

Research on the Informatization Planning Of the Coal Enterprise

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Abstract. It is a frequently-researched topic to settle the information island of coal enterprises. Based on the details of information engineering and strategic alignment model, this paper will establish a new planning structure and normalize the planning contents in accordance with the characteristics of the coal industry itself to solve the problem of the information island and improve the informatization management.

Keywords: Management informatization, Informatization planning, Coal enterprise planning

1. Status of Informatization in coal enterprises

In recent years, coal companies have attached great importance to the informatization construction and the information systems application. For one thing, they focused on the development of computer network and internet applications, and established a series of systems on network such as coal transportation and distribution system, decision support system, office automation system, materials supply system, capital settlement system, housing fund management system and so on. For another thing, coal companies gradually have improved the integration among the monitoring of production safety system, automatic control system and enterprise management system, which have become the indispensable foundation to direct production, operation and management of enterprises.

Although the construction of coal enterprise informatization has made great progress, this industry has lagged behind in terms of the informatization construction due to its own the coal industry itself. It is a complex systems engineering which is far more than information technology relating to the cultural reform, innovative management ideas, organizational restructuring, business process reengineering and other aspects [1].

2. Problems in Planning

Through the in-depth analysis, we can see several disadvantages existing in the domestic coal enterprises in informatization planning.

- Firstly, the aggregate planning was not comprehensive. Many coal enterprises constructed their information systems concentrating in certain sectors. However, with increasing of departments who needed information systems, the enterprises used system expansion or system improvement on the basis of the original system. According to this bottom-up approach, the information systems couldn't reach the overall goal of the organization after development, and the system maintenance would be more difficult [2]. For this sake, enterprises office automation system required constant improvement to meet more departmental needs.
- Secondly, the aggregate planning was not in-depth. In early stage of planning, a few companies analyzed the demand about their informationization with a view to optimize the whole business systems. As a result, the business process was copied, or a part of manual work was substituted. The information systems didn't improve the companies' management effectively. For instance, due to the lack of unified preplanning of the modules in safety management systems, the transmission of forms couldn't be

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completely got rid of between the departments.

- Thirdly, senior managers didn't attach importance to the informatization planning. The planning can affect all aspects of an enterprise, including the transformation of management institution and mode, and more important, including the change of human ideas and the way of thinking. In one word, the success of the planning depended heavily on the support and trust from the management layer. Unfortunately, it is a reason that prompts many enterprise informatization projects fail.
- Fourthly, the enterprises often emphasized on the construction of information systems but ignored the effects. Regardless of their own needs with better economic profits, some coal enterprises hoped to set up one-size-fits-all information systems only once. Therefore, they invested mountainous money in the purchase of a large number of hardware and software. In fact, the level of a management information system is depended not on the advanced hardware or the complete software, but on whether it is appropriate to organizational objectives. That is to say, the informatization planning should be based the realization of organizational goals and the resolution of organizational problem.

To sum up, it is essential for coal enterprises to construct a scientific, rational, comprehensive and systematic informatization planning to meet their own needs, and guide the development of systems construction in a healthy and orderly way.

3. Contents of Planning

Based on the status analysis of the coal enterprise informatization planning, the paper studies the structure and major content on the coal enterprise informatization planning by using details about Information Engineering (IE) ^[3] and Strategic Alignment Model (SAM) ^[4].

IE takes the internal data processing and management information system as the core of information technology planning methods; nevertheless, it is difficult to meet the requirements of overall system integration. SAM takes an integrated planning approach as the core, but its contents are not specific in a system planning. Therefore the paper uses the characteristics of the two models to design the structure of coal enterprises planning. The contents of the planning should include the target and the overall structure; the overall structure data resources; network platform and application systems management, monitoring management and service systems informatization.

3.1. Target of Planning

Enterprise informatization planning should have clear targets to be achieved. According to the different process of aims to be achieved, the overall and stage goals should be established. Different goals should be corresponded to different implementation ideas. So we should locate our goal of informatization correctly on the basis of information systems applications combined with analysis of the characters of their own.

3.2. The Overall Structure

The overall structure was consisted of the system function located in the layers of decision-making, management and operation, the composition of application subsystem, and also the supporting environment. Unlike other manufacturing enterprises, coal enterprises have their own particular. According to the practice, the contents of enterprise informatization planning can be summarized as data resources, network platform and application system ^[5].

3.3. Data Resources

Data resource planning was a comprehensive program which is considered in terms of the data or information and born in the process of production and management in coal enterprises, from collection to utilization. And the ultimate goal of it was to establish a data processing platform. Furthermore, the data processing platform should be promoted to the support platform of business management.

Therefore, data resource planning was the precondition of the informatization management, and also it was the foundation of other systems. Many coal companies ignored the data and information resources development, application and management. For example, some coal companies used computers only for office work or single transaction management, whereas the network was invested too money. Although the informatization indicators of these companies were relatively higher, they failed to resolve the data transmission. Actually, the whole network didn't give play to its utility, causing the waste of resources.

3.3.1. Network Platform

This platform mainly planned the internal or external network infrastructure based on intranet or internet, including local area network, wide area network, net equipment, internet security and so on. Due to the natural distribution of coal resources and the industrial relationship, the subordinate companies of a group usually were widely distributed, even reached to a hundreds of kilometers^[6]. Also, the geographical environment of each company was greatly different. Therefore, the network planning should take into account the practicality, advancement and openness of the system, as well as its general feasibility.

3.3.2. Application Systems

Application systems were main contents of the informatization planning. The following paper will introduce the concrete contents in several aspects involving the production and management.

a) Management Informatization

The management informatization of coal enterprises implied the usage of modern information technology and advanced management theory on the renovation and remodeling of the management process. Meanwhile, we should integrate the financial management, sales management, stock accounting, materials management, internal control, comprehensive budget, and management analysis. Thus, the optimal allocation of resources and the information management would be realized.

b) Monitoring Management Informatization

The Monitoring Management informatization was to establish production scheduling system, gas monitoring system, three-dimensional visualization system and safety supervision system, introducing advanced equipment and technology in detection and information collection. Thus, we could achieve the real-time monitoring of security information and timely feedback of production scheduling, and guarantee that the leadership would acquire the real-time information and then make a right decision.

c) Service System Informatization

The service system was to support business services and community services which were unrelated to production or business, for example, social security management system, property management system, office automation system and so on. In reference to the overall planning, the service systems should be designed about the software interface, database development plans and system standards^[7]. So it would improve the internal system integration and reduce the project risk of enterprise informatization.

4. Conclusion

Recently, the government has attached great importance to the construction of the coal enterprises informatization. Accordingly, coal companies respond actively to the policy. However, the enterprise informatization is the system engineering with characters of high input, high-risk and long cycle. Managers should explore the potential and the function of the informatization planning in the process of constructing information systems. As a result, this normative planning structure would play a guiding role in designing an informatization planning of coal industry, and the informatization planning would be suitable to coal industry to meet the demands of coal enterprises in the future.

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