Construction of Early Warning Service System for Strategic Emerging Industries Based on Competitive Intelligence

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Abstract: Based on the understanding of the competitive situation in the strategic emerging industries, this paper analyzes the demand of the state, local governments, industry and enterprises, which represent different service users, for the competitive intelligence early warning service, and studies and establishes the competitive intelligence early warning service system for the strategic emerging industries in a bid to deliver differential competitive intelligence early warning services to entities at different levels.

1. Introduction

Since 2010, the provincial administrative zones of China have successively announced respective action plans to develop and cultivate strategic emerging industries, which, however, face certain challenges and risks while embodying significant opportunities. These industries demand a large quantity of competitive intelligence as the support to realize strategic visions, policy guides, industrial distribution, industrial restructuring and innovation of industrial structures. This poses an imperative demand for the study on the competitive intelligence early warning service system staking development of the strategic emerging industries in depth.

By monitoring and collecting various information relating to enterprise/industry operation, intelligence early warning aims to help enterprises/industries accurately identify the impact from external environment changes and judge their strategic and operation statuses with a sober mind so that enterprises and even entire industries can capture opportunities emerging during the critical stage of China's implementation of strategic transformation and upgrade of industries, stave off risks, adjust development strategies in time, adapt to new economic development patterns, and realize sustainable development of enterprises and entire industries.

This paper first understands the competitive situation in the strategic emerging industries, and identifies the demand for the competitive intelligence early warning service in relation to these industries from four stakeholders: state, (local) governments, industries and enterprises. Then, this paper proposes to build a competitive intelligence early warning service system backing strategic emerging industries, and states the connotations, principle for construction, overall technical scheme and service mode of the system. This paper will provide certain reference for China to deliver the competitive intelligence service in relation to the strategic emerging industries and build a competitive intelligence early warning service mode adapting to China's actual conditions for these industries.

2. Demand Analysis of Competitive Intelligence Early Warning Service of Strategic Emerging Industries

Construction of the competitive intelligence early warning system involves analyzing the competitive intelligence service demand of the strategic emerging industries based on the understanding of the current development status and competitive situation of these industries.

2.1 Competitive landscape in strategic emerging industries

Employing Michael E.Porter's Five Forces Model to segment various competitive forces of the strategic emerging industries, this paper analyzes the competitive environment faced by the strategic emerging industries in China to help understand the competitive intelligence required to boost the development of the strategic emerging industries.

