Building Capacity of Enterprise Power Grid: Theoretical Analysis and Route Selection—A Case Study of Henan Provincial Electric Power Grid

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Abstract. In the background of power system reform, this paper first analyzes the necessity and connotation of power capacity construction in power grid enterprises. Then, we choose the national power company of Henan province as the object of the case, carry on exploratory study for its capacity construction path. The provincial power companies to provide capacity-building path to follow and reference; Finally, the provincial power company recommended the construction of the party as the company's development of the primary program, combined with the province's situation, the ability to choose the corresponding capacity as a short board to enhance the direction, from the organization, Capital, environment, talent, technology 5 levels to build capacity to enhance the security system. The study fills the theoretical gaps in the capacity building of state-owned enterprises, and provides the reference and path suggestions for power grid enterprises to do bigger and stronger through capacity building.

Introduction

Capacity building manifests its profound roles as the fundamental engine activating the enterprise internal and external resources, as the stimulating force propelling enterprise’s adaptation to the delicate and harsh external environmental challenges, as crucial grounds on which corporate survival strategies and visionary developmental schemes depend. Therefore, study on capacity building demonstrates intangible significance to the growth and development of an enterprise. Power Grid Enterprises as key state-owned enterprises contribute essentially to strengthen the national economy and secure national energy security. Power Grid Enterprises ensure the national power supply in the whole economic and societal development. Therefore, it exerts significant actual influences on the overall national economy to study capacity building. The 2017 “Fortune” ranking of the world top 500 enterprises reveals the National Power Grid Corp ranked second by 300 billion RMB annual revenue. However, the corporation missed the top ten honor in light of annual profits. To dig into the deeply-rooted causes, three less favorable features emerge: the giant size, monopoly form and weak profitability. In addition, the National Power Grid Corp lags relatively behind compared with the effective talent training system adopted by French Power Company, forceful management innovation system utilized by Korean Electric Corp and the cutting-edge training management and supervision mechanism exploited by Hongkong China Light and Power Company. Thus, vigorous capacity building effort is urgent for the NPGC (National Power Grid Corp) to lead in the international power arena.

Recently, domestic scholars have shifted to study how Chinese state-owned enterprises are to govern to prevail. Research on Power Grid Corporations in particular has been on the rise currently. Researcher Weian Li (2016) disputes that multiplying the existing dominance assumed in the national economy is by no means the assured way for the enterprises to succeed in the global sphere[1]. Conversely, constructive strategies as perfecting corporate governance, enhancing business vitality and improving production efficiency are proposed by Li to tackle the problems. Again, Li claims that empowered with financial strength and technological vantages, the corporations should integrate advanced productivity to transform so as to fully actualize their dominant status in the national economy. Also, scholar Xiaomin Lai(2017) identifies in his arguments four factors as profit volume, risk capacity, brand identity and responsibility fulfillment.
to assess whether a state-owned enterprise is the strongest[2]. He further maintains that four aspects as corporate structure, competitiveness, product quality and sustainability are all at play in weighing whether the corporations have accomplished optimally. From Lai’s view, indexes as enterprise scale, influence, market share and comprehensive ranking together render state-owned enterprises the giants’ position. Another representative scholar Zhenya Liu (2017) advocates that power grid enterprises should stick to the path of innovation[3]. Only when they attain their own distinctive paths, will the enterprises grow smooth, further and better.

However, lack of subtle researches on capacity building designated to state-owned enterprises in the academia, especially the relative research vacancy on capacity construction within the power grid enterprises fails to underline capacity building as one feasible approach for the State Grid Corporation to refer to in its own endeavor. Therefore, initially this article presents the theoretical basis for capacity construction targeted for the power grid enterprises. Specifically, adequate elaboration is given to the establishment of construction route. Ultimately, this paper takes Henan Provincial Electric Power Grid as a prime case to analyze its capacity construction route. The study on the one hand fills the gap in theoretical exploration into the capacity construction of state-owned enterprises; on the other hand, it supplies strong theoretical grounds for the power grid enterprises to exploit capacity building as a smart move to triumph.

Theoretical Analysis on Capacity Building of the Power Grid Enterprises

Enterprise is the integration of diverse clusters of resources[4] and the endogenous quality of the enterprise determines its competitive advantage. Enterprise capacity constitutes the core element in the process of inner growth of the enterprise concerned. In a sense, corporation capacity influences corporate strategy selection, corporate objectives configuration, as well as the operational modes and growth pattern. The theory on capacity building proposed in this paper consists of the following four aspects.

