

Research Article

Strategic Management Model of Network Organization Based on Artificial Intelligence and Modular Enterprise Big Data

Yan Guo¹ and Xiaojing Lyu² 

¹College of Management, Zhongkai University of Agriculture and Engineering, Guangzhou 510225, Guangdong, China

²Graduate School of Management of Technology, Pukyong National University, Busan 48547, Republic of Korea

Correspondence should be addressed to Xiaojing Lyu; lvxiaojiangself@mail.sdufe.edu.cn

Received 27 August 2021; Revised 11 October 2021; Accepted 15 October 2021; Published 8 November 2021

Academic Editor: Sang-Bing Tsai

Copyright © 2021 Yan Guo and Xiaojing Lyu. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Modularization has been a research hotspot in recent years. Among these, there are two issues that many scholars pay attention to. First, we must know what factors cause modularization, and secondly, what impact modularization has brought to enterprises. The era of information technology background makes enterprises have to deal with more and more complex information. The integration and application of internal knowledge resources also force enterprises to adjust their structure, so that knowledge can spread and create value within the enterprise more effectively. This paper, based on artificial intelligence and modular enterprise big data, constructs a matching model of corporate strategy and performance management mode, determines four different matching methods based on corporate strategy and performance management mode, and puts forward corresponding assumptions. This article selects the participants of EMBA and MBA courses offered by several universities as the survey subjects. Most of them are enterprise managers, have many years of management practical experience, have a good understanding of the basic situation of the enterprise, and can truly understand the scale and make a choice based on the actual content. In this paper, a strategic management model based on artificial intelligence and modular enterprise big data construction proves that paired sample *T* test can be found, the data analysis is based on the various indicator scores of the enterprise modularity level, and the resulting *P* value is less than 0.05 as a significant difference, which proves that these two indicators are too quantitative. The company has not done relevant statistics, so it is difficult to make a practical answer. Through comparison and analysis, it is more likely to find the gap between the company's financial strategy and its competitors, and then it is possible to make targeted improvements and upgrades.

1. Introduction

With the development of the economy, the business environment faced by enterprises is constantly changing. To succeed in a dynamic competitive environment, relying solely on efficient operations of enterprises is no longer sufficient to support enterprises to obtain a lasting competitive advantage in competition. The popularization and application of big data, as well as the improvement of project management concept, have opened up new opportunities for the implementation of resource-based business information strategy. Big data support makes the information received from enterprises more complete and efficient, and at the same time, the project management concept is implemented,

making the implementation of the enterprise information strategy more stable and effective. For enterprises, not only scientific and sophisticated management but also strategic vision and strategic thinking are needed. Therefore, the importance of strategy for enterprises has become increasingly prominent. As the network organization strategy is an important part of the corporate strategy, the coordination and support between itself and the overall corporate strategy are crucial. Based on the hypothetical relationship between theoretical exploration and actual investigation and verification, we find a suitable direction for corporate performance improvement and propose targeted countermeasures. The needs of enterprise development under the background of the new economic normal provide theoretical

guidance for enterprises to adapt to the new economic normal. From a strategic perspective, the performance management model is studied, and it is important to ensure that the industry adapts to the strategic changes in our country's economy, so that it can stand in the forest for a long time and guide corporate performance improvement and performance management practices.

The application of budget management in western developed countries began at the end of the nineteenth century. The first application of budget as a management tool was in the United States, and it was first used in the distribution of advertising expenses. The operation budget adds operation and process analysis and possible improvement measures between the strategy and the budget and predicts the workload of the operation and the corresponding resource requirements on the basis of the improvement. Militello et al. proposed the concept of strategic management. They believe that strategic management is a comprehensive management that emphasizes the development direction of an enterprise [1]. Prashanth and Venkataram believe that modularity is a key means of enterprise innovation, which is conducive to the formation of integrated innovation. The so-called integrated nature of innovation is particularly reflected in the integration and collection of information and knowledge in different fields. Its conclusion is that original knowledge and technological innovation activities are inevitably reflected in some form of integration or fusion of innovative resources [2]. Qiao et al. believe that as more and more companies produce intermediate products, there are more intermediate products for product assembly, and the assembly of different intermediate products into products is conducive to product innovation [3].

During the planned economy period, based on our country's fiscal budget system, the production and sales of enterprises were all included in the fiscal budget and operated under the state's planned economic system. Although the budget management of enterprises has been developed to a certain extent, this budget mechanism is completely integrated with the fiscal budget. The budget of the enterprise is only a subsidiary of the state fiscal budget and becomes an integral part of the state fiscal budget. Ramasubbu et al. explored the different impact mechanisms of production modularity on short-term performance and growth performance and demonstrated the positive impact of production modularization in the IT industry on organizational performance under the Chinese scenario [4, 5]. Goswami et al. proposed to define the conditions applicable to the two traditional budgeting methods starting from production and sales and, at the same time, demonstrated that modern companies characterized by the separation of ownership and management should start from earnings per share or profit views on budget preparation [6]. Nelson et al. believe that the determination of corporate budget goals is a bargaining process and discussed the determination and decomposition of budget goals in the case of a single legal person and a multilevel legal person system [7].

Based on the contingency theory and the resource-based view, this paper draws on the idea of strategic matching in

strategic management, conducts a matching analysis and research on corporate strategy and performance management mode, and draws on the knowledge management, information system, corporate culture, and other factors and corporate strategy of the predecessors. On the basis of the matching research analysis and the research on the relationship between performance management and corporate strategy, the problem of matching between performance management mode and corporate strategy is studied. This paper verifies the matching of corporate strategy and performance management mode through corporate performance, which has certain practical guiding significance.

2. Strategic Management Model Based on Artificial Intelligence and Modular Enterprise Big Data Network Organization

2.1. Enterprise Big Data. For resource-based companies, the shortage and demand of data resources, as well as individual differences in the data mining process, make data collection more difficult. At the same time, the collected data is often irregular. The use of data values is particularly obvious in the resource discovery process. Collecting small amounts of data is actually worthless. Only collecting a large amount of data can help you discover trends and patterns, but you need to extract, analyze, and isolate valuable data from a large amount of orderly or distorted data. The rules are extremely complicated. Among them, big data technology can better support this.

2.2. Modular Enterprise Management. The traditional competitive advantage of enterprises comes from the economies of scale brought about by the production of standardized products. However, consumer demand is becoming more and more personalized, requiring enterprises to provide small batches, multiple varieties, and personalized products. The economies of scale are clearly powerless. In this dynamic market, no tangible resource can bring a lasting competitive advantage to an enterprise. Flexibility is considered to be an organizational ability for an enterprise to adapt to a rapidly changing market [8, 9].

2.2.1. Modularity Factors. Changes in products and processes have brought new types of industries, types of organizations, new ways of organizing work, new contractual relationships, new ways to connect buyers and sellers, and new ways to create and use market information. However, these changes in products, processes, enterprises, and markets are not the superficial economic trends that have changed the wheat business, but the fundamental changes caused by the powerful forces rooted in the economic system, showing a profound impact on the nature of the company and the characteristics of work, and the products and services we use and even those powers of the structure of daily life [10, 11]. However, this design is more artificial, that is, to create or improve products through the description of the design task and the arrangement of the design structure. This view has the color of product modularity determinism;

that is, because design modularity drives product modularity, it determines that the organization must carry out resource allocation in a modular form. However, there is no strong evidence to show that determinism is reliable. Its comprehensive analysis framework flowchart is shown in Figure 1.