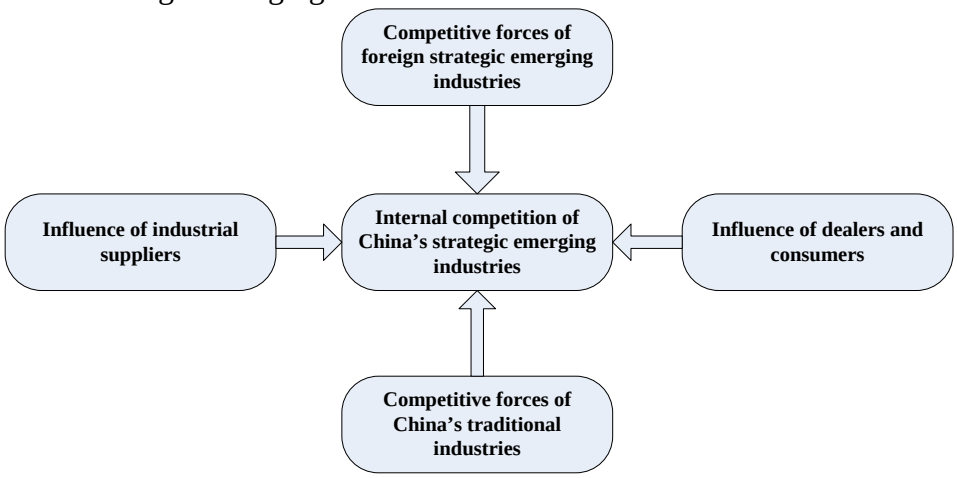

Figure 1. Five Forces Model for China's Strategic Emerging Industries

(1) Competition among China's strategic emerging industries

The competition mainly includes that between industries, that between regions and that between different enterprises in the same industry. Competition among seven strategic emerging industries means the competition in resources, government's favorable policy, human resource support, financial support and other dimensions. Certainly, the relation among these emerging industries is more of mutual promotion. What should the state do to promote common development of the strategic emerging industries? Competition between regions is the competition in regional economic development by developing the strategic emerging industries. However, strategic emerging industries constitute major engines driving the economic growth. How are the industries arranged to realize mutual balance and coordination between regions? Competition between enterprises engaged in the strategic emerging industries does not differ a lot from that between common enterprises. Then, how can enterprises stand out of so many rivals? All these demand the support from competitive intelligence.

(2) Competitive forces of foreign strategic emerging industries

What successful experience can China learn from foreign countries in core technology, industrial structure, high-end talent, regional arrangement, industrialization capacity and counterparty policy? What latest moves have foreign countries, local governments, industries and enterprises taken in the strategic emerging industries? What influences will these moves deliver on China's strategic emerging industries?

(3) Influence of industrial suppliers

Suppliers of China's strategic emerging industries include both domestic suppliers and foreign suppliers, and they usually supply some raw materials, technologies and production equipment that are indispensable in the strategic emerging industries. This means foreign suppliers control the fate of these industries, and sudden change in suppliers will deliver an essential impact on China's strategic emerging industries. How to change excessive dependence of China's strategic emerging industries on suppliers?

(4) Influence of dealers and consumers

With their preference, purchasing power and psychology, consumers deliver a significant influence on product sales of the strategic emerging industries. In particular, industries with large export volumes will be subject to broad sales fluctuation due to changes in import and export

policies at home and abroad. Then, how to develop pertinent sales strategies? How to respond to decisions of rivals? How to reduce the risks during the export?

(5) Threats from traditional industries

China now is developing strategic emerging industries with every effort, but traditional industries still constitute one of China's economic pillars, and can't be fully replaced. How to overcome the competition from the traditional industries against the strategic emerging industries? How to promote mutual fusion and common development between the traditional industries and strategic emerging industries?

2.2. Demand for competitive intelligence early warning service of strategic emerging industries

To develop the strategic emerging industries, the state, local governments, industries and enterprises must make pertinent, quick, timely and efficient decisions, and monitor a multitude of factors, which constitute the underlying information of the competitive intelligence needed by the strategic emerging industries during decision-making. At present, the competitive intelligence service demand of China's strategic emerging industries can be analyzed in four dimensions: state, local government, industry and enterprise.

(1) Demand of the state for competitive intelligence early warning service

Domestically, the State Council has promulgated the Decision of the State Council to Accelerate the Cultivation and Development of the Strategic Emerging Industries, which is an outline document. However, it is still necessitated to do a lot of research work on the judgment of the domestic development situation, selection of development strategies of specific industries, selection of material and key technologies for specific industries, collaboration between different strategic emerging industries, arrangement and coordination between different provinces and municipalities in strategic emerging industries, and collaboration between strategic emerging industries and traditional industries, in order to consummate corresponding strategic systems and realize expected development objectives.

Internationally, China now faces an international competitive environment featuring dominance and advantages of power nations in different industries on the way to cultivate and develop strategic emerging industries. To realize smooth development and forge international competitive edges, China must understand and judge the international development situation, know dynamics of related countries, handle relations between competition and cooperation with other countries, capture the latest moves of foreign countries to suppress China's strategic emerging industries, and effectively resist these attacks.

(2) Demand of local governments for competitive intelligence early warning service

Competitive intelligence for the government can be simply divided into the state level and the local level. In this paper, the competitive intelligence for the government at the state level is equivalent to the competitive intelligence for the state, and the competitive intelligence for the government mainly refers to that for the local governments.

Local governments must also do a lot of research work to segment and refine the strategic program for cultivating and developing strategic emerging industries with every effort, and formulate and effectively implement corresponding strategic moves. For example, the local governments must determine their positioning and objectives in developing strategic emerging industries, determine the content system included in the support catalog, identify their foundation, inherent advantages and disadvantages, and decide external factors and resources available for use. Meanwhile, they must also assess external opportunities and threats, plan and arrange local strategic emerging industries, and decide policy moves to support the development of local strategic emerging industries.