The Key to Enterprise Success Lies in Its Capacity, Especially the Fostering of Its Distinctive Core Competence

The creation of enterprise competitive advantage, namely the key to enterprise success, consists in full utilization of the inherent resources and the enterprise capacity[5]. Specifically, organizational capability or special abilities enables one entity runs better than the others. Internal conditions determine whether an enterprise has its unique competitive advantage. Corporate inherent capabilities, resources, and knowledge accumulation are crucial to determine whether the corporation is able to obtain excess profits and to maintain its competitive advantage[4]. Professor Guoan Yang from China Europe International Business School, who has been devoted to long-term studies on the success of enterprises, advocates there are two principal elements influencing the sustained success of an enterprise: strategic and organizational capabilities[6]. He holds that although the strategy and organization skills are equally important in the continuing success of enterprises, in reality the factor more crucial in affecting enterprise success is enterprise capacity. It is an effective way for enterprises to maintain a competitive advantage to pay attention to and cultivate important core competence in key links of value chain.

Capacity is the Fundamental Engine Activating the Internal and the External Resources of an Enterprise

Majority of capital-intensive business operators in China are keen on investing heavily and neglect the construction of internal management capacity. Through in-depth study of these specific cases, it is explicitly revealed that the real source generating enterprise competitive advantage and the underlying root nurturing corporate survival and growth originate from the subtle and intangible skills of corporation configuration behind the visible resources, as well as the potential capacity to develop and protect these resources. However, in terms of corporation growth, the actual utilization of the resources and the extent to which they are utilized are more critical, which actually measures the strength of enterprise’s capability. The diversities of resources within an enterprise, including
technology and other production factors, are of no value if they are rendered in isolation. The potential productivity that technology has elicited can only be implemented when the comprehensive internal organizational processes are at play [7]. To revitalize the resources effectively, the enterprise is required to be capable of integrating all existing resources according to their own strategic goals. The ability to navigate and integrate the available resources is defined as Enterprise Resources Configuration Capacity [8].

**Capacity Assumes the Critical Role in Adaptation to the Complex External Environment**

In the background of dynamic and complicated global environment, in which information is changing swiftly and uncertainty is a steady state, the grounds on which corporate competitiveness establishes itself has shifted from excessive reliance on intense exploitation of natural resources to the fostering and elevation of organizational ability. The competition focus has shifted from the mere resource war in the traditional sense to the competition of dynamic maneuver tactic and learning capacity in the age of knowledge and information. How to obtain the continuous corporate competitive advantage in the dynamic complex environment becomes a new proposition of strategic management. American Business Weekly invited 12 famous contemporary scholars to discuss the proposition on how to obtain sustainable competitive advantage. Most scholars emphasize that the most critical factor to support the development of an enterprise is enterprise capacity [9]. Corporate capacity is becoming an exceedingly decisive competence for companies to win. Only those enterprises which are equipped with dynamic adaptability can adjust immediately to the government policy changes, respond effectively to production technology innovation and customer demand changes, more constructively, create new competitive advantages while taking advantages of the new market opportunities.

**Capacity is an Important Basis for Strategy Selection and Formulation**

Capacity can be defined as the element that the corporation masters to formulate and implement strategies to improve its efficiency and effectiveness. It is a special kind of corporate intellectual capital. It is also viewed as the competence generating enterprise identification; meanwhile, the capacity can be utilized extensively to expand and develop business opportunities and create value[10]. What is the best strategy to defy the vagaries of the economy and to respond to the rapidly advanced technology and win the market share? To cultivate the capacity-driven strategy, which always focus on what to do rather than what to make or sell, is advisable. The concept of wise strategy can also be phrased as success of value creation, the core of which emphasizes what can the company “do well” [12]. The determinant of success has been transformed from the factors as the products provided and market structure to the evasive capacity with which the enterprises respond successfully to the market changes. This defining capacity ensures that a leading product or service is inimitable and durable in the market. Only with such core competence, enterprises can survive and develop in the market in a long run, and form their own unique competitive advantages.

Capacity factors constitute the genome of enterprise, which controls the “genetic code” of the enterprise. The “genetic code” determines what products companies can produce, what qualities the target market has, and what capacity elements may need to be configured. The enterprise is supposed to establish strategies in accordance with the capacity factors involved. Under the background of electricity reform, power grid enterprises are under various pressures, and capacity building is a successful “password” for enterprises to provide a new path choice for sound development in the future.