(1) *Organizational Form*. There are two ways to study the evolution of industrial organization from the perspective of division of labor and the perspective of integration in theoretical circles. The perspective of division of labor examines whether a certain function of an enterprise can become a new industry independently, which depends on the efficiency of the division of labor, economies of scale, and transaction efficiency, and the comparison between market sizes [12]. To internalize the functions originally completed by the market mechanism and complete them through the enterprise mechanism to achieve the saving of transaction costs, the integration view is the mainstream mode of today's organization theory. In-industry partial labor has evolved into intraproduct partial labor. Changes in market demand have made it impossible to respond to changes in demand in a timely manner through a series of administrative orders within traditional bureaucratic organizations.

(2) *Enterprise in the Information Age*. The emergence of computer and communication technology has marked that mankind has entered the information age. The major premise of modularization is digitalization. The emergence and development of information technology have profoundly changed the business environment of enterprises, affecting the relationship between enterprises, employees, and jobs, and further the entire industrial structure has a revolutionary impact [13, 14]. As far as the external environment is concerned, the development of computer and communication technology has led to a rapid decline in the cost of information for enterprises, and unprecedented changes have also taken place in the form of organization. The information exchange mechanism at the module level, product level, and enterprise level enables organizations to have a variety of flexible information exchanges. Channels reduce the asymmetric distribution of information and the cost of information; from the perspective of the industry chain, product production links are scattered among multiple module manufacturers, and the amount of information produced increases sharply. Organizations need to adopt a modular structure to establish long-term information processing mechanism, and the trend of modularization of knowledge-intensive industry organizations is relatively obvious.

(3) *Modular Division of Labor*. Flexible organizational settings enable companies to make better use of internal resources, cross-departmental workflow structure enables companies to flexibly organize human, material, and financial resources based on work tasks, and project-based work team settings enable companies to maximize manpower capital and advanced information technology, making it possible to set up such a work team. Project-based

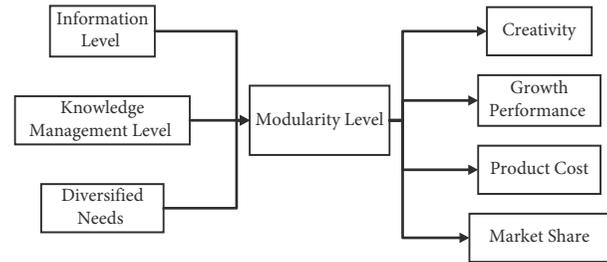


FIGURE 1: Analysis framework of modular influencing factors.

work teams have achieved unprecedented success in the field of software development [15, 16]. The final development of the software is decomposed according to the module characteristics and then assigned to different development modules according to the knowledge and abilities of the employees. Therefore, these knowledge employees can flow at any time according to the tasks within the organization, and the different knowledge among employees combination enables the completion of work tasks and facilitates the generation of innovative knowledge.

(4) *Modular Consumption*. In the era of industrial economy, consumption is mainly to meet people's basic living needs, demand is homogeneous, and the production method of enterprises is the ford system with large-scale production capacity. With the advent of the information age, people's needs have moved from satisfying basic life needs to pursuing personalized products, and the trend of demand heterogeneity begins to appear, which is determined by the level of social and economic development [17, 18]. Under the integrated production model, the enterprise produces an integrated final product. The natural boundary between supply and demand is very clear. However, in the modular production stage, customers not only enjoy the value of the final product, but can also participate directly. The design and manufacture of the final product are essentially the result of the diversification of consumption, and it is also the behavior of customers to participate in the value chain and share the value of the final product.

2.2.2. *Modularization and Enterprise Innovation Ability*. The evolution of design rules can promote system innovation. Innovation is carried out on two levels. At the product level, the evolution of the structure, interface, and connection rules in the module system will lead to overall product innovation. At the module level, the innovation of a single module will promote the upgrade of the module, finally realizing the overall product innovation. Therefore, the two levels of innovation can promote and transform each other. The former is the change of the system structure, the latter is the change of a certain function of the system, the structure is the structure of the function realization, and the function is the concrete realization of the system structure [19, 20]. The two evolutionary routes of system structure and function enable innovation to be carried out on a larger scale and at a deeper level. This innovation method is more likely to produce revolutionary product innovation.

2.2.3. Modularity and Organizational Performance. From the perspective of the three levels of modularity, the mainstream view is that the modular design of products can speed up the development of new products and that decentralized R&D will also reduce the R&D cost of the final product. Product modularity has both short-term and long-term performance. It has a positive impact. From a short-term perspective, modular production networks have higher threshold capabilities and important capabilities, which will help companies improve their performance levels [21]. From a long-term perspective, innovative behaviors and products bring long-term returns to enterprises through the market, thereby improving their growth performance.

(1) Modularity and Product Cost. Product modularity has a significant impact on product costs. Modular product structure can bring cost advantages to enterprises. The labor cost of electronic manufacturing industry will be reduced due to product modularization [22]. Enterprises can design and produce multiple modules at the same time. The experimental cost of modules is lower than that of integrated products, because the failure of some modules does not affect the overall product, and defective products in the production process will not affect the final function of the product. In the consumer sector, customers can also get the value of modularity. The upgrade of some parts of the computer allows customers to upgrade the overall function at a lower cost.

(2) Modularity and Market Share. Modularity allows individuals or companies to combine and match optional modular designs. These combination and match rights are equivalent to those options whose value can be quantified in a larger economic system. The greater modularity increases the design options, and at the same time, these options are divided among many people without the consent of any central system architect and planner. There is no clear evidence in the literature on whether modularity can affect the market share of products [23, 24]. However, it is foreseeable that, with the gradual modularization of the industry, the product structure will undergo fundamental changes. More and more resources will be concentrated in modular enterprises. Once users choose modular products, they will become sticky to modular products. Sluggish ones, that is, maintenance or upgrade, will have to choose modular products or components and form a dependence on modular products. Integrated products will face a smaller and smaller living space and will gradually be excluded from the rules.

(3) Modularity and Corporate Growth Performance. The advantages of modularization in innovation, cost, and

market share will lead to good performance of enterprises. Although most scholars agree that modularization affects corporate competitive performance, the efficiency of modularization first stems from its decomposition of system complexity, and the result of decomposition is a number of relatively independent modules and explicit connection rules. The significance of this idea of breaking into parts is not only to break through the limitations of a certain product that a single person cannot understand through decomposition, but also to integrate independent modules through the use of connection rules to achieve systematic division. Inseparable from each other, the form is scattered, but the spirit is not scattered, and the modularization process is the unified process of achieving separation and integration [25, 26]. The important role of the coordination mechanism highlights the difference between the modular division of labor and the division of labor. The realization of involute makes the enterprise have an efficiency that no previous organizational form has.