(3) Demand of the industry for competitive intelligence early warning service

Every strategic emerging industry given access to the catalog must also do a lot of research work to realize expected development objectives. For example, it must understand the development status of the industry at home and abroad, composition and roles of the industrial chain, core roles, industrial characteristics, current development status and future direction, key technologies of the industry and research dynamics, and develop the development strategy.

(4) Demand of enterprises for competitive intelligence early warning service

To grow bigger and stronger, develop competitive strengths and realize expected development objectives, many enterprises specializing in the strategic emerging industries must do a lot of research work in relation to the judgment of the prospect of the target industry, new product development, merger and acquisition, development of domestic and overseas markets, selection of domestic and overseas partners, current status and dynamics of rivals, distribution of rivals, preference and demand of buyers, growth speed of market and target scale.

3. Construction of Competitive Intelligence Early Warning Service System for Strategic Emerging Industries

3.1 Connotations and principles for the service system

(1) Connotations of the service system

In the big data environment, the competitive intelligence early warning service system for strategic emerging industries can deliver a diversity of real-time intelligence services to the governments, industry administration authorities and relevant enterprises, and such services are only offered to the strategic emerging industries. As an overall system comprising a number of intelligence service users and intelligence function subsystems, it includes regular and uniform intelligence working mechanism, working flow, sound intelligence collection and analysis tools, information processing environment, Web information platform, professional intelligence analysis team and external expert team, and delivers personalized intelligence services to customers to help the strategic emerging industries realize sustainable growth.

1) The competitive intelligence early warning service system is a system delivering a full spectrum of intelligence services to the strategic emerging industries. It integrates internal and external information sources, expert sources and user sources, and combines services with a uniform service platform.

2) The competitive intelligence early earning service system offers personalized services to the strategic emerging industries. It renders different intelligence early warning services to different service users: It delivers the intelligence service relating to the development of policies and strategies for the strategic emerging industries to the governments, delivers the intelligence service relating to dynamics and market competition of the strategic emerging industries to the industries, and delivers the intelligence service relating to technical innovation in the strategic emerging industries to enterprises.

3) The competitive intelligence early warning system is a system that realizes environment monitoring, technical track, market early warning and cooperation-competition analysis. The system works as a dynamic and continuous process, and its major functions include routine environment monitoring, market early warning and technical track, besides providing intelligence products meeting user demands.

(2) Principle for construction of the service system

The competitive intelligence early warning service system shall observe the following principles for construction and function:

1) Principle of demand orientation

The competitive intelligence early warning service system delivers the intelligence early warning service, which is extremely complex. Therefore, it can’t cover every aspect, but can only concentrate the force and focus on the intelligence service most demanded by the industries now. Only by doing that, can the system generate the competitive intelligence adapting to the development of the strategic emerging industries, and help forge competitive edges.

2) Principle of cost benefit

During the construction of the competitive intelligence early warning service system for the strategic emerging industries, corresponding resources must be input to obtain the intelligence, analyze the intelligence and build information channels. This will necessitate the construction of a

scientific and effective intelligence service system, fully consider the economic factor, and strive to maximize the benefits at the lowest cost.

3) Principle of objectivity

The competitive intelligence early earning service system must be objective in actual performance. In particular, the system must assure the reliability, effectiveness and authenticity of the collected intelligence, accurately reflect the practical situation, and be immune from the interference of external factors (artificial factors) when it comes to the establishment of intelligence channels and intelligence collection.

4) Principle of reasonableness and legality

In the practical world, people can't collect desired information and data through normal channels, but have to resource to special channels to obtain information, driven by actual needs and interests. In our system, the intelligence must be obtained to the extent as allowed by laws and business ethics. Therefore, the system does not support the acquisition of illegal information through special channels.