**Case Study of the Capacity Building Route of Power Grid Enterprises**

Capacity building is the only way for power grid enterprise to obtain competitive advantage under the new situation. Under the background of electricity reform, the Chinese power company in Henan province sticks to capacity building, strengthening its inner capability and transforming its
outer image. It strives to alter the corporate developmental mode; consequently, it has successfully explored a new sustainable and healthy growth path, which deserves full attention and leaning.

The Reasons for the Choice of the Case

Priority of Henan Electric Power Company lies in the fact that it is a wholly-owned subsidiary by the State Grid Corporation. It is a key large-scale state-owned enterprise, closely associated with the national economy and national energy security. It answers for Henan provincial economic and societal development and guarantees the power supply needed for more than 100 million residents inhabiting in 18 major cities and more than 2,000 towns. Henan Power Grid is an important infrastructure which exerts its strong influence in the entire provincial economic and societal development. As an entity, Henan Power Grid drives the economy and energy structure transformation plan. It is the medium through which the policy of “two alternatives” are to be implemented. It also functions as an essential component in construction of China’s energy net. Henan Electric Power Company takes the construction and operation of Henan Power Grid as its core business operations. It serves as the chief strategic execution entity subjected to the State Power Grid. It acts as the provincial key leading enterprise and the largest public service enterprises in light of energy. It supplies clean, safe, economical and sustainable power energy for Henan province to build into a well-off society in all-round ways and to rise in central China. Meanwhile, it helps Henan to revitalize, to proper and also to improve the living standards of the common masses.

Analysis on Capacity Building Route in Henan Provincial Electric Power Grid

Enterprise Capacity is a rare, inimitable and irreplaceable accumulative leaning, whose formation requires long-term dedication and accumulation on the part of the enterprises. The Henan enterprise of the State Power Grid starts from the national 12th five-year plan phase to initiate its corporate strategic positioning, identify its overall strategic goals and set its spiral phased goals. The company selects capacity building to crack the nuts so as to lift its comprehensive strength up. To adhere to the fundamental capacity path, in different stages, capacity building solutions are specifically laid out in relation to its specific deficiencies as follows.(As shown in table 1).

Table 1. Analysis on capacity building route in Henan provincial electric power grid.

| Phases                  | Strategic Positioning                                      | Strategic Goals                              | Capacity Deficiencies                  | Capacity Building                  |
|------------------------|-----------------------------------------------------------|----------------------------------------------|----------------------------------------|------------------------------------|
| The 12th Five-year plan Phase | Ensuring the Developmental Power Needs in Henan Province | Replenish the Deficiencies and Enhance its Developmental Capacity | 1. Weak Grid Foundation  
2. Insufficient Capacity for Development  
3. The Inefficient Agricultural Power System | Developmental Capacity |
| The 13th Five-year plan Phase | To undertake the task: Being the strategic hub of China’s energy net--the modern Comprehensive energy security platform attempting to serve Henan Province and to “Win the overall prosperity and make the central plains thriving”. | Strive to play the leading role in the central region, To achieve the modern company standard of “One Power, Three- Excellence” in full scale, To achieve the preliminary target of “Double First-rate”. | 1. Investment and Profitability Fail to Effectively Meet Development Needs  
2. Poor Agricultural Power Foundation  
3. Imbalance of Team Structure | ➢ Developmental Capacity  
➢ Service capability  
➢ Governance Capabilities |

As shown in table 1, elaboration on the capacity-building path of Henan Provincial Electric Power Grid is as follows:

Initially, in the 12th Five-year plan phase, building capacity is underlined as the core task to tackle the practical problems existing in the company.
The 12th Five-year plan period initiates the capacity building strategy on the company’s part, which is the result of deepened understanding of enterprises, realizing that the enterprise is a capacity system. As a rule, in the process of production and operation, each enterprise will establish a capacity system for its own development, and duly utilize the system products or services to meet customers’ needs and create value for customers. During this period, Henan power grid accelerated development, and the power supply guarantee capacity continued to improve, which basically met the needs of economic and social development. Based on the achievement, from 2014 the State Grid Henan Electric Power Grid has conducted comprehensive research and implemented a major deployment and strategic selection, which aims to tackle the capacity short board and meet the target requirements formulated then. At the end of the “Twelfth Five-year” period, through steady progress on the key tasks, Henan Electric Power Grid effectively erased the defects. As was targeted, a strong foundation took form, lifting the corporate overall developmental force prominently. (Figure one is the report of the key attainments.)

![Diagram](image1)

Figure 1. Key effects achieved by Henan electric power grid during the 12th five-year plan period.