2.3. Dynamic Network Organization Algorithm

2.3.1. Construction of Mathematical Model of Knowledge Transfer Process in Strategic Network. In order to make the model more maneuverable, the knowledge transfer occurs when the network nodes are directly connected, and the indirect knowledge transfer between enterprises is not considered [27]. When there is a direct connection between nodes N_i and N_j , let $d_{i,j} = 1$; otherwise, let $d_{i,j} = 0$, so we can get the neighbor order matrix D between the strategic network nodes, and the specific expression is

$$D = (d_{i,j}) = \begin{bmatrix} 0 & 1 & \cdots & N \\ 1 & 0 & \cdots & \vdots \\ \vdots & \cdots & 0 & 1 \\ N & \cdots & 1 & 0 \end{bmatrix}. \quad (1)$$

In a strategic network, the number of nodes directly connected to any node i is randomly selected as an integer value in $[0, K]$; that is, any node i is directly connected to K other nodes in the network at most; that is, in the matrix D , there are at most K 1 in any row or any column of [28, 29]. In a strategic network, the rule of knowledge transfer between organizations is that, in the network, any node can only generate knowledge transfer with the node directly connected to it. The knowledge transfer is between two directly connected nodes, and node I , that is, the knowledge level at time T , is $V_{i,t}$, and then the knowledge level of the node at time $T + 1$ is

$$\Delta V_{i,t+1} = \begin{cases} \sum_{i,j \in G_i} pa(V_{i,t})b(mV_{j,t} - nV_{i,t})\omega(V_{j,t} - V_{i,t}) + mV_{i,t} - nV_{i,t}, & V_{j,t} > V_{i,t}, \\ 0, & V_{j,t} < V_{i,t}. \end{cases} \quad (2)$$

Then, we can obtain

$$\begin{cases} m \geq 0, \\ 0 \leq n \leq 1, \\ 0 \leq mV_{i,t} \leq S, \\ a(0) = 0. \end{cases} \quad (3)$$

The mathematical formulas for the three metrics of knowledge transfer performance at the network level can be derived based on the above differential equation model and various parameters that have been set. The average knowledge level of the entire network at a time is the overall knowledge transfer level of the network as

$$\bar{V} = \frac{1}{N} \sum_{i,j \in G_t} [V_e + (N-1)V_{i,t}]. \quad (4)$$

The efficiency of knowledge transfer can be expressed by the speed of knowledge transfer. From the perspective of the transferred knowledge itself, the speed of knowledge transfer can be expressed by the average value of the knowledge level changes of all nodes in the network per unit time. Then, the knowledge transfer rate of the network at time $T \rightarrow T+1$ is

$$E_{t \rightarrow t+1} = \frac{1}{N} \sum_{i=1}^N \Delta V_{i,t+1}. \quad (5)$$

The fairness of network knowledge transfer, that is, the variance of the knowledge level of each node in the network after knowledge transfer:

$$\sigma(t) = \frac{1}{N} \sum_{i \in I} (\bar{V}_t - V_{i,t})^2. \quad (6)$$

2.3.2. Network Organization Model Construction. The output level is an increasing function of the agent effort. Let the output level be S and the agent effort x , so

$$\frac{dS}{dx} > 0. \quad (7)$$

Suppose that the output function is $S = ax + \theta$, where θ is a random disturbance, and the effort cost of the agent is C . For the agent, C is a negative utility, which increases with the increase of the effort of the agent as x , and the rate of increase is getting faster and faster, which is also in line with the actual psychological utility [30, 31]. Therefore,

$$\frac{d^2C}{dx^2} > 0, \quad (8)$$

$$W = b + \delta S.$$

Assume that the agent's utility function U has the characteristic of invariant absolute risk aversion; that is, its utility function is

$$U = m - ne^{-\rho I}, \quad n > 0, \quad (9)$$

where ρ is the absolute risk aversion degree and I is the actual currency income. According to the affine transformation, the utility function can be simplified as

$$\begin{aligned} U &= -e^{-\rho I}, \\ L = S - W &= (1 - \delta)ax - b, \end{aligned} \quad (10)$$

$$I = W - C = b + \delta ax - \delta\theta - \frac{1}{2}kx^2.$$

Because I is random income, I must be converted into deterministic income. Deterministic income is equal to the expected random income minus the cost of risk [32]. The cost of risk is equal to

$$\frac{1}{2}\rho \text{Var}(w) = \frac{1}{2}\rho\sigma^2\delta^2, \quad (11)$$

$$I = b + \delta ax - \frac{1}{2}\rho\sigma^2\delta^2 - \frac{1}{2}kx^2.$$

Suppose that the agent's retained utility is $U(I)$, the principal's utility function is $V(L)$, and the principal expects the agent's best effort level to be xI . In order for the agent to accept the commission, the agent's income $I > I'$ must be made, regarding random income as a constraint condition, based on the absolute risk aversion characteristics and subtracting the risk cost to obtain a deterministic income, so the agent's participation constraint IR can be expressed as

$$I = b + \delta ax - \frac{1}{2}\rho\sigma^2\delta^2 - \frac{1}{2}kx^2 \geq I'. \quad (12)$$

Under the conditions of participation constraints, the agent is willing to accept the commission, but the level of effort is not necessarily the level expected by the principal. In order for the agent to work with the best effort level xI , the interests of the agent must be maximized at the best effort level xI , that is, satisfying the incentive compatibility constraint IC :

$$b + \delta axI - \frac{1}{2}\rho\sigma^2\delta^2 - \frac{1}{2}kxI^2 \geq b + \delta ax$$

$$-\frac{1}{2}\rho\sigma^2\delta^2 - \frac{1}{2}kx^2, \quad \forall x \in X,$$

$$\text{Max}_{x,\delta} EV(L = S - W = (1 - \delta)ax - b) = \text{Max}_{x,\delta} (1 - \delta)ax - b. \quad (13)$$

The principal-agent model is transformed into the fact that the principal seeks to maximize the benefits under the conditions of participation constraints, and, at the same time, the smaller the reward the principal hopes to pay under the conditions of participation constraints, the better. At this time, the principal-agent game model degenerates into

$$I = b + \delta ax - \frac{1}{2}\rho\sigma^2\delta^2 - \frac{1}{2}kx^2 = I'. \quad (14)$$

The optimal solution to this problem is $x = (1/k)$, $\delta = 0$, and $b = I' + (1/2k)$.

2.3.3. *Factor Analysis Mathematical Model.* When performing factor analysis, the first step is to perform correlation analysis. We generally use the KMO method in SPSS statistical software. The calculation formula is

$$\text{KMO} = \frac{\sum \sum_{i \neq j} r_{ij}^2}{\sum \sum_{i \neq j} r_{ij}^2 + \sum \sum_{i \neq j} p_{ij}^2}. \quad (15)$$

Among them, r_{ij}^2 is the simple correlation coefficient between variables i and j and p_{ij}^2 is the compiled correlation coefficient. From the value of KMO, 0.7 is generally used as a cut-off point, and the value below it is not suitable for factor analysis.