3.2 Overall technical scheme

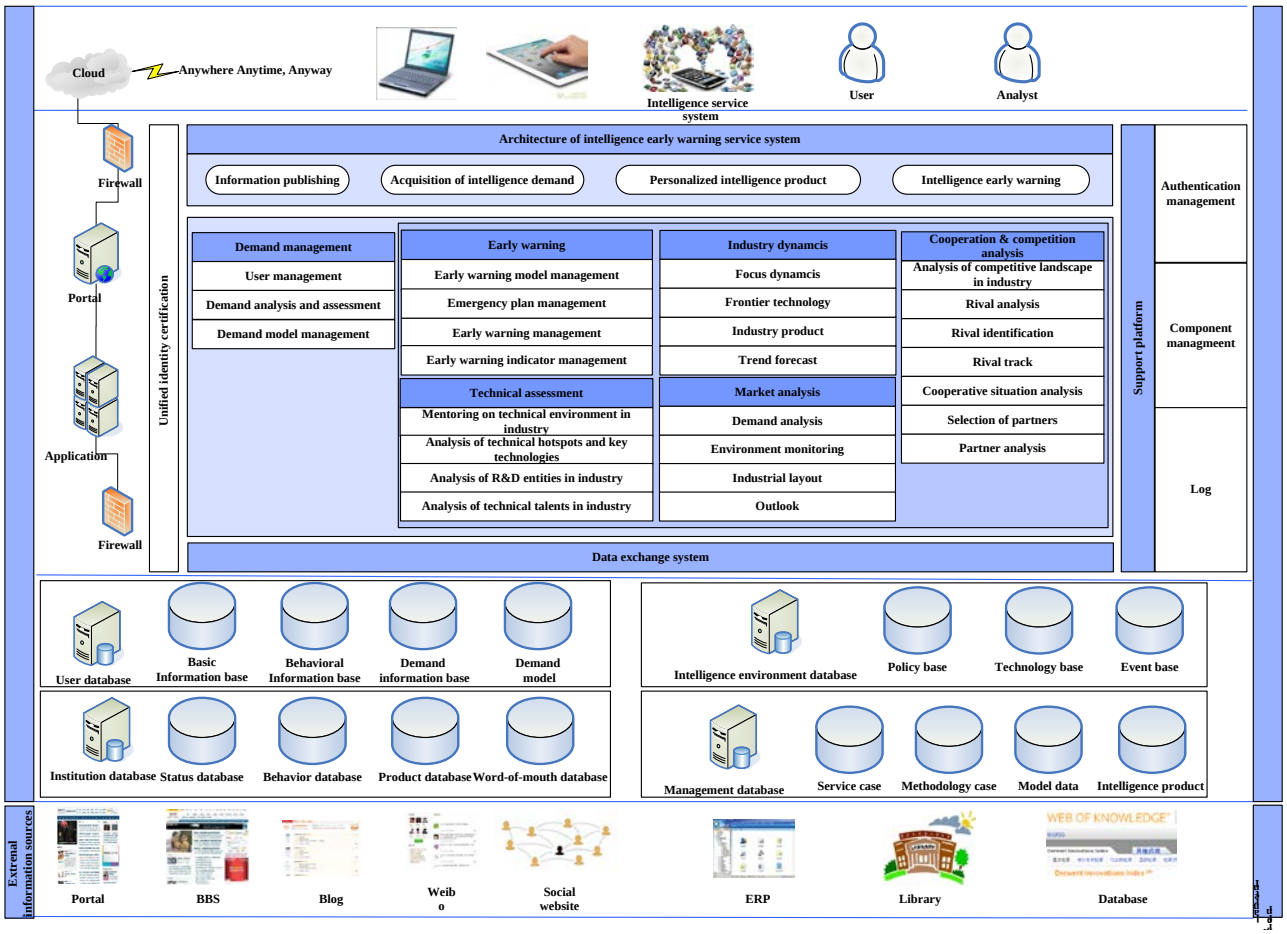

Figure 2. Overall Technical Scheme for Competitive Intelligence Early Warning System of Strategic Emerging Industries

Figure 2 shows the overall technical architecture for the competitive intelligence early warning system of strategic emerging industries. It consists of the information source management system, the data management system, the data exchange system, the demand management system, the big data collection and screening system, the competitive intelligence function management system and the support platform.

