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LETTER TO THE EDITOR

Enterprise Innovation Synergy and its Evolution Model Based on Eco-environmental Science

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Combined with the enterprise innovation synergy model, the factor analysis and multiple regression methods of Eco-environmental Science are used to study the interaction relationship between the influencing factors and synergy degree of enterprise innovation, and to obtain the evolution model of enterprise innovation synergy. The research results are as follows Among them, the influence of policy environment on multidimensional synergy is the most significant. From the empirical results, it is known that through the application of the factor analysis and multiple regression methods of the Eco-environmental Science, effective analysis results of enterprise innovation synergy can be obtained in order to construct the reasonable evolution model and provide the reliable analytical basis for enterprise innovation and development.

I Introduction

Mayis G. Gulaliyev, Rashad S. Muradov, Leyla A. Hajiyeva, Hijran R. Muradova, Konul A. Aghayeva, Elnur S. Aliyev, published “Study of Human Capital Development, Economic Indicators and Environmental Quality” on Issue 107, Pages: 495-503, Article No: e107023, year: 2019, in the article, from the econometrical result, it is concluded that there is a significantly negative relationship between environmental quality and the imbalance of economic indicators, In this article, combined with the enterprise innovation synergy model, the factor analysis and multiple regression methods of Eco-environmental Science are used to study the interaction relationship between the influencing factors and synergy degree of enterprise innovation, and to obtain the evolution model of enterprise innovation synergy (Zhang and Xu 2019).

The application of Eco-environmental Science theory provides the reliable theoretical basis for enterprise management and has the positive guiding role for it.

With the growing scope of innovation, innovation is no longer limited to purely technological innovation (Cai et al. 2017). In order to study the influence of Eco-environmental Science in the process of enterprise innovation synergy and its evolution, the model is built to stimulate the vitality of the company's talent, capital, information and technology, and to achieve their deep cooperation (Liu et al. 2019).

II Perspective

Building the enterprise innovation synergy model.

In the process of model research, the synergy model of composite innovation factor constructed by Xu Xiangyi

(2008) is used to measure the synergy of different factors in enterprise innovation (Greer and Lei 2012, He et al. 2012). Its value range is [-1, 1].

Construct the orderly model of innovative factors. Assume that the innovation factor of the enterprise is composed of several sub-factors, namely $s=(s_1,s_2,s_2,\cdots,s_i)$, where s_i is the i-th sub-factor. Considering the sub-factor s_i, and $i\in[1,h]$. It is assumed that the order parameter in the process of development and growth is $e_i=(e_{i1},e_{i2},e_{i3},\cdots,e_{in})$, where, $n\geq 1$, $\beta_{ij}\leq e_{ij}\leq\alpha_{ij}$, $j\in[1,n]$, β_{ij} represents the minimum value in the state, and α_{ij} represents the maximum value among the factors. In general, the order of factors is divided into two types. First, it can be assumed that the larger the value $e_{i1},e_{i2},\cdots,e_{im}$ is, the higher the order degree of factors is, such as market share, asset profitability, and so on. In another case, assume that the smaller the value $e_{im1},e_{im2},\cdots,e_{in}$ is, the higher the order degree of factors is.

Table 1. The survey of enterprise sample statistics

Classification method					
Ownership	**Enterprise number/individual**	**Percentage /%**	**industry**	**Enterprise number / individual**	**Percentage /%**
State-owned	242	20.07	1.Agricultural and sideline products or beverages	40	3.32
collective	27	2.24	2.tobacco	9	0.75
privately operated	290	24.05	3.Textile or clothing, shoes, caps	42	3.48
Three capital enterprises	647	53.64	4.Leather, fur, feathers	14	1.16
Total	1206	100	5.Wood processing and bamboo, brown and grass	16	1.33
Number of employees (people)			6.Furniture	16	1.33
<50	159	13.18	7.Papermaking and paper industry	17	1.41
50-300	303	25.12	8. Reproduction of printing and recording media	19	1.58
301-2000	320	26.54	9.Medicine	47	3.9