At present, there are many methods for determining factor variables, and here, we use the principal component analysis method to carry them out [33, 34]. This method mainly uses coordinate transformation to linearly transform the related variable x_i into another set of unrelated variables y_i , expressed as

$$y_i = \sum_{j=1}^p u_{ij} x_j, \quad j = 1, 2, \dots, p. \quad (16)$$

Variable y_1, y_2, \dots, y_p is the main component, and its proportion in the total variance gradually decreases in the future. In the actual operation, we generally choose the first few major principal components. In the formula, finding the value of the u_{ij} coefficient is a key. To obtain u_{ij} , the eigenvalues and eigenvectors of R must be calculated, which is calculated as follows:

$$\begin{aligned} r_{ij} &= \frac{\text{cov}(x_i, x_j)}{s_i s_j} = \frac{s_{ij}}{s_i s_j}, \\ s_{ij} &= \frac{\sum (x_i - \bar{x}_i)(x_j - \bar{x}_j)}{p}, \\ s_i &= \sqrt{\sum \frac{(x_i - \bar{x}_i)^2}{p}}, \\ s_j &= \sqrt{\sum \frac{(x_j - \bar{x}_j)^2}{p}}, \\ i, j &= 1, 2, \dots, p. \end{aligned} \quad (17)$$

On this basis, we can get the correlation coefficient matrix between the indicators:

$$R = XX^T I(n-1). \quad (18)$$

Calculate the feature vector u_1, u_2, \dots, u_p corresponding to $\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda_p \geq 0$ corresponding to the feature value of R . Using the above calculation, we can get the initial solution.

3. Experimental Design of a Network Organization Strategic Management Model Based on Artificial Intelligence and Modular Enterprise Big Data

3.1. *Test Subject.* The questionnaire is the premise and basis of empirical analysis, and the quality of the questionnaire directly determines the accuracy and scientific basis of the research conclusions. The questionnaire in this paper is based on the analysis and design of the conceptual model of the impact of corporate strategy and performance management model on corporate performance. The trend of modularization in the manufacturing industry is relatively obvious. The long-term production practices of these industries have evolved higher resource allocation methods. Outsourcing has become a major method of enterprise production. The modular design makes the product structure relatively stable. The enterprise integrates related products module gains differentiated advantages. This article selects the participants of EMBA and MBA courses offered by several universities as the survey subjects. Most of them are enterprise managers, have many years of management practical experience, have a good understanding of the basic situation of the enterprise, and can truly understand the scale and make a choice based on the actual content. The questionnaire uses the Likert five-level scale. This article will state the correspondence of each variable as a sentence indicating the relationship information, allowing the respondents to judge the degree of agreement, from 1 to 5 points, corresponding to the "complete disagreement" to "fully agree," thus reflecting the attitude of the respondent.

3.2. *Variable Measurement and Selection.* When designing the scale, in order to ensure the reliability and validity of the questionnaire, this paper selects the measurement indicators used in domestic and foreign literature as much as possible and then slightly modifies it according to the research purpose and research object. Before formally determining the measurement indicators, we first conduct a pre-investigation of a small range of companies to ensure that the design of each measurement item in the questionnaire is reasonable, then adjust some items according to the revision opinions of relevant experts, and finally form the indicator system used in this article.

3.3. *Experimental Method.* This paper adopts the questionnaire survey method. The performance management mainly consists of four links: performance plan, performance implementation and coaching, performance evaluation, and performance feedback. The difference between the different modes of performance management is mainly reflected in these four links. Performance plan is an important part of performance management. Its main function is to establish the organization's work goals and build a

performance indicator system that helps measure the degree of achievement of the goals based on the established goals. It organizes the performance and behavior of employees according to organizational goals. At the same time, the experimental results are obtained by analyzing the data obtained from the questionnaire survey.

3.4. Statistical Data Processing Method. SPSS 23.0 software was used for data processing, and the count data was expressed in percentage (%), k is the number of data in this experiment, σ^2 is the variance of all survey results, and $P < 0.05$ indicates that the difference is statistically significant. The formula for calculating reliability is shown in

$$a = \frac{k}{k-1} \left(1 - \frac{\sum \sigma_i^2}{\sigma^2} \right). \quad (19)$$

4. The Strategic Management Model of Network Organization under Artificial Intelligence and Modular Enterprise Big Data

4.1. Evaluation Index System Based on Index Reliability Testing. Reliability refers to the stability and reliability of the questionnaire. This article adopts the α coefficient method created by L. J. Cronbach. The α coefficient can be obtained by Reliability Analysis in SPSS software. It is generally believed that an α coefficient above 0.8 indicates that the index setting effect is very good, and 0.7 or above is also acceptable. Here, we analyze the reliability of each type of object, and the reliability index we choose for each type of object is slightly different. The results are shown in Table 1.

It can be seen from Table 1 that the data obtained from the three indicators of the modular enterprise strategic management model (company investment, importance of information director, and human capital level) have an acceptable impact on this experiment ($\alpha > 0.7$). This paper constructs 6 indicators based on these 6 common factors and measures the level of informatization from the three dimensions of company investment, importance of information director, and human capital level.

4.2. Various Indicators of Modular Enterprises

4.2.1. Analysis Based on the Level of Enterprise Modularity. The level of personal specialization will increase as the scope of its activities shrinks. The level of modularity measures the deconstructible characteristics of the company's products and the characteristics of flexible organizational structure. Therefore, the measurement of modularity should be divided into two aspects: product modular measurement and organization of modular measurement. The results are shown in Table 2, and we make a bar graph based on this result, as shown in Figure 2.

Through the paired sample T test, it can be found that, after the end of the experiment, the data analysis is based on the scores of various indicators of the enterprise modularity level, and the resulting P value is less than 0.05 as a

significant difference, which proves that these two indicators are too quantitative and the enterprise did not do relevant statistics, and it is difficult to make a realistic answer. Modularization includes product modularization and organizational modularization, so the final indicators are measured from these two dimensions. The specific situation is shown in Figure 2.

4.2.2. Based on the Analysis of Enterprise Information Level. The informatization index method is a quantitative measurement method that uses statistical data to calculate the overall index of social informatization and reflects the development level of informatization from the information function of production and life. The results are shown in Table 3. We make a bar graph based on this result, as shown in Figure 3, and the index score reflects the relationship between the level of enterprise informatization and CTS load. The higher the index score, the more it can explain the degree of participation of its modules and reflect the level of enterprise informatization.

Through the paired sample T test, it can be found that, after the experiment, the data analysis is based on the scores of various indicators of the enterprise information level, and the resulting P value is less than 0.05 as a significant difference, which proves that the enterprise information level is higher in the six common factors where the load reflects the investment of the enterprise information system, the growth performance of the enterprise, and the participation of the information director in the enterprise management activities. The information level is measured from the three dimensions of the company's investment, the importance of the information director, and the level of human capital. The specific situation is shown in Figure 3.

4.2.3. Analysis Based on Knowledge Management Level. Knowledge management includes processes such as the acquisition of knowledge, the integration and application of knowledge by enterprises, and the application of knowledge. Knowledge acquisition is the process by which enterprises obtain knowledge, and it is a necessary means for knowledge accumulation and application. The results are shown in Table 4. We make a bar graph based on this result, as shown in Figure 4.

Through the paired sample T test, it can be found that, after the experiment, the data analysis is based on the scores of various indicators of the knowledge management level, and the resulting P value is less than 0.05 as a significant difference, which proves that the transformation enables the knowledge to be effectively attracted and used in the organization to create value; the purpose of the knowledge application process is to apply knowledge to the practical activities of the enterprise, promote product innovation, and make the management activities of the enterprise more efficient. The specific situation is shown in Figure 4.

4.2.4. Diversified Analysis Based on Demand. Demand diversification reflects the degree of demand dispersion and

TABLE 1: Summary table of reliability test results.

