the more effective the input of this DMU is. The validity judgment method is: if θ_i=1, U_{DM_j} is called valid or weak effective for DEA. When $s^+ = s^- = 0$, $U_{DM_j}$is called DEA is valid; if θ_i<1, then $U_{DM_j}$is invalid for weak DEA. The input data slack variable is s^-, and s^-represents an input surplus, that is, an unused resource. If s^-≠0 indicates that the output is unchanged, the input can also reduce s^-; the output slack variable For s^+, s^+ means that there is insufficient output, and s^-≠ 0 means that if the input is constant, the output can also increase s^+. Therefore, if a DMU is not valid, DEA can be effectively adjusted by not writing input and output indicators. Assuming a fixed output level, the input variable is adjusted to:$\overline{X_i}$=$\theta_i X_i$-s^-; if Assuming a fixed input level, the output variable is adjusted to $\overline{Y_i}$=Y_i+s^+.

For the traditional DEA model, in the process of analyzing the eco-efficiency of tourism, multiple DEAs may be effective. At this time, their comprehensive technical efficiency index is θ=1, which makes it impossible to further evaluate the effective DEA of DEA. Therefore, the use of a super-efficiency model allows for a more in-depth production efficiency ranking of all DEA effective decision making units. When calculating the super-efficiency value of the DEA effective decision unit K, the principle is to exclude the DMUk from the model, and replace the input and output of the DMUk by the input-output linear combination of other decision units. The result of the solution is the decision unit. K's super-efficiency value, due to the backward movement of its production frontier, the measured effective unit efficiency value is often greater than the traditional model's efficiency value1, and the corresponding super-efficiency values of different DEA effective decision-making units are different. Make DEA effective decision-making unit has the characteristics of ecological efficiency comparability. Anderson and

Peterson (1993) established an investment-oriented hyper-efficiency DEA model to compensate for this deficiency, and can make effective decision-making units with efficiency values greater than one. The super-efficient DEA (SE-DEA) model is as follows.

$$\begin{cases} \min\left[\theta - \varepsilon\left(\sum_{i=1}^{m} s_i^- + \sum_{r=1}^{s} s_r^+\right)\right] \\ \sum_{\substack{j=1 \\ j\neq k}}^{n} \lambda_j X_{ij} + s^- \leq \theta X_0 \\ \sum_{\substack{j=1 \\ j\neq k}}^{n} \lambda_j Y_j - s^+ = Y_0 \end{cases}$$

$$\lambda_j \geq 0, j=1,2,\ldots,n; \quad s^+ \geq 0; \quad s^- \geq 0$$

Among them, λ is the weight variable of DMU, θ is the parameter to be determined, slack variable s_r^+, s_r^-, X is the input quantity, and Y is the output quantity. The solution to the model is denoted by θ^*. If θ^*<1, it indicates that there is a virtual decision unit whose output is not lower than the output of the first j_0 decision unit, and the input ratio is the input of the j_0 decision units. Below, this shows that j_0 is non-DEA valid. If θ^*=1 and the slack variables are all 0, then the j_0 decision unit is DEA valid; and θ^*<1 but the slack variable is not 0, the j_0 decision unit is valid for weak DEA.

Variable Selection

Taking into account the input, the characteristics of the output indicators exclude some relevant indicators and filter out the following indicators as effective input and output indicators for the final DEA model analysis.

Input indicators

(1) *Total assets*: This indicator belongs to the development capability index of the enterprise. It is generally the amount of "assets total" in the balance sheet, which represents all the assets owned or actually controlled by the enterprise, and can make economic benefits flow into the enterprise. This indicator is the material basis of a company's development and the embodiment of its strength. The use of total assets directly affects the future development of enterprises.

(2) *Main business cost*: This indicator belongs to the enterprise operational

capability index, which is the cost of the product or labor input provided for daily business activities. It is reflected in the balance sheet as the "main business cost" subject, and the subject is directly obtained. The amount of the account, which is a profit and loss account, there is no balance at the end of the period. It corresponds to the main business income, which directly affects the level of corporate profitability.