Capacity promotion effectively contributes to the fulfillment of the enterprise objectives and power grid strategic targets. Stepping into the 13th Five-year Planning, enterprise development and power grid reform have obtained new objectives along with the further implementation of the power grid reform. Thus, the connotation and mode of capacity-building alter of their own accord.

Secondly, during the 13th Five-year planning period, the task to improve the corporate comprehensive capacity in the core of “Development, Service and Governance” is set to accomplish so as to lay a solid foundation for Henan Power Grid to achieve its long-term goals.

Entering the 13th Five-year planning phase, State Grid Corporation initiated modern company strategic target as “One Power and Three-Excellence” and its strategic vision of “two first-rate” in line with the series of developmental strategies and policies formulated by the party central committee. Similarly, Henan province put forward its local strategic objectives: to rise in the central region, to thrive economically, to boost the income of the common people and to enhance the comprehensive strength of Henan Province. Accordingly, higher requirements are imposed on the party of Henan Provincial Power Corporation. After extensive research and assessment of the external environment around which the State Grid Henan Power Corporation is surrounded, the company laid out its own corporate strategic system to effectively undertake national as well as the provincial targets and to combine the particular local reality. The company announces that by 2020, the chief developmental indicators are to lead the central region. The company also claims to fulfill the two objectives: full-scale actualization of modern companies which live up to the “One Power and Three-Excellence” standard and accomplishment in preliminary implementation of the “two first-rate” strategic target. It further proposed to accelerate the various capacity building pace, especially the development capacity, service capacity and governance capacity to tackle the weaknesses and problems existing in the perspectives of development, service and management etc. Among the three capacities, the development ability refers to the capability to sustain growth out of
mere survival. It refers to the corporate potential to expand its reproduction to meet the users’ and other stakeholders’ continued demand through its own production and business operation activities. It is the embodiment of the corporate comprehensive quality and strength. Service capability refers to the corporate ability to integrate its internal and external resources. It also implies the ability to continue to provide in distinctive ways or means higher quality products or services which comply with the established standards and specifications to effectively meet customers’ real or potential demands. Service capacity demonstrates explicitly its corporate service concept, management efficiency and the comprehensive performance of personnel quality. Under the modern enterprise system, the concept of governance implies a variety of capabilities: corporate capacity to actively adapt to changes in internal and external situations; ability to actively response to concerns from internal and external interest-bound subjects; ability to fulfill the intended goals and to realize the core corporate values through diversified means: planning enterprise strategy, shifting organization structure, perfecting the operating mechanism, scientific resources configuration, the top-level designing, orienting directions, specifying duties, tightening management, strengthening supervision and controlling risk etc.

Henan Electric Power Company seizes capacity building as the gripper. Through the construction of the “Three Capacities”, the company plays the critical role in the overall development of Henan province and the State Power Grid Construction. Simultaneously, capacity building functions as an important step in realizing corporate value and elevates the corporation strength. More significantly, the triumph of capacity building serves as an important means for the company to ascend to the first phalanx classified by the State Grid. Thus, the company is qualified to play the leading role for provincial power companies to refer to in terms of capacity building.

The Route Analysis of Capacity Building of Provincial Power Companies

In the spirit of electricity reform of the contemporary age, State Grid Henan Provincial Power Corporation has been constantly adhering to capacity building as its guidance, which confers huge power to progressive advancement of the company. In turn, it has provided a new development path for its counterparts. It is suggested that power companies at the provincial level harness capacity building as its gripper to improve their respective comprehensive strength while pursuing the destined long-term growth so as to solidify the corporate force on which the success of the future strategic goals and sustainable growth counts.

Comprehensively Strengthening Party Construction Functions as the Premise of Capacity Building

Power companies at each provincial level as the state-owned backbone enterprises hitched crucially to what is reckoned provincial energy security, national economy and people’s livelihood must consciously adopt the leadership of the party as a fundamental guarantee to achieve rapid and continuous development of enterprises. They are required to comprehensively strengthen the party’s construction, enhance the capacity of party committees at all levels to “Guide the Directions, Control the Overall Situation and Ensure Implementation”. All provincial power companies should incorporate their political advantage into powerful development advantage to provide solid guarantee for striding development. It is the most fundamental political responsibility to improve the party’s responsibility system. Party self-governance through exercising strict party self-discipline and supervising its own conduct remains the basic political liability. Party governance involves systematic approaches: 1) to conscientiously implement the comprehensive assessment measures for the party construction of state-owned enterprises, to establish the system of problems list and elimination record and to constantly improve the assessment and evaluation system for the party’s construction work. 2) to fully strengthen ideological and theoretical learning, to firmly advance studies on the theoretical and practical issues of party building and to institutionalize the normalization of education. 3) to focus on the basic requirements in the call of “Four-Consciousness” and guide all party members to meet the “Four Qualifications”, to exert the modeling role of party committees at all levels, to extend the dominant role of the party branches in
educating party members, to strengthen ideological analysis and education guidance and to enhance the party’s ideology and party members’ awareness.