Category	Index combination	Alpha coefficient (α)
Company investment	The company's investment in information systems is high	0.7659
	The company has long-term investment in information systems	
Importance of information director	Information executives are highly involved in company decision-making	0.8376
	Information executives have a high position in the company	
Human capital level	Staff information level is high	0.8692
	The company has a high level of human resources	

TABLE 2: Enterprise modularity level data sheet.

Attributes	Agree completely	Agree	No comment	Disagree	Totally disagree	P
Standardized component assembly	4.38	4.26	2.96	3.95	1.48	0.013
Can change key components without redesigning	5.24	4.73	3.78	4.19	2.30	0.016
Improvement of the work process	5.32	4.85	3.63	4.17	2.31	0.019
Record key steps in the work process	4.39	4.50	3.15	3.44	1.98	0.032
Use formal procedures to analyze customer needs	4.85	4.52	3.40	4.24	2.90	0.017
Use database to list standard parts	4.92	4.15	3.52	3.77	1.86	0.021

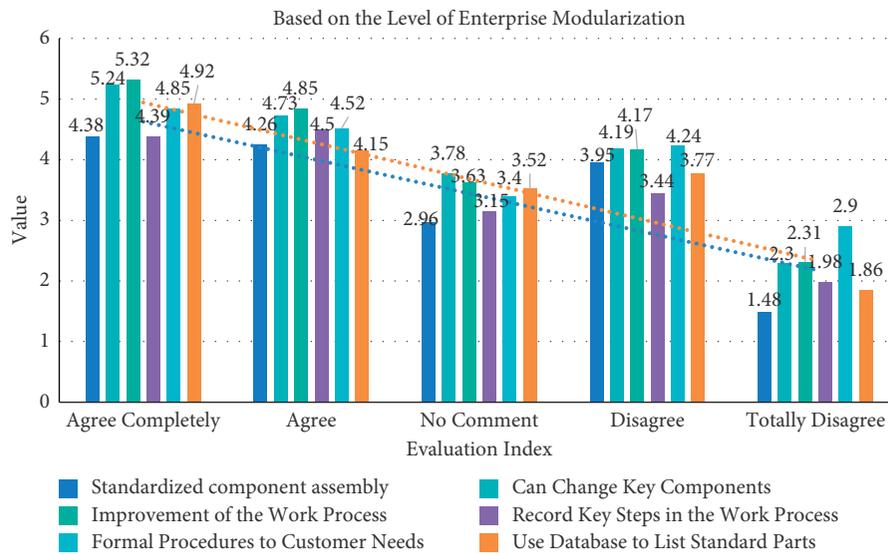


FIGURE 2: Analysis chart based on the level of enterprise modularization.

TABLE 3: Enterprise information level data sheet.

Attributes	Agree completely	Agree	No comment	Disagree	Totally disagree	P
Enterprise information system	5.25	4.31	2.53	3.99	4.31	0.005
Enterprise information benefits	4.86	4.77	2.56	3.62	4.77	0.008
Enterprise information technology	5.04	5.11	2.84	3.22	5.11	0.004
Information technology strategy impact	5.77	5.27	3.19	3.74	5.27	0.010
Strategic position of information director	5.71	5.05	3.48	3.82	5.05	0.005
Human resources index	5.25	4.31	2.53	3.99	4.31	0.010

change, that is, consumers' preference for differentiated products and preference for new products. The results are shown in Table 5. We make a bar graph based on this result, as shown in Figure 5.

Through the paired sample T test, it can be found that, after the experiment, data analysis is performed based on the

scores of various indicators of diversification of demand, and the resulting P value is less than 0.05 as a significant difference, which proves that demand is mainly affected by consumer income. The interviewees were business managers, who had no way of knowing the income status of their customers, so they could only indirectly measure the

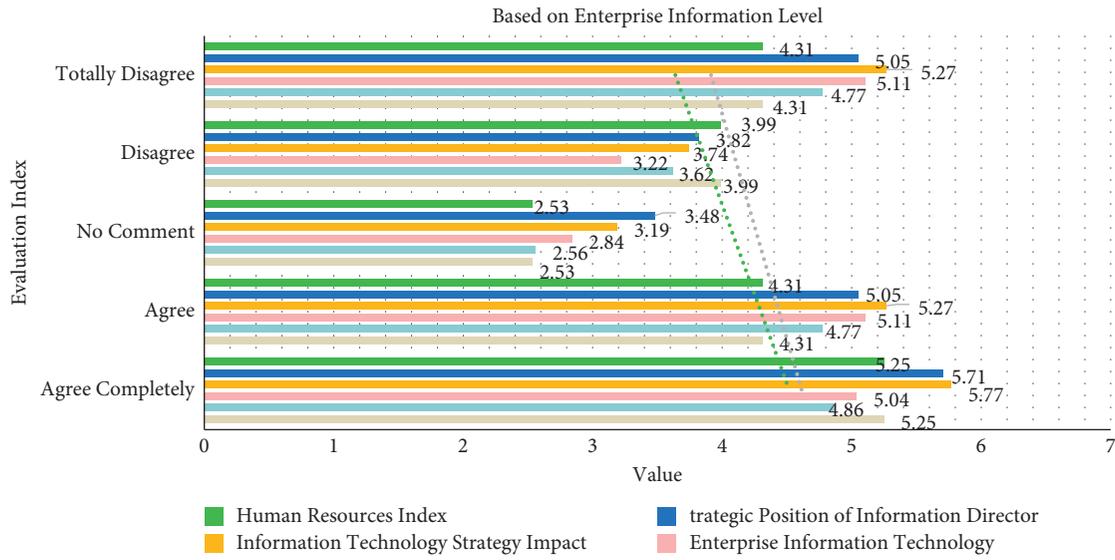


FIGURE 3: Analysis chart based on enterprise information level.

TABLE 4: Knowledge management level data sheet.

Attributes	Agree completely	Agree	No comment	Disagree	Totally disagree	P
Find new information outside the company	5.24	3.97	3.42	2.12	2.20	0.001
Investing in competitive intelligence	5.24	3.87	2.94	2.22	2.02	0.003
Obtain customer demand information	5.43	4.08	2.81	2.69	1.77	0.007
Needs of suppliers and distributors	5.68	3.42	3.74	2.05	2.17	0.004
Get opponent information	4.96	3.87	3.23	2.50	2.50	0.013
Knowledge internalization	5.21	4.62	3.01	1.91	2.32	0.022

