

Research on the Model of Enterprise Body Management Based on Management Bionic

ZOU Guoliang^{1,2}, GAO Fen^{1,3}

- 1. Jiangxi University of Science and Technology, Jiangxi, China, 341000
- 2. University of Science and Technology Beijing, Beijingi, China, 100083
- 3. Xi'an Physical Education University, Xi'an, China, 710068

1. e-mail: nfzgl@sohu.com, 2. e-mail: gaofen18@163.com

Abstract: Management of human life-support system shows high sensitivity to the environment, adaptability and self-protection, which provides a reference for enterprise management efficiency and enhances business growth and development. In this paper, management bionics, a total phase theory and self-organization theory, is taken as the foundation of the study in order to make the enterprise become a anthropomorphic one, whose business decision-makers will go as the body's own management by using the incentive and restraint means. Through the management of life-support systems on the human body to observe the laws of analysis, the human enterprise management model is put forwarded by adopting analogy simulation method.

Keywords: Management Bionic; Enterprise Body Management; Analogy Simulation

1 Introduction

Bionic bionics management as a branch of study is considered as the frontier problem of bionics [1]. Bionics management coordinates mechanisms and innovative in order to build a harmonious and efficient operation [2]. Enterprise management and enterprise as a bionic life put to a similar study of thinking as its theoretical basis, the ecosystem in a variety of individuals and groups to simulate the characteristics of the object [3]. After millions of years of human evolution, the human body is the most advanced life-support systems and improves the individual and the management has an important value, that is, the human body is seen as individual-level management of bionics research prototype of the ideal of individual [4]. Thus, it was the management of human-to-business research and business sector and in human organs for analogy [5] as well as reasoning by analogy to human management of the enterprise simulation model [6]. However, as how human body system to be worth of being analogized by simulation of business law and how to build enterprise management model of human studies have yet not to be known. In this paper, the relevant theory means the use of incentives and constraints to business decision-makers as to the enterprise to manage their own health and the management of the law of human life-support systems based on the analysis, the use of analog simulation to explore the human body corporate management model.

2 Research Review

Relevant foreign research mainly concentrates on the nervous system of artificial intelligence and self-organizing system. For example, some scholars studied the biological cell production systems and industrial production systems based on the analog method[7]; the use of bionics research life-support systems and non-life-support systems similar to those of sexual function [8] as well as the study of intelligent manufacturing systems [9]; analogy the brain to a self-organizing systems, and simulation of the brain to build a flexible production system [10]; the concept of artificial intelligence using the latest act of corporate governance research [11] and so on. Chinese researchers conducted a bionic management study in different point of view and levels. Management considered bionic bionics as the new areas of research [1], is a branch of bionics. Liu Fulin does research the definition of management and research methodology and the relationship between disciplines, life management system and the law of revelation as well as the prototype of the basic principles of management, such as bionics conducted a study on a man-made management-level management systems, as well as all levels of management structure, management objectives, management strategies and management of biodiversity [4]. British Xia, Pan Biao carried out with the norms of research, management made the study of bionic four basic areas of management and the study of bionic scientific



basis was discussed and standardized [2].Lv wenning puts forward the essence of life theory, the design life of the operating mechanism of enterprises [12]. DA Qing-li and Hu xiaoxiang consider that the virtual enterprise as the level of an organic life system, whose evolution of life is an advanced form of virtual enterprise through the analysis of the human face with the environment and control objectives [13]. Wang Yu, Qing Lida put forward a new form of organizational structure and management control mechanisms [14]. In addition, Wang Lizhi conducted a physiological structure of the business research study [5] The body's various organs to compare the purpose of analogy is not purely functional classification, but by looking for companies with this organism The similarity of the human body, the body's health and balance of theory applied to the enterprise's own survival and development. In this end, the company's various departments with the body's various organs of the analogy [6]. Wang Yihua, Lv Ping, such as drawing on biology, medicine, the field of complex systems research to study the organization of the immune system, immune function [15], the realization of the enterprise organization and stability of the unity of adaptability in order to maintain healthy development. Park House on the evolution of the organizational structure of enterprises conducted a study that the organization is human behavior systems, and organisms can be complex systems analogy [16]. Wang Wenping, such as that of knowledge-based enterprises in the rapidly changing environment to survive and maintain sustainable development, life should have information on changes in the sensitivity of the outside world and rapid response capacity [17]. Hong Peng discusses that if the enterprises, organizations can be modeled on the human nervous system, organs of management of the management mode, then the effectiveness of management will have a greatly improved [18]. Sun Jian on the safety management model - the body corporate management model for the study of the safety management of the lower center of gravity as a "person" the right leg, and of the internal market as a "person" of the left leg, to look at corporate culture into a "human" brain, the target management as "human", such as the nervous system [19].