(1) Information source management system

It is necessitated to implement uniform management of information sources, considering broad distribution of information, great difference in information source structure, diverse types of

information, fast update of information and serious repetition of information in the big data environment. The big data intelligence service platform consists of internal information sources and external information sources. The majority of external information sources include blog, Weibo, forum and social website, which poses a great challenge for information collection, organization and analysis due to the fragmentation, rapid update and irregular content of information. Internal information source constitutes one of the important big data sources of enterprises, and also embodies great value as intelligence. The internal information sources substantially consist of data generated by the ERP system, internal data of enterprises, data in the knowledge management system, structured database and other sources.

(2) Data management system

The data management system uniformly manages all data contents in the intelligence early warning system. Overall, data are divided into technical data, market data, expert data, innovation entity data and other types. These data constitute the foundation for the functions of the competitive intelligence early warning service system.

(3) Data exchange system

Based on the need to realize the functions of the function layer, the data exchange system automatically calls and converts data formats and data types when the modules of the function layer are started, and represents the major interface between the function layer and the data layer.

(4) Demand management system

Demand is the key of the intelligence early warning service, which is oriented to demand. In the big data environment, the demand is based on data. In this platform, the demand and relevant information are recorded in the entire process of the intelligence early warning service. Also, by continuously accumulating demand data and optimizing the demand model with the management function of the demand model, the platform analyzes and assesses potential demand that may appear at any time, improves the accuracy of intelligence demand forecast based on the assessment of the use of intelligence products, and realizes the change from passive service to active service.

(5) Big data collection and screening system

Big data collection and screening are the basic function of the intelligence early warning system, and concentrates many technical difficulties. Big data collection is completed through the meta search engine, the professional search and the interactive search based on domain ontology. It realizes the in-depth search targeting certain industrial area, and improves the recall ratio and precision ratio. At the same time, the dynamic information track technology realizes continuous track of specific object, and reorganizes scattered fragmented information to obtain the information with values.

(6) Intelligence function management system

This system realizes various decision-making support functions of the intelligence early warning service, including industrial dynamics, technical assessment, market analysis, intelligence early warning and cooperation-competition analysis. Employing relevant data sources of the strategic emerging industries as the data foundation, the system combines a multitude of analysis methods and models to realize more accurate and comprehensive description of the current status and history of industries/enterprises, and accurately find the laws of development. Moreover, it provides a more powerful forecast and early warning function and improves the foresight of decisions while enhancing the initiative of the intelligence service.

(7) Support platform

As an auxiliary structure of the system, the support platform helps manage public contents, including the management of certified platform users, the management of various components, management of service standards, methods, standards for model use and other standards, and the management of operation logs of the platform.

3.3 Service mode design

The competitive intelligence early warning service system for strategic emerging industries contains complete business functions, uniform intelligence working mechanism and working flow,

sound intelligence collection and analysis tools, information processing environment, information platform, professional intelligence analysis team and external expert team, and delivers desired personalized intelligence services to customers.

(1) Business function

Based on the analysis of the demand for competitive intelligence early warning service of strategic emerging industries, we will build the competitive intelligence early warning service system in five functional dimensions, including intelligence early warning, industrial dynamics, technical assessment, market analysis and cooperation-competition analysis.

1) Intelligence early warning

In the big data era, the competitive situation driven by data and information will always change, and ex-post analysis can no longer adapt to quick changes in the competitive situation. Therefore, forward-looking judgment of the industrial development situation will be of vital importance for enterprises to determine countermeasures and take the initiative in competition.

Leveraging qualitative and quantitative methods such as scenario analysis, war game, Delphi method and statistical analysis, we will develop the intelligence early warning technology for the strategic emerging industries, forge the intelligence early warning indicator system, realize intelligence early warning for the strategic emerging industries, and support the formulation and implementation of forward-looking strategies.