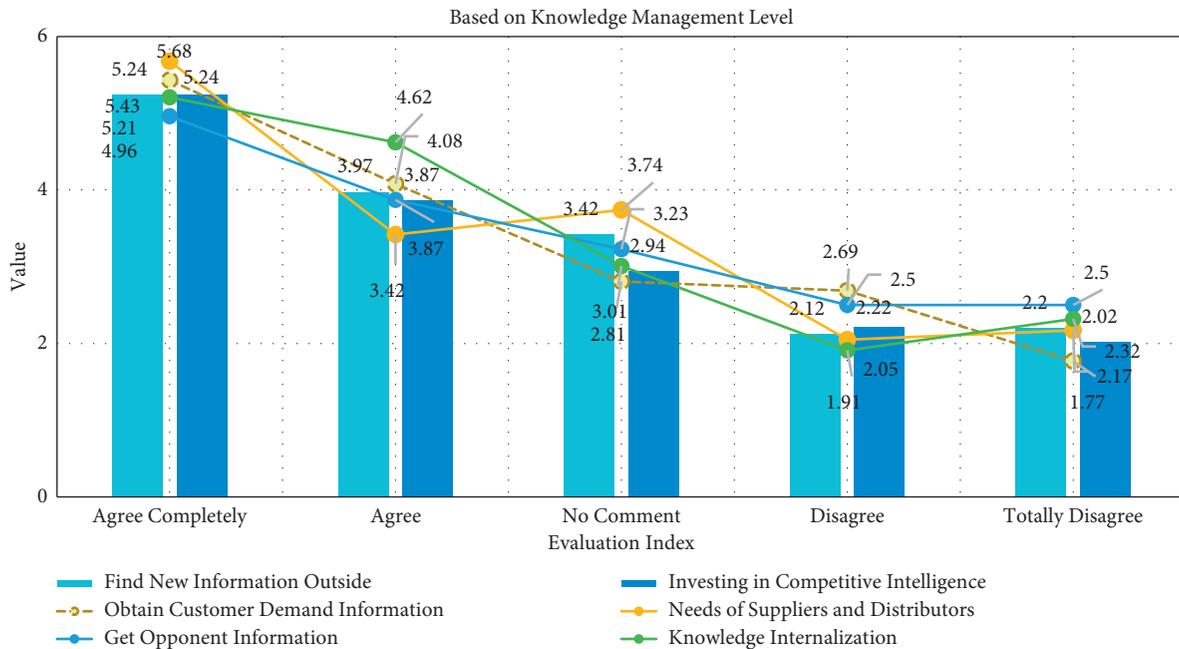


FIGURE 4: Analysis diagram based on knowledge management level.

diversification of demand from the performance of their products in the market. The specific situation is shown in Figure 5.

4.2.5. *Based on Innovation Ability Analysis.* Innovation ability reflects the ability of an enterprise to create and grasp market opportunities. Organizational innovation can be

TABLE 5: Demand diversification data sheet.

Attributes	Agree completely	Agree	No comment	Disagree	Totally disagree	P
Products that customers expect	3.37	2.89	2.03	2.10	1.59	0.001
Product sales	3.00	2.81	2.05	2.14	1.51	0.001
Customers make suggestions for improvement	3.13	2.84	2.17	2.46	1.74	0.001
Sales of new products relative to old products	3.28	3.19	2.00	2.23	1.79	0.001
Decline in sales of old products	3.48	2.96	1.93	2.37	1.51	0.001
Speed of new product launches on the market	3.40	2.84	2.15	2.02	1.72	0.009

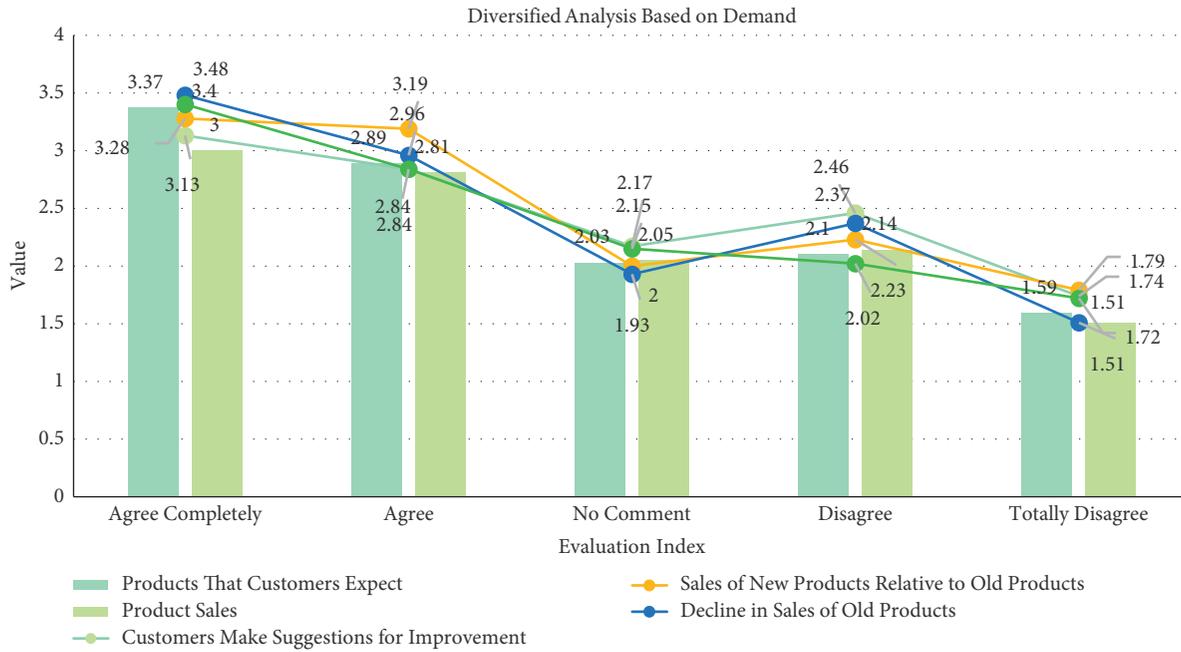


FIGURE 5: Diversified analysis based on demand.

TABLE 6: Innovation ability data sheet.

Attributes	Agree completely	Agree	No comment	Disagree	Totally disagree	P
Discover new market opportunities	4.02	3.78	2.11	2.35	1.91	0.005
React quickly	4.54	3.71	2.03	2.43	1.84	0.005
Ability to respond	4.34	3.73	2.16	2.47	1.95	0.008
New development opportunities	4.92	3.92	2.43	2.32	1.80	0.008
Discover new customer needs	4.46	3.95	2.30	2.58	1.86	0.005
Creative execution ability	4.18	3.89	2.15	2.54	2.00	0.017

defined as an organization that creatively transforms new products, processes, methods, and services into reality by coordinating the efforts of its members and other resources. The results are shown in Table 6. As shown, we make a bar graph based on this result, as shown in Figure 6.

Through the paired-sample *T* test, it can be found that, after the experiment, data analysis is performed based on the scores of various indicators of innovation ability, and the resulting *P* value is less than 0.05 as a significant difference, which proves that patents cannot measure innovation well, not all innovations are patented, and for the research samples in this article, most of them are small- and medium-

sized enterprises, and the number of patents is basically zero. It is not feasible to measure innovation ability by the number of patents. The specific situation is shown in Figure 6.

4.2.6. *Based on Market Share Analysis.* Market share is the result of business operations, reflects the share of the company’s products in the market, and reflects the status of the company’s products in market competition and the degree of consumer preference. The results are shown in Table 7. We make a bar graph based on this result, as shown in Figure 7.

