

The evaluation model of the sustainable development of managers' competence

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Abstract: In recent years, due to the drastic changes in the economic environment, domestic companies have experienced many industrial changes. From the perspective of industrial evolution, the correspondence between organization and strategy not only has a time gap, but also full of uncertainty and dynamic decision-making process. To explore the ecological growth and decline of the industry, we can observe the interaction between manufacturers and the environment in the industry through the perspective of ethnic ecology. This research is mainly for the high-tech industry research, the research object is the middle-level director of the high-tech industry in Guizhou Province, the questionnaire is issued. A total of 360 questionnaires were sent out, and 252 valid questionnaires were collected, with a recovery rate of 70%. Research results: (1) Competency has a significant positive impact on organizational ecology. (2) Organizational ecology has a significant positive impact on sustainable development. (3) Competency has a significant positive impact on sustainable development. Based on the results, suggestions are proposed, and it is expected to explore the adaptation strategies that middle managers must adopt in order to achieve sustainable development as environmental conditions change.

Keywords: Organizational Ecology; Middle-level Managers; Competency; Sustainable Development; High-tech Industry

1. Introduction

In recent years, due to the drastic changes in the domestic economic environment, domestic enterprises have undergone several industrial transformations and adopted strategic adaptation methods in response to changes in the business environment. However, in the past, when discussing this topic, it was more focused on the static observation of strategy and structure, that is, comparing the relationship between each company's strategy and structure at a certain point in time, and comparing its performance. However, from the perspective of industrial evolution, the correspondence between organization and strategy not only has a time gap, but also is full of uncertainty and dynamic decision-making process. To explore the ecological growth and decline of the industry, we can observe the interaction between manufacturers and the environment in the industry through the perspective of ethnic ecology. This can help to explore the trajectory of its development and understand how individual manufacturers in the industry can strive for greater living space in a highly competitive environment. Because the specific environment in which a particular organization can survive has the resources that are right for it to survive. These organizations must be able to adapt to this environment in order to survive and prosper; on the contrary, they cannot obtain appropriate resources and lead to failure and disappearance.

From an ecological point of view, a particular environment in which a particular type of organization can survive will have resources appropriate to the survival of a particular organization; These specific organizations must be suitable for this environment to survive and prosper; those who are not suitable for this environment cannot obtain appropriate resources and fail and disappear. From the perspective of strategic choice, the active adaptation and integration between the organization and the environment will allow structurally mutated organizations with equal competition, and the results of isomorphic organization due to external pressure; These results will increase the diversity of organizational characteristics through market segmentation, product differentiation, or activities that create unique impressions for agents and customers. Therefore, this study aim at the research on the

sustainable development model of the middle managers of enterprises in the perspective of organizational ecology. It is expected to explore the adaptation strategies that middle managers must adopt in order to achieve sustainable development as environmental resource conditions change according to ecological theory. [1-3]

2. Literature Discussion

Li (2018) believes that organizational ecology is a discipline that uses ecological principles and methods to study the relationship between organizational ecological subjects and various environmental elements. In particular, it focuses on the impact of various organizational ecological environments and their components on the human beings in the organization's ecosystems and organizational ecosystems. Therefore, the competence of employees in the organization will have an impact on the organization's ecology. Aubry et al. (2015) argue that in a wide range of ecosystems, the success of a business has a large factor in the competency of middle managers. Incompetent middle managers can hurt corporate performance, because most companies are controlled by a small group of directors. [4-6] Just like a dictatorship, it will not change unless it is a coup. Suddaby et al. (2017) considered that the visible organizational ecosystem is a complex system composed of people, organizations (activities) and the environment. Therefore, the competency of middle managers in the organization has a significant impact on the organization's ecology. Therefore, this study proposes the following hypotheses:

Hypothesis H1: Competency has a significant positive impact on organizational ecology.

He et al. (2015) applied the concept of bioecology to organizational theory, emphasizing that organizations, like living things, are organisms that exist in both open and natural systems. Through the external environment, dynamic and organic concepts, organizational theory scholars began to care about the organizational environment, organizational ecology, organizational evolution and other related issues, and then observe the state of organizational life and death and industrial change. Weber et al. (2016) believe that the organization ecology is like a creature. In the process of survival and death, the organization's new life, mutation, and death determine the evolution path of the organization group. The motivation for ethnic evolution stems from the rate of creation and mortality of the organization, and finally the change in the number of ethnic groups. Nabi et al. (2017) argue that organizational ecology examines basic evolutionary rules through changes in the number of ethnic groups and the rate of birth and death. It is linked to changes in environmental factors to explore the dynamic relationship between the organization and the environment and to understand the continued development of the organization. Therefore, this study proposes the following hypothesis:

Hypothesis H2: Organizational ecology has a significant positive impact on sustainable development.

Yang et al. (2015) believe that the competence of middle-level managers is fundamental to the organization's sustainable development, because the possibilities created by manpower are the greatest. However, because manpower often consumes the most cost, the mid-level manager's competency is even more important. Le Mens et al. (2015) believe that a good manager must learn to put the right person in the right place, and the unfit person must deal with it as soon as possible. Otherwise, it will cause damage to the organization. The competence of managers in the enterprise is very important for the sustainable development of the company. Ridge & Ingram (2017) believe that for corporate organizations, recruiting or hiring the wrong person can have a major impact on the organization's continued growth. Therefore, the competence of employees in the enterprise will have a significant impact on the sustainable development of the company. Therefore, this study proposes the following hypothesis:

Hypothesis H3: Competency has a significant positive impact on sustainable development.

