

# Research on the Model and Technology for Constructing the Knowledge Structure of Party Group Management Leaders in Power Grid Enterprises

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**Abstract.** At present, there is no mature technology for constructing the knowledge structure of state-owned enterprise leaders in research fields such as management and economics. Considering the current structural classification of party group leaders in state-owned power grid enterprises under the modern governance system, this study adopts an analytical paradigm based on typical positions to explore the construction of a theoretical and mathematical model for the knowledge structure of party group management leaders in power grid enterprises. The applicability and coverage of various learning strategies were explored and evaluated, and certain innovations were made in the theoretical and technical aspects of knowledge management for enterprise leaders.

**Keywords:** Knowledge Structure Party Group Management Leaders Party School

## 1. Introduction

Since “20 word requirement” for leaders of state-owned enterprises was proposed in 2016, the Central Committee of the Communist Party of China and the State Council have focused on “building a high-quality and professional cadre team”, formulated and formed a series of institutional documents and conference spirit, focusing on improving the ability and quality of leading cadres, and playing a key role in leading cadres<sup>[1]</sup>. The report of the 20th National Congress of the Communist Party of China proposes to actively and steadily promote carbon peaking and carbon neutrality, and accelerate the planning and construction of a new energy system<sup>[2]</sup>. The energy transformation oriented towards clean and low-carbon is reshaping the modern energy system, putting forward profound requirements for leaders and cadres of power grid enterprises to shoulder the responsibility of the power grid and serve the clean and low-carbon transformation of energy. Under the guidance of the dual carbon goals, accelerating the

planning and construction of a new energy system, and promoting energy and power enterprises to accelerate the transformation and innovation of strategic business layout and business models<sup>[3]</sup>, require leaders and cadres of power grid enterprises to focus on professional and professional ability and quality requirements, and accelerate the construction of knowledge structures that adapt to energy and power transformation and comprehensive and deep innovation of enterprises<sup>[4]</sup>.

At present, there is no mature technology for constructing the knowledge structure of state-owned enterprise leaders in research fields such as management and economics<sup>[5][6][7]</sup>. Relevant research mainly classifies them vertically based on their positions, resulting in a lack of targeted and systematic research on learning strategies related to knowledge structure<sup>[8]</sup>. Considering the current structural classification of party group leaders in state-owned power grid enterprises under the modern governance system<sup>[9]</sup>, this study adopts an analytical paradigm based on typical positions to explore the construction of a theoretical and mathematical model for the knowledge structure of party group management leaders in power grid enterprises. The applicability and coverage of various learning strategies were explored and evaluated, and certain innovations were made in the theoretical and technical aspects of knowledge management for enterprise leaders<sup>[10]</sup>.

## **2. Basic concepts**

Positions correspond to individuals and can only be held by one person. The common manifestation of one or more positions is duties, which can be composed of one or more positions; For example, the number of duties for the management leaders of the Party Group of China Information Industry Corporation is 9, and the actual job positions are 16.

Firstly, there is a strong correlation between the knowledge structure and job responsibilities. Due to the flexible adjustment of job responsibilities under different duties, it is difficult to clearly define the knowledge structure based on different duties. For example, after the adjustment of the deputy general manager's field of responsibility, although the position remains unchanged, it is necessary to optimize the relevant knowledge structure based on the responsibilities of different positions in their respective fields.

Secondly, from the perspective of personnel organization and management, characterizing typical professional positions and corresponding knowledge structures has strong guiding significance for the promotion, transfer, and inspection of leaders, and can enhance the targeted and scientific management of leaders.

### 3. Model for Constructing the Knowledge Structure

#### 3.1 Position Setting of Party Group Management Leaders

Unlike ordinary personnel, the knowledge structure of leaders is the key foundation and bridge for leaders to reshape their personal traits and qualities in accordance with the requirements of fulfilling their responsibilities in the organizational context, and further support and drive the formation of enterprise knowledge resources.