2) Dynamic analysis

We will understand the foreign dynamics of the strategic emerging industries and relevant technologies by collecting relevant industrial policies, technologies and other information in America, Japan, Europe and other countries, know the dynamics of the strategic emerging industries in a real-time manner by employing relevant data stored in the market data resource base, and on this basis, we will understand global dynamics of strategic emerging industries more vividly through comparison and with an international vision.

3) Technical assessment

We will analyze the factors constituting the technical analysis and mutual relations as well as the key indicators delivering obvious influence on the technical assessment to analyze technologies relating to the strategic emerging industries, and thus provide reference and support for relevant decisions.

4) Market analysis

Based on in-depth analysis of the market analysis flow, data source and analysis method, we will identify major contents of market analysis, key influencing factors and data acquisition channels through demand survey, explore the key intelligence demand of market analysis, provide market analysis reports on relevant areas of the strategic emerging industries, and better support effective implementation of enterprise strategies and market strategies in the strategic emerging industries.

5) Cooperation-competition analysis

Through in-depth interview and field survey, we will analyze in detail advantages and disadvantages of specific service users in the strategic emerging industries, and identify in depth major rivals of users as well as pros and cons of potential partners with SWOT analysis, benchmarking and other analysis tools. On this basis, we will identify the factors constituting the core competitive strengths of users in respective areas, and based on data accumulation, we will build the assessment system and assessment model for core competitive strengths of the strategic emerging industries with principal component analysis, multiple regression analysis and other methods, and work out the core competitive strength diagnosis and implementation plan. At the same time, we will dynamically analyze and assess competitive strengths of users, rivals and potential partners, scientifically assess the competitive strengths of users and the possibility to cooperate with potential partners in a real-time manner to support the development of the competitive strategy and the prospect analysis of cooperation.

(2) Composition of the team

A relatively complete team of the competitive intelligence early warning system shall include the following entities, judging from the composition of the participants in the system:

1) Relevant industry supervision authorities

They mainly include some central and local industry supervision authorities, such as industry departments under some ministries and commissions of the central government and industry administration bureaus under local governments. These authorities are obviously official entities, and play an important role in formulating and implementing industrial policies, and formulating and adjusting industrial planning. In the industrial risk early warning system, these authorities play the role of administrative instruction as industry supervision authorities, realize effective allocation of industrial resources, and promote benign development of relevant industries.

2) Industry associations

Industry associations refer to social intermediary organizations that act between governments and enterprises, and instruct, communicate with, coordinate and supervise enterprises in respective industry in accordance with laws, regulations or policies of the state or upon the entrustment of governments. They are nonprofit organizations composed of economic organizations and related institutions in respective industry, and act as the bridge between governments and enterprises. Representing common interests of operators in respective industry, industry organizations should play an important role in the early warning of industrial risk, and provide industrial early warning information in time.

3) Third-party industry research institutes

Industry research institutes aim to pursue profits and examples include industry consultancies, industry research firms and market research agencies. Some industry research institutes focus on specific industrial areas, such as CCID Consulting Communication Industry Research Center, and some cover a broad range of industrial areas and feature comprehensive research, such as ACMR, Huicong Industry Research and CI Consulting.

4) Industry policy and strategy research entities

Industry policy and strategy research entities are official and semiofficial research entities, and focus on the research on relevant industrial policies and long-term industrial development strategies, such as China Academy of Telecommunication Research of MIIT, the Institute for Cultural Industries of Peking University and the Institute of Industrial Economics of CASS. These entities have rich experience in the research on industrial policies, industrial development strategies and other areas, which will help identify the future direction of industries from the macroscopic perspective in industrial risk early warning.

5) Information service institutions

Information service institutions in the modern sense can be divided into two types. One type is the information institutions that deliver information collection, track, analysis, report and other services to specific industries, such as China National Chemical Information Center, China Textile Information Center and China Shipbuilding Information Center, and the other type is the information service institutions named after competitive intelligence or featuring competitive intelligence, such as Hunan Competitive Intelligence Center, Beijing Institute of Science and Technology Information and SZWANFANG.

