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A Conceptual Model and Core Factors contributing to the Sustainable Development of China's Enterprises

（Dissertation submitted for the degree of Executive Doctorate in Business Administration）

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ABSTRACT

The problem of sustainable development of enterprise（SDE） has always been an important topic in economics and enterprise management. Many factors affect SDE, among which the core ones are playing crucial roles. The conceptual model of SDE is a comprehensive model which, with certain expressions, describes the development and evolution of an enterprise in order to explain the uncertainties of SDE. This dissertation discusses the core factors which affect the sustainable development of the enterprise. By reference to simulation technology and based on vortex models in fluid mechanics and vortex theories, an SDE conceptual model and its computerized model are built, and the latter is applied to enterprise case study.

By reference to the 7S model of MGI, we designed a questionnaire; guided by Principle Component Analysis (PCA), we processed the data from the questionnaires and acquired five principle components whose cumulative variance contribution rate reached 87.8%. They are enterprise management, enterprise strategies, talents, innovation and enterprise culture. The result shows that among various factors affecting SDE, there are only five core factors, of which enterprise management. Thus, guided by the right strategy, management is the determinant factor of the success of an enterprise.

According to the Enterprise Life Cycle, with a comparison between the core factors affecting the enterprise's sustainable development (SDE5) as well as their respective weightings and the five factors released by World Health Organization which affect human's longevity (WHO5) plus their respective proportions, we find that not only do components of SDE5 and WHO5 share similar weightings, their physical implications are also alike. In this research, enterprise management (weighting 63%) resembles individual lifestyles and habits (60%); enterprise strategies (19%) are like genetic factors (15%); talents (9%) corresponds to social factors (10%); innovation (5%) is equivalent to medical conditions (8%), while enterprise culture (4%) is like the climate conditions of the environment where people live (7%).This phenomenon essentially reflects the similarity of enterprises and humans from the perspective of life.

Referring to system simulation, integrating various vortex models in vortex theories, including point source, the point convergence, the point vortex and the Rankine vortex, we built a "whirlwind" conceptual model of SDE and, aided by the "pumping dragon", explained the operation and its characteristics of the conceptual model. The model is an open platform

evaluating an enterprise's developmental states and trends. With accordance to different data, the enterprise can be evaluated from various perspectives.

According to the similarities in physical implications, we matched the enterprise's financial data with parameters of the computerized model, and set up a computerized model of the conceptual model. Through analysis of the model, we put forward concepts including Potential Energy of Enterprises (PEE), Sales Potential of Enterprises (SPE), Potential Energy of Markets (PEM), Sales Potential of Markets (SPM), Enlargement Index (EtI), Strengthening Index (SgI), and Stabilization Index (SnI). Based on analysis of the structure and sensitivity of the computerized model, we propose three assessment criteria, i.e. diagnostic assessment, value chain and stability in computerized model application. We then conducted a universality test of the computerized model with statistical analysis, and selected five enterprises, evaluating their developmental states and trends based on the assessment criteria of the computerized model and the grey forecasting model. The case analysis shows that it is feasible to evaluate an enterprise's developmental status.

Key words: core factor; conceptual model; assessment criteria; sustainable development; enterprise

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