>2000	424	35.16	10.Chemical fiber	37	3.07
Total	1206	100	11.Rubber	21	1.74
Annual sales revenue (million)			12.Plastic	31	2.57
<10	123	10.2	13.Nonmetallic mineral manufacturing or metal manufacturing	28	2.32
10-30	166	13.76	14.Black or nonferrous metal smelting and calendering industry	38	3.15
30-300	331	27.45	15.Cultural and educational sporting goods	27	2.24
>300	586	48.59	16.Petroleum processing, coking and nuclear fuel processing industry	42	3.48
total	1206	100	17.General equipment or special equipment	74	6.14
Total assets (million)			18.Transportation equipment	113	9.37
<10	165	13.68	19.Electrical machinery and equipment	114	9.45
10-40	193	16	20.Electronic equipment, computer, etc.	294	24.37
40-400	309	25.62	21.Instrument and culture and office machinery	53	4.39
>400	539	44.7	22.Arts and crafts and others	24	1.99
total	1206	100	23.Chemical raw materials and chemicals	83	6.88
			24.Recycling of waste and waste materials	7	0.58

			Total	1206	100

II Perspective

Analysis of influencing factors.

To explore the structural dimensions of the influencing factors, exploratory factor analysis is used to measure 16 factors (Schulze and Brojerdi 2012, Shi 2015). After analysis, the following results are obtained: KMO value is 0.839, Bartlett value is 5122, significance is 0.000, and factor analysis is suitable (Smals and Smits 2012).

According to the factor analysis results, the above factors are named to obtain the subject support, policy environment, coordination mechanism and relationship network.

The reliability test of the subscale shows that the consistency coefficients of the four dimensions are greater than 0.7, indicating that the reliability of the subscale is acceptable.

Construction of enterprise innovation synergy and its evolution model based on Eco-environmental Science (Wu 2012).

According to the relationship between the influencing factors of enterprise synergy innovation and the degree of synergy, enterprise innovation synergy and its evolution model are constructed and described in Figure 1. The model describes the innovative tools that companies should adopt in different stages of development and demonstrates the evolution of enterprise innovation factors.

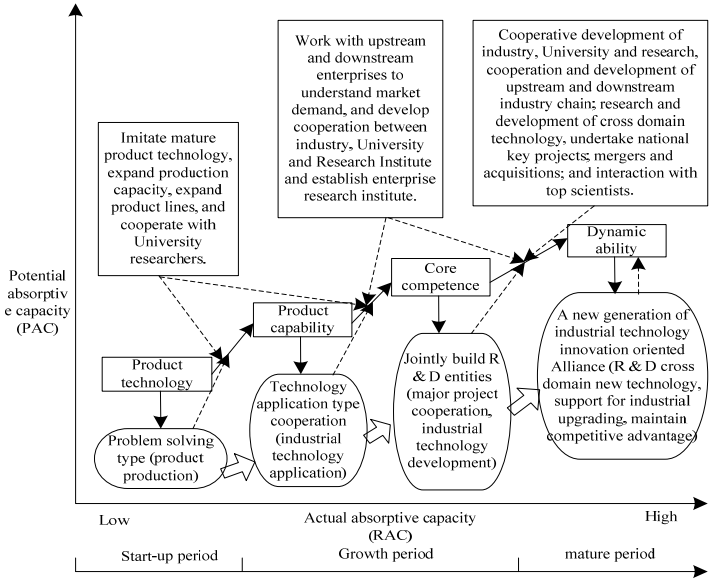

Figure 1. Enterprise innovation synergy and its evolution model.

III Personal View

This paper analyzes the Eco-environmental Science of enterprise innovation synergy by constructing the model, and selects 1,206 manufacturing enterprises as research samples to empirically analyze the interaction between the influencing factors and its synergy degree of enterprise synergy innovation.

As a result, the impact of synergy between business, intermediaries and the spatial level is not significant.

IV Conclusion

Based on Eco-environmental Science, enterprise innovation synergy and its evolution model are constructed to study the relationship between the influencing factors of enterprise synergy innovation and their degree of synergy, so as to ensure the success of innovation most effectively and provide the scientific basis for innovative strategies that companies should adopt at different times.

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