6) Universities and scientific research institutes

Different types of universities and scientific research institutes are the frontier of theoretical innovation. It is necessitated to fully exercise the important function of universities and scientific research institutes in theoretical development, strengthen theoretical research on international industrial competition and industrial early earning, continuously put forward more scientific and effective early warning methods for industrial risk, further explore the cultivation mode combining industry, academy and research, and nourish a batch of professionals who are badly needed in the industrial early warning.

7) Relevant enterprises

Enterprises are the microcells in industrial economic activities, and a good industrial environment constitutes an important support for the survival and development of relevant enterprises. Therefore, relevant enterprises in the industrial areas should be more active to participate in the industrial early warning. Some representative enterprises playing a dominant role in industrial development,

particularly leading enterprises growing well in respective industrial areas, should set an example, play the role as a compass, and guide stable healthy development of respective industries.

For the purpose of this research, the team of the system we have built includes the following components:

1) Crisis early warning and intelligence center

It is necessitated to build a full-time crisis early warning and intelligence center or an organizational structure containing such function to better prevent crises. The center is composed of people having the capacity to collect, sort up, analyze, forecast and manage the intelligence. Its major functions include monitoring the competitive environment, rivals and internal status of enterprises based on the needs of the industry/enterprise's strategy development or the demand of various functional departments of users for early warning intelligence, collecting signs of enterprises before crises, reflecting industrial dynamics in time, coordinating relations between the intelligence organization and various functional departments of enterprises and intelligence users, and managing and maintaining the enterprise crisis intelligence database.

2) Crisis intelligence commissioners

The crisis intelligence commissioners must be familiar with various functional departments of user enterprises such as R&D, production, marketing and finance departments. Their major functions are to collect, sort up and analyze the crisis intelligence, and report such intelligence to the crisis intelligence center at regular intervals. At the same time, they can do the work to collect, analyze and research the intelligence based on the intelligence demand of the crisis intelligence center or various functional departments. Crisis intelligence commissioners can be external persons closely related to enterprises, such as external experts, suppliers, persons of industry associations and customers. They usually can obtain desired sensitive information in time.

3) Management committee on crisis early warning intelligence

It assumes the major responsibilities to design reasonable crisis warning intelligence policies, flows and procedures for enterprise users, ensure effective operation of the overall early warning intelligence work of enterprises, establish corresponding audit and evaluation systems, supervise the implementation of prevention management measures and policies, periodically check enterprises for various signs of crisis, and revise warning intelligence management policies from time to time.

The organizational structure mode of the system is not mechanical or invariable, concrete mode to be adopted will depend on concrete situation of user enterprises, and there are no fixed modes.

(3) Operation mode

At present, it is necessitated to build an intelligence risk and early warning system and forge an efficient, quick intelligence and early warning network that adapts to China's actual conditions, has active guide and promotion by relevant governments, and features dominant role played by relevant industry associations and authorities, auxiliary role played by third-party industry research institutes, and joint support from enterprises specializing in the strategic emerging industries. We believe a relatively feasible operation mode of the intelligence risk and early warning system should contain the following key elements.

1) Build an intelligence early warning center for strategic emerging industries

A special intelligence and early warning center for the strategic emerging industries or an organization exercising similar functions should be established to better perform risk early warning and prevent risks of industries and enterprises. The major functions of the center include selecting different risk monitoring information sources based on the practical demand of industries or enterprises in the industries for early warning, processing and analyzing the information, building a risk early warning information base, and generate systematic monitoring information results. Then, the center organizes relevant experts to perform comprehensive assessment of related industry based on the development status of the monitored industry and enterprise as well as various key factors influencing the status, and judges whether or not the industry or enterprise faces risks based on the opinions of industry early warning experts.

2) Build an expert assessment team for early warning against strategic emerging industries

The early warning expert team is usually composed of industry experts, trade experts, economic experts, competitive intelligence experts, international affair experts and legal advisors who come from related industrial areas and have specific industrial backgrounds. Based on respective academic disciplines and actual development characteristics of various industrial areas, these experts identify the competitive situation in the international market, watch the latest dynamics of industries, assess the current status of the industries based on respective professional knowledge and experience, forecast future trends of the industries and potential risks, actively play their important role in consulting, assessment, early warning and resolution, and improve the level of scientific decision-making in industrial early warning.