3 Foundation Theory

3.1 Philosophy theory

First, Total phase theory. Although the real world there is no absolute identity, yet it's not isolated from others[20].

Second, Self-organization theory. Prigogine dissipative structure theory [21] and Haken's "Synergetics" [22] had a very good study on self-organization theory. The human body is a dissipative structure and the human system is in constant communication with internal and external environment for the conduct of the material, energy and information exchange with the body to overcome the negative entropy flow of entropy so that the body remained at a relatively stable state. Orderly system of the human body is due to the human system between the various components of the complex inter-linkages and constraints [23]. The human body is an open complex system, with the thinking, and self-transformation of the function of the outside world [24], which is to improve the lives of the efficiency of enterprise organization.

3.2 Management Bionic

Management of bionics is based on the life sciences and prototype-based, using analog simulation, simulation systems management law of life so as to establish or set up to improve the level of human management systems, structure, objectives, strategies and more positive approaches and provide the scientific principle [4]. As the frontier field of bionics, biomimetic researching lays the foundation for enterprise management bionic.

4 Main Content

4.1 Assumptions

Daft and Weick[25]consider that any research must be a way of the nature of the organization, design and function of specific assumptions. This article assumes that the individual used to analog prototype is a natural and normal. That the physical health of its normal value, has a strong sense of self-protection and self-interest in the quest for healthy. Thus, there are some assumptions as following.

On the one hand, the natural of people is a natural treasure of life and health of people with self-protection, in the quest for self-development of the organization or the achievement of social objectives.

On the other hand, Organizational decision-making throughout the organization will be regarded as their own



affairs and the organization as their "own" the same management body.

4.2 Main Opinions

First, The enterprise management in this paper refers to the human body through certain incentives or regulatory measures so as to make the enterprise as their own bodies to manage. We have explored the concept of the human body in a broad sense, including not only human tissues and organs, but also people's behavior.

Second, The main activities of the enterprise is an enterprise decision-makers and analog simulation of the prototype as in the natural way of thinking and behavior has a strong similarity in that the management of biomimetic humanoid more specific than the management. Supposed the human body is divided into endogenous and exogenous management (as shown in Figure 1), and then the use of analog simulation, enterprise management system will be divided into internal management and external management (as shown in Figure 2).

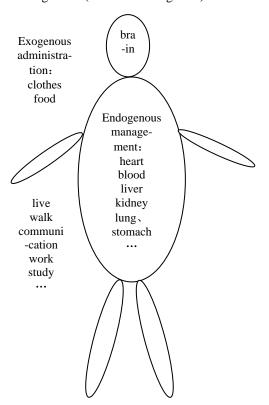


Fig. 1 Management of human life-support systems

Third, Simulation of the human enterprise management system is limited. Due to the human body is an extremely complex life-support systems, enterprises can not be with the composition of the organic structure of the

human body, and the organic nature of the human body is endogenous, enterprise simulation artificial simulation of human body structure is built, is exogenous, and therefore enterprises Simulation of the human body can only be part of the management of the law of life-support systems.

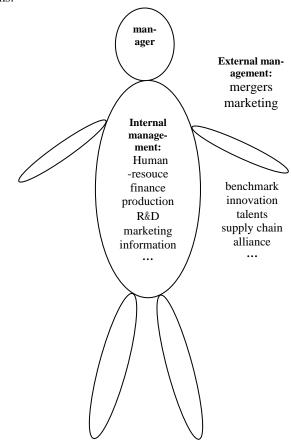


Fig. 2 Management of entreprise life systems

Fourth, the brain acting on the human body unified command, internal and outside the nervous system is highly sensitive to the sports system and nervous system under the command of a close collaboration. In addition, the immune system that affects human health against the general impact of factors such as the management of human life-support systems features. Thus, we can build a business management simulation system of human life (as shown in Figure 3).

4.3 Applied Fields

The Model of Enterprise Body Management can be used in these fields:

First, Enterprise risk management. Let us assume that normal people have a general safety awareness of self-protection. As an enterprise, it is necessary to



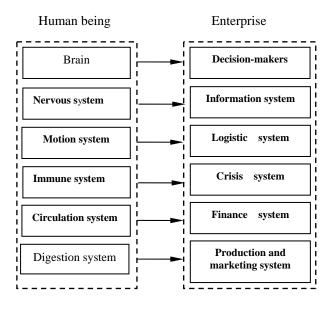


Fig3. Enterprise — human body analogy simulation

achieve its goal of more or less the existence of a certain degree of risk, or enterprises that may exist in the development of organizations in crisis when it's easy to be subjected to internal organization or the external environment arising from the impact of the crisis.