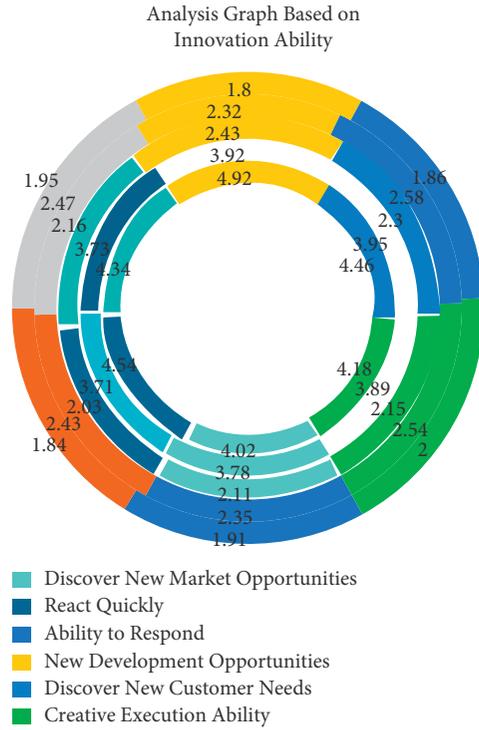


FIGURE 6: Analysis graph based on innovation ability.

TABLE 7: Market share data table.

Attributes	Agree completely	Agree	No comment	Disagree	Totally disagree	<i>P</i>
Take targeted measures	4.69	3.58	2.78	3.10	2.02	0.001
Actively adjust marketing strategies	4.96	3.73	2.89	2.88	2.31	0.005
Higher investment in maintenance	4.60	3.71	2.78	2.79	2.15	0.005
Product sales growth rate	4.97	3.58	2.45	3.09	2.12	0.001
Competitiveness in the market	4.49	3.88	2.85	2.86	2.33	0.017
Sales are on the rise	4.66	3.70	2.68	3.38	2.24	0.028

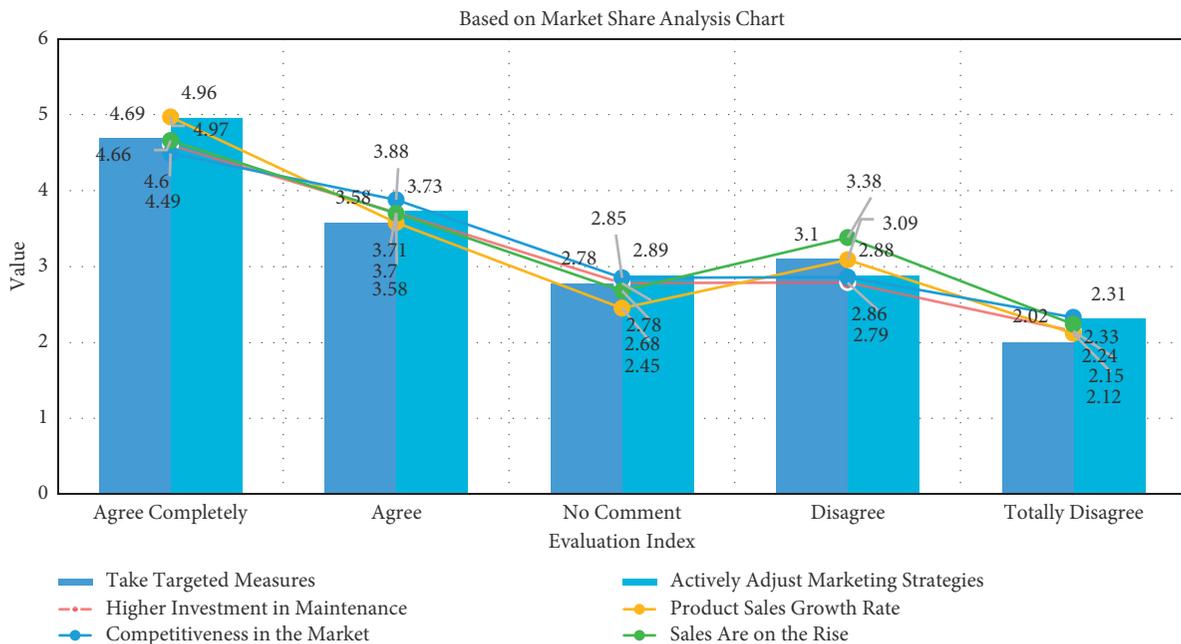


FIGURE 7: Based on market share analysis chart.

Through the paired sample T test, it can be found that, after the experiment, the data analysis is based on the scores of various indicators of the market share, and the resulting P value is less than 0.05 as a significant difference, which proves that the market share is also sensitive to the enterprise quantitative data that is difficult to obtain, considering that the market share is the comparison of a company's products with other companies' products in the market. The specific situation is shown in Figure 7.

5. Conclusions

By further deepening the application of artificial intelligence and big data, resource-based enterprises can get rid of the traditional project management model, upgrade to intelligent enterprises, transform into modern enterprises, and get rid of the challenges and control of the current market. The content of the strategic management model is extremely complicated. It is extremely difficult to achieve everything. No single strategic management model is perfect. Therefore, choose different strategic management models wisely in combination with corporate strategy and grasp the different keys of different models and key points to ensure that other strategies are reasonable under the premise of ensuring the accuracy of this strategy. In the various strategic management models introduced in this article, one strategy or a type of strategy is the core and the focus of strategic management. However, the implementation of a strategy is prepared, supervised, and evaluated by any type of work. The result cannot be called a strategic management model. Various strategic management models are not mutually exclusive; on the contrary, they are interrelated. Under the guidance of strategy, we choose a strategic management model that is focused on and suitable for the development of the company in accordance with the characteristics of different levels of corporate organization and supplements and makes other models perfect, so that it can be called comprehensive strategic management.

Effective performance management should be a management system based on corporate strategy and should be matched with corporate strategy. In terms of strategic choice of exploratory enterprises, according to the characteristics of exploratory enterprises, there is no direct positive correlation between the relationships with enterprise performance and direct changes to enterprise strategy that cannot be made because of enterprise performance. On the surface, there is even a negative correlation; that is, the unilateral implementation of exploratory strategies without considering other organizational elements of the company will lead to poor corporate performance, while defensive strategies will bring good corporate performance to the company. However, after considering the differences in performance management models adopted by companies, it is found that corporate performance does have a certain correlation with the strategies implemented by the company. When companies adopt performance management models, companies that implement exploratory strategies perform well but implement defensive strategy for companies that perform poorly.

From the perspective of the strategic management process, the implementation of the strategy must rely on the business plan, and the business plan must ultimately be reflected in finances. Therefore, the financial strategy can ensure the effective use of funds during the implementation of the corporate strategy and can establish that finance is in the overall strategic operation of the enterprise the important position of the company that is conducive to finding the focus of work for the company, so that it can better play the importance of financial strategy to the overall strategy of the company and help the effective realization of the overall goal. However, for a long time, many companies have understood the financial strategy more as a pure financial management activity, which is not organically linked with the overall development strategy of the company. Use the comprehensive characteristics of factor analysis methods to conduct horizontal comparison and comprehensive analysis of companies with different scales and conditions in the industry. Through comparison and analysis, it is more likely to find the gap between the company's financial strategy and its competitors. There may be targeted improvements and enhancements.