According to the two position-setting clues of “three meetings and one layer” and “professional control”, the typical professional positions of the company’s party group management personnel will be further divided into four categories: headquarters professional control line, directors and supervisors line, party organization line, and business management line.(shown in Figure 1)

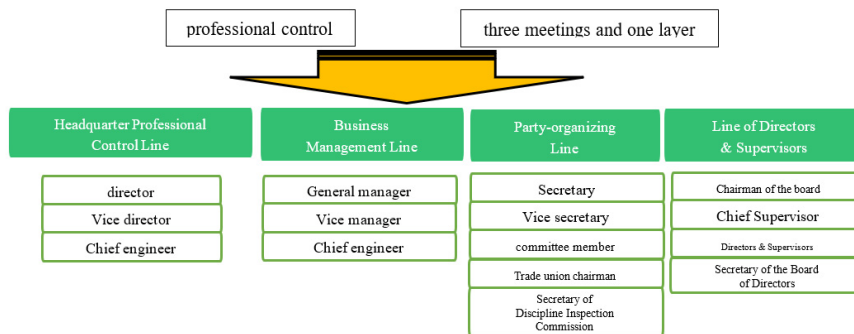
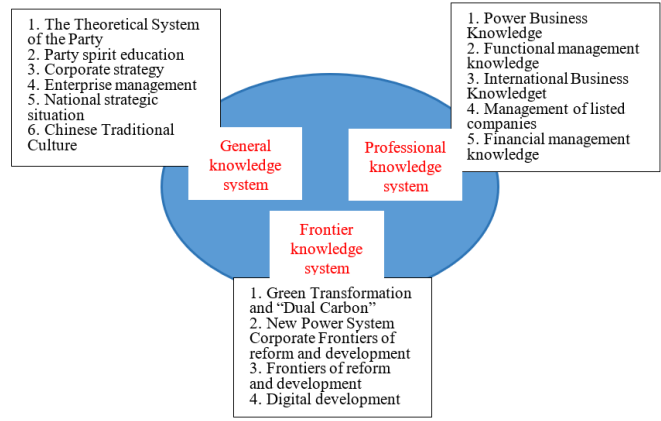


Figure 1. Position Setting of Party Group Management Leaders in Power Grid Enterprises

#### 3.2 Position Setting of Party Group Management Leaders

Based on the curriculum foundation of the power grid enterprise party school, combined with the advantages and capabilities of other party schools in the power grid enterprise system, we will gradually expand and form a knowledge system that covers general knowledge, professional knowledge, and cutting-edge knowledge, supporting the independent development of core courses and accurately responding to the learning needs of the company's party group management leaders.(shown in Figure 2)