(3) *Shareholders' equity*: This indicator belongs to the solvency indicator, which is the owner's equity mentioned in the financial report, also known as net assets. It is the part of the total assets of the entire enterprise that removes liabilities. In short, shareholders' equity is the economic benefits enjoyed by shareholders in the enterprise. Shareholders' equity includes capital reserves, equity, surplus reserves and undistributed profits.

Output indicators

(1) *Main business income*: This indicator belongs to the profitability indicator, which is the operating income obtained by the daily operation of the enterprise. The main business income determines the development degree of the enterprise and can also bring good cash flow to the daily operation of the enterprise. The amount of "Main Business Income" can be found directly in the financial statements.

(2) *Net profit*: This indicator is a profitability indicator, which can best reflect the financial indicators of corporate profits. The amount of net profit can be found on the financial statements. Net profit equals total profit minus income tax expense. It is the ultimate embodiment of business results.

(3) *Earnings per share*: This indicator belongs to the profitability indicator, which is equal to the total profit ratio of the total share capital, which is the loss or commitment of each ordinary shareholder to enjoy the profits of the company. Used by the majority of investors to evaluate the profitability of the company, it is an indicator to consider the growth ability of the company to make relevant investments.

Table 1. Variable indicators

	Development ability	Total assets
Input indicator	Operational capability	Main business cost
	Solvency	Shareholders' equity
Output indicator	Profitability	Main business income
		Net profit
		Earnings per share

Sample Selection and Data Sources

The listed companies of the Shenzhen Stock Exchange and the Shanghai Stock Exchange cover the GEM, the SME version and the majority of the main board. There are three major levels of the board, which can be effectively measured by screening listed companies in strategic emerging industries. Different levels of support for the development of strategic emerging industries and the impact of enterprises at different scales. The basis of this paper is as follows: (1) The basis is the strategic emerging industry concept stock in the same flower stock market software; (2) The listed company's first main business must be strategic emerging industry business, and the business income accounts for more than 50% of the total output value of the enterprise. In this paper, a total of 256 strategic emerging industry companies were selected, and 240 after the absence of publicly issued tradable shares, ST, ST*, and incomplete data to segment the industry's unclear data after 2011. Sample company data is derived from Guotai'an database and Oriental Fortune net stock data.

Untargeted data of original indicator data

Although there is no requirement for the unit of input and output indicators when using the DEA model to measure efficiency, there are certain limits on the value of input and output. Usually, both input and output indicators need to be greater than or equal to zero. If the indicator has a negative value, the DEA model will not be able to effectively measure the efficiency. However, in the normal enterprise operation production process, there are both profitable enterprises and loss-making enterprises, which will result in negative output values. At this time, if the DEA measurement efficiency is adopted, the raw data needs to be initially processed. Make the data meet the requirements of the DEA model. This paper adopts the data processing method commonly used by scholars. The specific operations are as follows:

$$\text{Assumption: B}= \min(x_{ij}),\ A = \max(x_{ij}),\ i = 1,2,3\cdots n$$

$$\text{Then } y_{ij} = 0.1 + \frac{x_{ij}-B}{A-B} \times 0.9 \qquad y_{ij} = [0,1]$$

Strategic emerging industry financing efficiency calculation results

Using DEAP2.1 software, the determined input and output indicators are substituted into the model, and the relevant results can be obtained. The input indicators are based on the financial data of the listed companies at the end of the year. This paper studies the impact of ecological innovation on the financial performance of China's strategic emerging industries. Therefore, this paper measures the financial performance of strategic emerging industries as a whole

from the perspective of the entire industry, and then verifies the impact of ecological innovation on it. Through software operation, the results are shown in T*able 2*.