3. Sample and Measurement Pointer

3.1 Research Sample and Object

This research is mainly for the high-tech industry research, the research object is the middle-level director of the high-tech industry in Guizhou Province, the questionnaire is released. A total of 360 questionnaires were sent out, and 252 valid questionnaires were collected, with a recovery rate of 70%.

3.2 Reliability and Validity Check

The items measured by the questionnaire used in this study are corrected by reference to the research items made by scholars at home and abroad. Therefore, the questionnaire of this study should have certain content validity. The analysis results of the linear structure relationship model in this study show that the overall mode fits to a reasonable range, so it has good convergence validity and predictive validity. This study conducted a reliability analysis to further understand the reliability of the questionnaire. This study was based on criteria to develop Cronbach's α -coefficient values measured by the formal questionnaire. The values are between 0.70 and 0.90, which is clearly within the range of reliability values.

4. Empirical Result Analysis

4.1 LISREL Mode Evaluation Pointer

The results from the complete model analysis show that in terms of basic fitness, the three factors of competency (professional knowledge, work performance, growth learning) explain the competency to a significant level ($t > 1.96$, $p < 0.05$); In the three factors of organizational ecology (organization age, ethnic density, market concentration), the interpretation of tissue ecology reached a significant level ($t > 1.96$, $p < 0.05$); In the interpretation of continuous development, significant levels were reached ($t > 1.96$, $p < 0.05$). It can be seen that the overall model of this study has a good basic fit.

From the aspect of internal fitness, there is a positive correlation between competency and organizational ecology (0.827, $p < 0.01$). There was also a positive correlation between organizational ecology and sustainable development (0.856, $p < 0.01$), while competency and sustainable development (0.875, $p < 0.01$) also had a positive correlation, representing hypotheses 1, 2 and 3 were supported.

From the aspect of the overall mode compatibility, the overall mode fitness standard $2/Df$ is 1.637, which is less than the standard value of 3 or less, and the RMR value is 0.004, indicating that the result standard of χ^2/DF and RMR is appropriate. In addition, because the chi-square value is very sensitive to the sample size, it is not appropriate to determine the appropriate situation directly. However, the overall mode suitability standard has a GFI of 0.973 and an AGFI of 0.914 to a value greater than 0.9 (the closer the GFI and AGFI values are to 1, the better the mode fit). Therefore, this model has better matching indicators.

5. Conclusion

It can be seen from the results of this study that the use of resources by high-tech industries is also the strategic planning, execution, and supervision of the middle managers of enterprises. Insufficient competency of middle-level managers in high-tech industries will lead to negative impacts on business operations. The improper handling of high-tech industry business, or improper decision-making by operators, or the consequences of misconduct, will also affect the living space of high-tech industries. High-tech industry operators must be aware of the organization's ecology, accurately analyze the external environment, and grasp the specific resources owned by the organization, and implement strategies in real time to respond to environmental changes. If the high-tech industry lacks its own endowment, even if it operates in a profitable market, it may face a decline.

6. Suggestions

This study summarizes important findings and findings and suggests the following for the practicality of the research results:

First, since the environment is less important for high-tech industries of scale, it is recommended that the high-tech industry focus on the operational scope and operational mechanisms within the organization to seek more resources to adopt the response strategy, such as adopting an international cooperation approach. This strategy is to expand market demand and diversify risks to avoid uncertainty in the industrial environment. [7]

Second, when the high-tech industry is facing a decline in business performance and slowly declining, in order to get out of the predicament, various management or financial measures are often

taken. Therefore, high-tech industry managers must carefully judge the impact of each decision on the company, flexibly use the resources owned by the company, determine the long-term and short-term goals, and urge the middle managers to take immediate action to promote the company's performance or operation.[8-9]

Third, middle managers in the high-tech industry must have complete training. In addition to the middle managers' knowledge and experience in international business management, this kind of training mainly aims at organizing ecological sensitivity training. The purpose of training the organization's ecological sensitivity training is to enable middle managers to understand the state of organizational life and death and industrial changes.

References

- [1] Aubry, M., Bonnet, J., & Renou-Maissant, P. (2015). *Entrepreneurship and the business cycle: The Schumpeter effect versus the refugee effect-a French appraisal based on regional data. Annals of Regional Science, 54(1), 23-55.*
- [2] He, L., Chen, C., and Chiang, H. (2015). *Top manager background characteristics, family control and corporate social responsibility (CSR) performance. Journal of Applied Finance and Banking, 5(1), 65-80.*
- [3] Le Mens, G., Hannan, M. T., & Polos, L. (2015). *Age-related structural inertia: A distance-based approach. Organization Science, 26(3), 756-773.*
- [4] Li, P. Y. (2018). *Top management team characteristics and firm internationalization: The moderating role of the size of middle managers, International Business Review, 27(1), 125-138.*
- [5] Nabi, G., Liñán, F., Fayolle, A., Krueger, N., & Walmsley, A. (2017). *The impact of entrepreneurship education in higher education: A systematic review and research agenda. Academy of Management Learning & Education, 16(2), 277-299.*
- [6] Ridge, J. W. & Ingram, A. (2017). *Modesty in the Top Management Team: Investor Reaction and Performance Implications. Journal of Management, 43(4), 1283-1306.*
- [7] Suddaby, R., Bitektine, A., & Haack, P. (2017). *Legitimacy. Academy of Management Annals, 11(1), 451-478.*
- [8] Weber, M. S., Fulk, J., & Monge, P. (2016). *The emergence and evolution of social networking sites as an organizational form. Management Communication Quarterly, 30(3), 305-332.*
- [9] Yang, H., Chan, P. C., & Yeung, F. Y. (2015). *Niche width, competitive positioning, and performance of international construction contractors (1992-2009). Journal of Management in Engineering, 31(3), 1-11.*