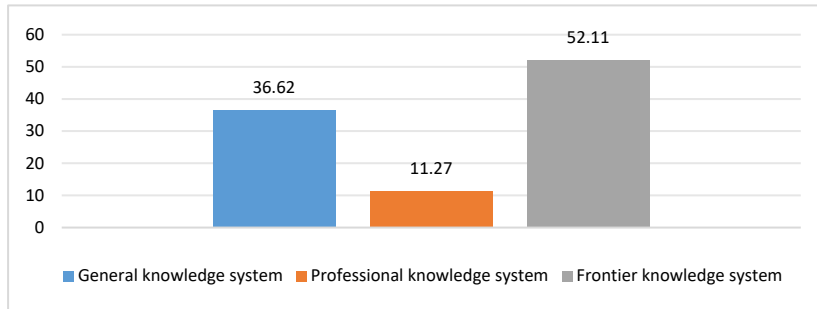


**Figure 2.** Theoretical Model of Knowledge Structure of Party Group Management Leaders in Power Grid Enterprises

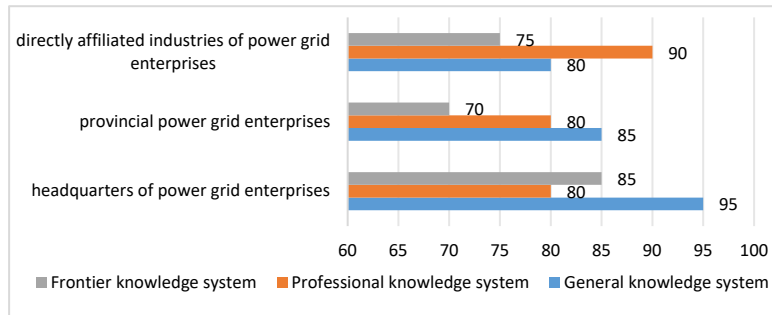
According to the weighted average calculation method, this paper sets the target values for each knowledge of party group management leaders in the three subsystems as  $X_0$ , and sets the actual level as  $X_i$ , so that the evaluation formula for the actual knowledge level of party group management leaders can be expressed as

$$Y = \sum_{k=1}^m \sum_{i=1}^n X_0 * 100 / X_i \quad (1)$$

$k = \{1, 2, 3, \dots, m\}$  represents the number of party group management leaders;  $i = \{1, 2, 3, \dots, m\}$  represents the number of types of knowledge in the knowledge structure.  $Y_{mn}$  represents the knowledge level of  $m$  party group leaders within a knowledge structure framework containing  $n$  types of knowledge.



**Figure 3.** Assessment of the Importance of Knowledge Areas Concerned by Leaders (Full score of 100 points)



**Figure 4.** Evaluation results of knowledge level (Full score of 100 points)

This paper adopts expert scoring to set knowledge level target values for different sectors of power grid enterprises, and evaluates the knowledge level of party group management leaders in three types of enterprises: headquarters of power grid enterprises, provincial power grid enterprises, and directly affiliated industries of power grid enterprises by 150 questionnaires. Through data verification and expert review, the questionnaire results meet the general reliability and validity analysis requirements. The results are detailed in Figure 3 and Figure 4.

#### 4. Conclusion

Through data analysis, it was found that firstly, the knowledge level of headquarters leaders is generally good and their knowledge structure is reasonable, but there are certain shortcomings in their professional knowledge. Secondly, the knowledge level of provincial power grid leaders is below that of headquarters leaders, and their mastery of frontier knowledge is insufficient; Thirdly, the leader of the directly affiliated unit, has outstanding professional knowledge level, while the other two types of knowledge do not have outstanding advantages.

#### 5. Enlightenment

This study adopts an analytical paradigm based on typical positions to explore the construction of a theoretical and mathematical model for the knowledge structure of party group management leaders in power grid enterprises. The results showed that the overall level of headquarters department leaders was relatively strong, while the knowledge level of provincial power grid enterprise leaders was relatively low, while the frontier knowledge level of leaders in directly affiliated industrial units was relatively high. Based on the above research conclusions, this paper proposes three suggestions as follows:

Firstly, update and improve the curriculum system. Taking the systematic cultivation of leadership personnel as the key point, power grid enterprise party schools should

accelerate the construction of a training course system that covers general knowledge, professional knowledge, and cutting-edge knowledge relying on a knowledge system inventory of typical positions, build a self built teaching team as the foundation with scientifically formulate course development plans.

Secondly, power grid enterprises need to integrate the company's training system, strengthens guidance and assessment of training institutions in various units, and establishes a hierarchical and classified training and support service mechanism for party group management leaders to meet the knowledge learning needs of leaders, autonomous learning, online learning, systematic learning, and timely learning.

Thirdly, utilizing information and digital means to exchange scarce resources such as courses and teachers with the state-owned asset system party schools, power grid enterprises need to build a knowledge sharing system, and encourage party management leaders to recommend excellent knowledge products to each other. Meanwhile, targeting different sectors and positions, power grid enterprises should open up system permissions in an orderly manner, develop knowledge system structure and level evaluation tools, and support party group management leaders to actively learn based on their positions.

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