Data Availability

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

- [1] L. G. Militello, J. J. Saleem, M. R. Borders et al., "Designing colorectal cancer screening decision support: a cognitive engineering enterprise," *Journal of Cognitive Engineering and Decision Making*, vol. 10, no. 1, pp. 74–90, 2016.
- [2] B. N. Prashanth and R. Venkataram, "Development of modular integration framework between PLM and ERP systems," *Materials Today: Proceedings*, vol. 4, no. 2, pp. 2269–2278, 2017.
- [3] H. Qiao, Z. Xu, J. He, and Y. Xiang, "Product module network modeling and evolution analysis," *Computational Intelligence and Neuroscience*, vol. 2019, Article ID 2186916, 8 pages, 2019.
- [4] N. Ramasubbu and C. F. Kemerer, "Technical debt and the reliability of enterprise software systems: a competing risks analysis," *Management Science*, vol. 62, no. 5, pp. 1487–1510, 2016.
- [5] X. Yang, H. Li, L. Ni, and T. Li, "Application of artificial intelligence in precision marketing," *Journal of Organizational and End User Computing*, vol. 33, no. 4, pp. 209–219, 2021.
- [6] M. Goswami, Y. Daultani, and M. K. Tiwari, "An integrated framework for product line design for modular products: product attribute and functionality-driven perspective," *International Journal of Production Research*, vol. 55, no. 13, pp. 3862–3885, 2017.

- [7] S. Nelson, H. Rector, D. Brashear et al., "Rebuilding the standing prescription renewal orders," *Applied Clinical Informatics*, vol. 10, no. 1, pp. 77–86, 2019.
- [8] N. Guo, C. Yang, P. Xiao, J. Huang, and X. Li, "Research and application of waste heat recovery and cascade utilization for low-grade flue gas in industrial field," *The Chinese Journal of Process Engineering*, vol. 17, no. 5, pp. 1091–1096, 2017.
- [9] L. Li and J. Zhang, "Research and analysis of an enterprise E-commerce marketing system under the big data environment," *Journal of Organizational and End User Computing*, vol. 33, no. 6, pp. 1–19, 2021.
- [10] A. S. S. Khan, "Impact of modular design and interchangeable systems on business profit," *Asia Proceedings of Social Sciences*, vol. 2, no. 1, pp. 5–8, 2018.
- [11] V. Jnitova, S. Elsayah, and M. Ryan, "Towards a modular system dynamics approach for modelling military workforce planning problems," in *Proceedings of the 2017 INCOSE International Symposium*, vol. 27, no. 1, pp. 704–720, Adelaide, Australia, 2017.
- [12] S. Johnson, "A flat-packed, made-to-order modular house that doesn't sacrifice design," *Architecture*, vol. 106, no. 1, p. 120, 2017.
- [13] L. Ondir Freire and D. A. De Andrade, "Economically feasible mobile nuclear power plant for merchant ships and remote clients," *Nuclear Technology*, vol. 205, no. 6, pp. 766–780, 2019.
- [14] D. Balouek-Thomert, E. Caron, P. Gallard, and L. Lefèvre, "Nu@ge: a container-based cloud computing service federation," *Concurrency and Computation: Practice and Experience*, vol. 29, no. 11, pp. 1–11, 2017.
- [15] S. Gamacheing and G. Abdounouring, "Dynamic manufacturing cells and SME network: key success factors," *IFAC-PapersOnLine*, vol. 49, no. 12, pp. 851–856, 2016.
- [16] R. Scott, "Commonality and convergence: UK maritime combat systems open up," *Jane's International Defense Review*, vol. 49, pp. 40–45, 2016.
- [17] "State budgets of the European big four in 2013: impact on economic growth?" *Russian Chemical Reviews*, vol. 6, no. 1, pp. 714–720, 2016.
- [18] P. Barucca and F. Lillo, "The organization of the interbank network and how ECB unconventional measures affected the e-MID overnight market," *Computational Management Science*, vol. 15, no. 1, pp. 33–53, 2018.
- [19] M. K. Srivastava and D. R. Gnyawal, "When do relational resources matter? Leveraging portfolio technological resources for breakthrough innovation," *IEEE Engineering Management Review*, vol. 45, no. 2, pp. 83–96, 2017.
- [20] M. K. Daradkeh, "An empirical examination of the relationship between data storytelling competency and business performance: the mediating role of decision-making quality," *Journal of Organizational and End User Computing*, vol. 33, no. 5, pp. 42–73, 2021.
- [21] M.-H. Kim, C.-J. Suh, and J.-H. Lee, "A study on the MSO model for Korean hospitals' successful Chinese healthcare market advance," *Journal of Asia-Pacific Studies*, vol. 23, no. 1, pp. 151–173, 2016.
- [22] N. S. Mrochkovsky, "Strategic planning of prospects to develop management models in digital economy," *Vestnik of the Plekhanov Russian University of Economics*, vol. 17, no. 4, pp. 173–180, 2020.
- [23] R. Y. Dashkov, "Coordination of project and current activities on the basis of the strategy alignment metamodel in the oil and gas company," *MIR (Modernization Innovation Research)*, vol. 8, pp. 263–275, 2017.
- [24] R. Baggio and M. Scaglione, "Strategic visitor flows and destination management organization," *Information Technology & Tourism*, vol. 18, no. 1–4, pp. 29–42, 2018.
- [25] A. Jiménez and D. de la Fuente, "Learning from others: the impact of vicarious experience on the psychic distance and FDI relationship," *Management International Review*, vol. 56, no. 5, pp. 633–664, 2016.
- [26] A. Kobsa, H. Cho, and B. P. Knijnenburg, "The effect of personalization provider characteristics on privacy attitudes and behaviors: an elaboration likelihood model approach," *Journal of the Association for Information Science and Technology*, vol. 67, no. 11, pp. 2587–2606, 2016.
- [27] H. Alcalde and M. Guerrero, "Open business models in entrepreneurial stages: evidence from young Spanish firms during expansionary and recessionary periods," *International Entrepreneurship and Management Journal*, vol. 12, no. 2, pp. 393–413, 2016.
- [28] A. Guitarte, "Compliments to the CHEF: a cognitive and heuristics-based emergent financial management tool," *Cutter IT Journal*, vol. 30, no. 10–11, pp. 24–28, 2017.
- [29] S. Bemanian, P. Polish, and G. Maurer, "Pavement management system based on financial consequence," *Transportation Research Record*, vol. 1940, no. 1, pp. 32–37, 2018.
- [30] L. L. Howard, G. Berger, and S. Waikar, "Creating a culture of empowerment and accountability at St. Martin de Porres high school (B)," *Kellogg School of Management Cases*, vol. 1, no. 1, pp. 1–13, 2017.
- [31] I. Khoufi, P. Minet, A. Laouiti, and S. Mahfoudh, "Survey of deployment algorithms in wireless sensor networks: coverage and connectivity issues and challenges," *International Journal of Autonomous and Adaptive Communications Systems*, vol. 10, no. 4, pp. 341–390, 2017.
- [32] R. Dong, W. C. Richards, S. Mahalingam, X.-Z. Gao, and H. V. Nejad, "Network evolution simulation of cooperation relationship in two phase project of Zhengzhou airport based on BIM," *Journal of Intelligent & Fuzzy Systems*, vol. 34, no. 2, pp. 1187–1192, 2018.
- [33] E. Quintane and G. Carnabuci, "How do brokers broker? Tertius gaudens, Tertius iungens, and the temporality of structural holes," *Organization Science*, vol. 27, no. 6, pp. 1343–1360, 2016.
- [34] C.-C. Huang, "User's segmentation on continued knowledge management system use in the public sector," *Journal of Organizational and End User Computing*, vol. 32, no. 1, pp. 19–40, 2020.