

# Research on the Identification of Influencing Factors in Knowledge Management Ability at Scientific and Technological Innovation Enterprises Plus Strategies to Improve them

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**Abstract:** Knowledge resource management and scientific & technological innovation ability are the success for development and growth of SMEs, but science & technology-based SMEs are constrained by its small scale and funds lacking, resulting in momentum lacking for innovation and development. It plays a leading role in relative SMEs. This paper aims to explore innovation and put forward a rational path on how to effectively introduce it into relative SMEs.

**Keywords:** Knowledge Management; Technology-Based Smes; Technological Innovation; Development Strategy

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## Introduction

With development, society has entered a period of intertwined influences under big data, artificial intelligence and knowledge economy. Knowledge changed from the exogenous role that promoted social and economic development to an endogenous variable. It focused on how to use resources to manage objects. It's a new change in its mode to adapt development and time's change, a crystallization in social, economic, science and technology, and a trend of social progress. SMEs have developed in progress with further deepening of China's market opening-up, rapid development, and growing diversified needs of people. They have sprung up in the course of their development. Although they do not account for a large proportion, new products they produce, patent they invented and technological innovations they use account for more than half of market. It can be found that they have become the backbone of promoting transformation, upgrading and innovative economy due to their innovation, progress, vitality and growth <sup>[1]</sup>.

## 1. Concept of knowledge management

This concept was proposed at a European management conference in 1986. STATAR believes that under the variable environment, knowledge combines the ability to process data with innovation to provide services for survival and development of organization. ANADONA LD et al. believed that purpose of introducing it was to provide practical and necessary guarantee. It uncertainly affects activities and development of enterprises, regardless of their size. Influenced by foreign research, the perspective of its research has also led to climax by domestic scholars to set foot in this realm. Yixuan Wang believes that it is defined as activities such as identified explicit and implicit knowledge, acquiring application, conversion and creation. It also includes training for learned technologies and personnel. Lei Zhang also believes that this is the systematic management , including explicit knowledge and tacit knowledge. It has not yet formed a unified and authoritative definition. This paper believes that identity management are activities to extract, identify, apply and share, aiming to improve the efficiency to cope with uncertain, complex and changing external environment <sup>[2]</sup>.

## 2. Characteristics of science and technology management under the condition of knowledge management

Its innovation is a potential profit opportunity for entrepreneurs seizing the market. Aiming at obtaining commercial interests, reorganizing production conditions and factors, establishing a system with stronger efficiency, lower cost to launch new products and

methods, open up markets, obtain supply of raw materials or semi-finished products, or establish a organization of enterprises. Integrated process that includes activities such as science and technology, organization, business and finance. In knowledge economy, it has the following distinctive characteristics. (1) This is highly innovative. Contemporary innovation is a breakthrough and challenge to existing achievements, and it will be influenced by traditional concepts and authoritative figures. For implement knowledge management, it is necessary to cultivate highly innovative personnel who dare to challenge traditional theories and authorities, have independent thinking ability and scientific critical spirit, and constantly make breakthroughs, so as to continuously push forward innovation. (2) This has a complexity. Objects are extremely complex in both breadth and depth. Carrying out contemporary activities, it's necessary to apply various theories and tools. Innovative personnel must have a rational knowledge structure, not only professional , but also disciplines. Otherwise, it will be difficult to achieve progress and results in scientific and technological innovation. It promotes sharing and expands employees' horizon. (3)This is highly intelligent. It in knowledge economy is a highly intelligent and intellectual activity, and all specific links in process requires its personnel to apply their own intellectual factors. With the acceleration of economic globalization and emergence of knowledge management, it has become increasingly important. People are sources of knowledge, and implementation may improve level of high-tech talents <sup>[3]</sup>.