Table 2. Financial performance evaluation results of strategic emerging industries

DMU	Compreh-ensive efficiency	Technical efficiency	Scale efficiency
2002	0.514	0.564	0.987
2003	0.145	0.976	0.975
2004	0.156	0.933	0.993
2005	0.345	0.897	0.893
2006	0.366	0.765	0.883
2007	0.355	0.778	0.89
2008	0.454	0.675	0.993
2009	0.498	0.659	0.863
2010	0.776	0.334	0.833
2011	1	1	1
2012	1	1	1
2013	1	0.998	0.889
2014	0.332	0.345	0.854
2015	0.557	0.459	0.865
2016	0.769	0.883	0.988
2017	0.324	0.993	0.876

The impact of ecological innovation on the financial performance of China's strategic emerging industries

Variable selection and data source

This paper selects the comprehensive efficiency as a measure of the financial performance indicators of China's strategic emerging industries. The reason for choosing to use comprehensive efficiency (CE) without selecting technical efficiency and scale efficiency is because comprehensive efficiency is a better indicator when measuring the financial performance of listed companies relative to the latter two indicators, and the scale is taken into account in the calculation. The variable compensation factor is the comprehensive efficiency obtained through the established model. Using the indicator as the dependent variable of the model will produce better results in the model regression.

On the basis of the previous analysis, the indicators that influence the financial performance of China's strategic emerging industrial enterprises are quantified.

In this paper, R&D expenditure (JF), R&D personnel full-time equivalent (RY), environmental pollution control investment expenditure (EM), and education expenditure (EDU) are used to represent ecological innovation indicators and measure their impact on the financial performance of strategic emerging industries.

All data are taken from China Statistical Yearbook, China Science and Technology Statistical Yearbook, China Education Statistics Yearbook, China Energy and Environment Statistical Yearbook, 2002-2017 Annual Statistical Yearbooks of various provinces, China Research Network, China Financial Statistics Database, etc. Authoritative data guarantees the reliability of the data, and some missing data are supplemented by interpolation.

Model Construction

In the sample selection, based on the 240 research emerging industry listed companies selected based on the previous research basis, the following multiple linear regression models were constructed according to the previous analysis:

$$CE_{it} = \alpha_0 + \alpha_1 JF_{it} + \alpha_2 RY_{it} + \alpha_3 EM_{it} + \alpha_4 EDU_{it} + \mu_{it}$$

Among them, *i* represents the *i-th* strategic emerging industry listed company, and t represents the year. CE indicates the overall efficiency, which is used to represent the financial performance of strategic emerging industries. The value of this variable is obtained by software calculation in the former empirical part.

Analysis of regression results

Multiple regression analysis of the model was performed by using software software. The results are as follows:

Table 3. Regression results

variable	coefficient	p value
C	0.3231	0.0002
JF	0.5036	0.0312
RY	0.4211	0.0001
EM	-0.1567	0.0021
EDU	0.0021	0.0923
R^2	0.9907	
Log likelihood	29.09	

(1) R&D expenditure (JF), (R&D) expenditure refers to the expenditure of the whole society for basic research, applied research and experimental development during the statistical year. Including labor costs, raw materials fees, fixed assets acquisition and construction fees, management

fees and other expenses for actual research and experimental development activities. The regression results show that the financial performance of R&D expenditure companies has a significant positive correlation, with a coefficient of elasticity of 0.5036. Significantly passed the test, indicating that the greater the R&D investment of strategic emerging industries, the higher the technical efficiency of the industry as a whole, and the positive driving effect on the industry.

(2) Full-time equivalent (RY) of R&D personnel. Since one person does not invest in R&D activities all the time, the full-time equivalent is used to convert the number of non-full-time persons into full-time personnel according to the workload. A full-time workload is a person's annual workload, which is one person's year. The change index reflects the workload of R&D investment. The regression results show that the full-time equivalent of R&D personnel has a significant positive effect on the financial performance of strategic emerging industries. The elasticity coefficient is 0.4211, which is the industry's total increase in R&D personnel's full-time equivalent of 1%. Financial performance increased by 0.4211%, indicating that investment in basic research can promote the improvement of corporate financial performance.