3) Publish relevant early warning information in due course

Qualitative and quantitative analysis methods are combined to perform systematic and dynamic assessment of risks faced by relevant industries. Meanwhile, we will moderately correct the assessment conclusion in line with the qualitative and quantitative analysis result, the assessment standard for risk level and feedbacks based on actual conditions and future trend over certain future period, assess the type and level of the industrial risk, and finally determine the risk level. Finally, we will design comprehensive and concrete control measures against the industrial risk based on the extent of the industrial risk after weighing up potential impacts of the industrial risk, determine the optimal response plans, publish relevant early warning information to relevant government authorities, industry associations and relevant enterprises, and advance policy suggestions benefiting industry development and staving off risks.

(4) Working mechanism

Judging from the intelligence early warning in the general sense, the construction of the intelligence early warning system mainly includes the following steps: risk monitoring, risk identification, risk diagnosis, risk assessment and risk forecast. Risk monitoring constitutes the foundation, risk identification, diagnosis and assessment represent concrete process of early warning analysis, and risk forecast is the result of early warning analysis. Table 1 shows the major work done at various stages.

Table.1. Major Work Done at General Risk Early Warning Stages

Stage	Working Content
Risk monitoring	It mainly means monitoring certain instable factors and other various contingencies during the industry and enterprise development, and capturing risk signs in a real-time manner
Risk identification	It mainly means systematically classifying risk factors based on nature and characteristic, and determining key risk factors. It is the fundamental step for risk analysis at next step
Risk diagnosis	It means analyzing the risk in a comprehensive manner with relevant analysis tools, and mainly includes determining the principal factors triggering the risk and the severity of consequences of the risk
Risk assessment	It means selecting relevant influencing factors that can reasonably measure the risk status to build a risk early warning indicator system adapting to specific industries, determine the extent of the impacts of different indicators on the risk and determining the safety ranges of the indicators
Risk forecast	It mainly means utilizing the mathematical early warning models in a comprehensive manner to judge whether or not an industry and enterprise faces risks in qualitative and quantitative ways, and publish early warning information in due course.

According to the principle of the general early warning system, the early warning work usually includes the following nodes: find the warning source, identify the warning sign, analyze the warning sign, set the warning event, and forecast the warning level. The warning sign means an objective event that should attract much attention and precaution, the warning source means the fundamental source causing and triggering the occurrence of the warning event, the warning sign means various signs that come before the crisis, and the warning level means the extent of the warning event, and represents the warning level artificially classified to express the extent of severity of the warning event.

Generally speaking, the working flow for the intelligence early warning of the strategic emerging industries include intelligence monitoring, intelligence processing, intelligence analysis, indicator setting and intelligence publishing, and well fits general risk early warning to some extent. In particular, information and data constitute the foundation for intelligence early warning of strategic emerging industries. Only by collecting a large quantity of data and information existing during the development of strategic emerging industries, screening, processing and analyzing the same in line with certain rules and extracting the intelligence with the intelligence values, can we use the data and information for intelligence early warning and analysis better, and serve the intelligence early warning of the strategic emerging industries.

4. Summary

Based on thorough analysis of the current status and competitive situation of the strategic emerging industries, this paper analyzes the demand of the strategic emerging industries for the intelligence early warning service, determines the intelligence service demands of the state, local governments, industries and enterprises at different levels, and designs the overall technical solution for the intelligence early warning service system for the strategic emerging industries, which include the information source management system, the data management system, the data exchange system, the demand management system, the big data collection and screening system, the intelligence function management system and the support platform.

To realize the overall solution and the objectives of the competitive intelligence early warning service for the strategic emerging industries, this paper designs the intelligence track and early warning service mode for the industries, which includes concrete business functions, composition of the team, operation mode and working mechanism. The service system remains immature and incomprehensive, but it can provide the competitive intelligence demanded by the strategic emerging industries on the whole, and deliver differential intelligence services to the state, local governments, industries and enterprise, representing the entities at different levels.

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