### **3. Purpose and objectives of knowledge management**

Research purpose and goal positioning of representative academic achievement evaluation of knowledge management are to adopt interdisciplinary research to build a knowledge-oriented system around the problem of selection and identification of representative works and high cost of micro-evaluation, and is to creating an academic cultural environment and value system that loves it rather than results. By sorting out literature, its research paradigm, meso selection criteria and micro-evaluation methods, institutional analysis and technical model construction are realized. Basic theories and methods are formed; A scientific, rational, and practical implementation plan is proposed. Firstly, enriching and improving basic theoretical system. Relevant theories and latest methods are adopted to systematically sort out conceptual connotation, operational characteristics and constituent elements, analyze fit elements of tacit knowledge and explicit knowledge contained therein, and construct a model from interaction between micro and meso evaluation, to further innovate and enrich theoretical system. Secondly, epistemological basis and concept of library and information science are explored, and a methodological system is formed. Focusing on output , disseminating and evaluating whole life cycle, its different carrier forms and knowledge source, deeply excavating relationship and evolution path between data, information, knowledge and wisdom, analyzing process, measurement, methods and elements in Internet and semantic information environment, exploring methodological significance.

Thirdly, promoting implementation of policies. Under new national driving strategy, China's traditional methods are facing new problems, and after introduction on "implementing representative evaluation system". Academic peer formation mechanism and review system have yet to be improved. We try to provide new ideas and solutions, strive to break the boundary barriers, encourage researchers to be knowledge-oriented, and provide evidence and method support to better promote policies <sup>[4]</sup>.

## **4. Technology innovation and development strategy of technology-based SMEs from the perspective of knowledge management**

### **4.1 Establish a learning organization.**

Knowledge economy requires enterprises to practice it, speed up transmission of knowledge, scientific&technological innovation, decision-making, and feedback. Traditional structure has also brought glory to enterprises, but it has also hindered innovation of enterprises. Because this organizational structure ranges from decision-makers at the highest level of enterprise to employees at the lowest level of enterprise, there are too many intermediate levels, the transmission is slow, the rate of distortion is high, and it is easy to make wrong judgments, and autonomy of decision-making at grassroots level is small, and it is difficult to meet requirements. Learning organizations delegate decision-making power to grassroots level as much as possible, so that grassroots units have full autonomy; this kind of thinking of "focusing on localities" has made organizational structure more oriented.

## 4.2 Establish the diversification and internationalization of the work of intellectual personnel

Practice shows that transformation of digital and knowledge has continuously expanded the scope that enterprises and other organizations pay attention to, constantly intersected disciplines, diversified knowledge application fields, and continuously increased demand. At same time, with increasing development environment , and there is a greater need for standardized international standards and knowledge unification and guiding practice [5].

## 4.3 Strengthen the construction of knowledge management platforms

Before building a system and construction of enterprises should have achieved good results, such as OA, PLM, HR, BPS (process platform), after-sales service platform, test platform, design knowledge platform, standardized query platform. For breaking through company's scattered information islands, it is proposed to build a "one-stop" function, and use three ways to sort out and integrate existing resources: Firstly, abolishing existing standards, design knowledge, literature and other platforms, and integrate their histories into it. Secondly, keeping existing platform as a data input port, and regularly collects data, such as external network access port of after-sales service platform must be reserved for its service personnel to access in remote external network environment. The third is to conduct cross-database search such as OA and PLM, and jump to business system. "One-stop" has improved work convenience and efficiency. Construction needs to unify existing base. Building a unified system. "One-stop" through integration with core systems (OA, PLM, after-sales service platform, etc.). It undertakes bases at all levels, and provides services such as CBB library, expert database, communication community, learning examination system, knowledge map. It's focusing on R&D knowledge adopts method of multi-dimensional model to realize views from same perspective. For improving integration degree and facilitate the use of it, enterprises can deeply integrate it with design tools and PLM system, realize design criteria push and knowledge based on Word, EDA and CAD, and realize key process on PLM [6].

## Conclusion

Carrying out construction can promote development of enterprises. Unit achieved technological innovation results and cores with independent intellectual property rights, and it's even more an inevitable choice. Through designs and analysis, its construction mode conforms to today's institutes and enterprises, and significance in consolidating foundation, deepening reform and innovation, carrying forward its spirit. It's in comprehensive construction mode and continuous adaptation fit development of times. This is a new direction.

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