(3) Environmental pollution control investment expenditure (EM), which refers to the investment expenditure required for pollution due to the governance environment. The regression results show that the indicator has a negative correlation with the financial performance of the strategic emerging industries, and the elasticity coefficient is -0.1567. It may be that the pollution of the environment has not caused the decline of the financial performance of the industry. The increase in expenditure in this area has a crowding-out effect on the investment of the industry, resulting in insufficient investment in the industry and affecting the performance level of the industry.

(4) Education Expenditure (EDU) indicates that the expenditure of education funds increases the quality of the labor force and indirectly affects the financial performance of the industry. The regression results show a positive correlation, but the elasticity coefficient and the level of significance are low, and the elasticity coefficient is 0.0021. By passing the test at the 10% significance level, it shows that the effect of education investment is slow to take longer to appear, so it has less impact on the financial performance of strategic emerging industries.

Suggestions for improving the financial performance of strategic emerging industries

Strategic emerging industries can apply ecological innovation structure model to evaluate their ecological innovation behavior

Strategic emerging industries can use the ecological innovation structure model to evaluate the consistency between the various elements of ecological innovation. If the ecologically innovative products provided are consistent with the value propositions they have formulated, is there any institutional arrangement that can guarantee the ecological innovation of products, and whether it has established Whether the matching value network adopts other necessary ecological innovation measures; in addition, after the ecological innovation behavior has been implemented, the ecological innovation structure model can be used to evaluate the operation results of the ecological innovation, such as selecting the target layer and the result layer. The relevant indicators are compared. After discovering the existing problems, the ecological innovation model can be improved to improve the quality of ecological innovation in the enterprise.

Government departments should formulate more supportive stimulating policies to promote strategic emerging industry ecological innovation

When the government formulates policies to guide strategic emerging industries for ecological innovation, it may consider formulating relevant support and stimulating policies. Supporting stimulating policy-driven ecological innovation will have a higher impact on corporate financial performance than access policy in the short term. Policy and ecological innovation driven by stimulating policies is more conducive to green production and green in a wider range. A virtuous circle of consumption leads to good social performance. In addition, due to the dual externalities of ecological innovation, the government relevant policies of the department have always been dominated by environmental regulation. As strategic emerging industries are mostly low-pollution enterprises, the role of environmental regulation. There is almost no intensity, and the driving effect of supporting stimulating policies on ecological innovation should be fully considered.

Improve the market mechanism of ecological innovation

Eco-innovation technology research and development often has high investment and high risks, and lack of innovative talents, poor supply and demand information, and long-term technology marketization to commercial profitability, which will lead to enterprises' resistance to ecological innovation. Therefore, it is necessary to improve the current price mechanism, risk mechanism and competition mechanism

so that the market can play a fundamental role in the allocation of innovative elements. Only when the market forms an effective demand for ecological technology and products can it really stimulate the enthusiasm of enterprises for ecological innovation, and transform into the endogenous power of sustainable development under the framework of the policy system.

Improve people's ecological awareness

With the rise of green consumption, the government's supervision of sewage companies has gradually strengthened, which indirectly benefits the progress of symbiosis. At the same time, consumers' preference for green products and green enterprises enables upstream and downstream symbiotic enterprises to adopt cooperative strategies to win good society. Reputation and corporate image, the weight of these indicators reflects the great role of the people's ecological awareness in the symbiosis of the enterprise. The government should strengthen the education of the people, strengthen the news propaganda, promote the improvement of the people's ecological awareness, and promote the cooperation of enterprises to enhance the corporate image. Attract more investors and related financial institutions to enter.

Strategic emerging industry leaders should focus on the cultivation of innovative spirit and individual abilities

The outstanding innovation spirit and outstanding personal ability of the leaders are more conducive to strategic emerging industries to make decisions on ecological innovation behavior, and seize the green business opportunities to win long-term sustainable development for enterprises. The study found that the influence of leaders on the opportunity discovery and strategic decision-making of enterprises is very obvious. The pioneering entrepreneurial spirit, the ability to grasp the consumer market and the advanced breakthrough thinking mode are all important driving forces for the ecological innovation of strategic emerging industries. It can help companies discover market opportunities that have not yet been identified and bring significant growth to the company.

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