Second, Feedback management. One can obtain an organ through a variety of different information, for example, by visual, auditory and sensory information, such as access to decision-making and information quickly.

Third, Mine Safety Management .Mine safety accidents have been frequent haunt of mine safety in production enterprises, especially the frequent occurrence of coal mining.

5 Conclusions

In this paper, business and man-made object of study breakthroughs simulations of biological or life imitating conventional system management perspective. Through the management of life-support systems on the human body to observe the laws of analysis, the human enterprise management model is put forwarded by adopting analogy simulation method. This will provide enterprise management model innovation with a new research perspective.

References

- [1] Lu. The meaning and development of Bionics [J]. Science Chinese, 2004, (4).
- [2] Xia Guoying, Pan Chengbiao. Biomimetic management and Standardization of the object of study [J]. Qiqihar

- University (Philosophy and Social Sciences Edition), 2006, (1).
- [3] Zheng Xiufeng. Bionic enterprise management and research methods [J]. The contemporary economy, 2006, (6).
- [4] Liu Fulin. Bionics management [M]. Beijing: Enterprise Management Press, 2007.
- [5] Wang Lizhi. The study on mechanism and representation of enterprises [D]. Beijing: Beijing Industrial University Press, 2003.
- [6] Zou Liang. Enterprise management theory of human Research on the theory of enterpreise's human body management [J]. East China Economic Management, 2007, (12).
- [7] Demeester, Lieven, Eichler, Knut and Loch, Christoph H. Organic Production Systems: What the Biological Cell Can Teach Us About Manufacturing[J].Manufacturing & Service Operations Management, 2004, 6, (2).
- [8] Dutton, Richard E..Bionics: A step toward artificial intelligence system[J]. Training & Development Journal, 1970, 9(24).
- [9] Y Zhou, KB Chuah.Human intelligence: the key factor for successful intelligent manufacturing[J]. Integrated Manufacturing Systems, 2000, 1(11).
- [10] Garud, Raghu, Kotha, Suresh. Using the brain as a metaphor to model flexible production systems [J]. Academy of Management Review,1994(10).
- [11] Prem, Erich.The behavior based firm:Application of recental concepts to company management[J]. Applied Artificial Intelligence,
- [12] 1997,4(11).
- [13] Lv Wenning. The essence of the theory lives enterprises [J]. Xuehai, 2008, (5).
- [14] DA Qingli, Hu Xiaoxiang. Virtual enterprise model of biological design [J]. Journal of Southeast University (Philosophy and Social Sciences Edition), 2002, (5).
- [15] Wang Yu, Qing Lida. A type of biological model of enterprise systems [J]. Journal of Management Engineering, 2002. (1)
- [16] Wang Yihua, Lu Ping. The study on organization immunity [J]. science of science and management of S & T, 2006, (6).
- [17] Lou Yuan, Han Furong, XU Yanmei. Study on evolution of morphology and behavior of enterprises [J]. Research on Economics and Management, 2005, (5).
- [18] Wang Wenping, Zhang Yan. A knowledge-based sustainable survival and development theory and life bionics model [J]. China Management Science, 2002, (2).
- [19] Gao Hongpeng. New Development Studies[M]. Beijing: Chengdu Times Press, 2004.
- [20] Sun Jian, Yu-Hai Wang, Yang-Leninism. Safe production management model - the body corporate management model [M]. Beijing: Enterprise Management Publishing Society, 2005.
- [21] Zhang Shiying. Similar to the same connected-on "total phase", the question of the ontological status of the new theory [J]. Journal of Peking University (Philosophy and Social Sciences Edition), 2004, (5).
- [22] Prigogine. From existence to evolution [M].Zeng qing-hong, Yan shijian translation. Shanghai: Shanghai Science and Technology Press, 1986.
- [23] Haken. Synergetics-the secret of the success of nature [M].Dai mingzhong translation. Shanghai: Shanghai Science Popularization Press, 1987.
- [24] King Yuhong. The characteristics of dissipative structure of human body system and the scientific research system,



- [J]. Shanxi Colleges and Universities Social Science Journal, 2004, (2).
- [25] Penna Gyu, Zou Suwen. Study on the complexity of systems and complex systems [J]. Journal of Systems Science, 2006, (1).
- [26] Daft,R,L.and Weick,K.E.,Toward a Model of Organizations as interpretation Systems[J].Academy of Management Review,1984,9(2).