**Capacity Elevation Direction should be Identified in Line with the Specific Short Board Evaluated According to the Particular Provincial Situation**

Capacity building has its own distinctive paths to refer to and is also a long-term complicated accumulative learning process. The enterprise ability and successful experience formed at different stages of development will still tend to be deficient in the face of uncertainty caused by the new operating environment which varies swiftly and constantly. The core competitive advantage established in the past may not be the core competitive advantage in the new environment. Firstly, in order to win the future, the provincial power companies need to make an accurate judgment of the external environment and its changing trend. Secondly, the companies should be able to form rational analysis and rational prediction of the capabilities and resources needed to achieve strategic goals and vision. Thirdly, it is recommended to use strategic analysis tools to find out the capacity short board which hinders corporation development and the internal and external key factors which restrict the enterprise growth. Fourthly, companies should in the process of capacity building take enterprise ability as a long-term commitment and prepare to integrate and combine multiple measures and implement them simultaneously to extract the overall power. In the end, a set of standardized management system is formed to constantly check the feedback of the target and ensure the effectiveness of the capacity building.

Being the key leading state-owned enterprises, all power companies at provincial level should put the leadership of the party in the first place because party leadership guides and guarantees capacity construction. Provincial corporations must fully recognize that corporate capacity building is a process of steady improvement. To fit with the enterprise strategic transformation and target adjustment, capacity building also assumes the mode of wave-like uplift and spiral escalation in the interactive process. Provincial power companies should emphasize its key capacity building target by combining the external environmental alterations and make adaptive adjustment accordingly to prompt the enterprise comprehensive ability to ascend, to solidify corporate foundation and to accelerate the progression of enterprise strategic targets as a whole.

**Conclusion**

Capacity building is the only solution for enterprises to obtain competitive advantage under the new situation; it is the essential source to activate the enterprise internal and external resources; it is the critical element facilitating enterprises to adapt to the complex external environment; it is the primary grounds on which strategic selection and formulation is based. In the new context of the electricity reform, capacity-building is the fundamental way for power grid enterprises to attain strategic targets and fulfill healthy growth. This study takes State Grid Henan Electric Power Corporation as a prime case, explores the recognition process of capacity building of the company spanning from the “Twelfth Five-year planning” period to the “Thirteenth Five-year period, demonstrates the key actual implementation and its innovative contrivance of capacity construction route. This paper asserts that power grid enterprises should adhere to capacity building. Meanwhile, to achieve the strategic goals effectively, to solidify the foundation for sustainable development and build an adaptive environment, Power Grid Enterprises are proposed to take the following safeguard measures:

**Organization Safeguards**

Organization Safeguards involves: to perfect the organizational system and upgrade the execution plan based on the altered company’s capacity; to master corporation development goals and implement thoroughly the crucial objectives and action plans; to fully supervise, lead and control the company, to ensure that capacity building is diffused in various deployment arrangements; to ensure all measures are implemented to the core.
Capital Guarantee
Capital Guarantee entails the following accesses: to take advantage of national policies and broaden financing channels; to strive actively for national policy support and innovate financing methods to ensure the safe and reliable supply of funds; to expand the financing channels, strictly control the cost of funds, properly allocate capital investment, and provide a steady-fast financial guarantee for the comprehensive implementation of the company’s strategy.

Environment Guarantee
Corporations should strengthen cooperation between government and enterprise, actively seeking policy support, and intensifying communication and coordination with the government to promote mutual strategic cooperation. What’s more, generating a favorable environment for grid construction is a must. Positive efforts should be invested to obtain access to land use for power infrastructure and policy support aimed at power grid construction especially. Attempts should be stressed to create a favorable environment for power grid construction and strive for a reasonable price for transmission and distribution of electricity and enhance the power grid’s capacity for sustainable development.

Talents Guarantee
Talents Guarantee suggests the following principles: to give it priority to attract excellent talents from home and abroad; to formulate the strategy of priority to talents in the economic and social development; to completely actualize the fundamental and strategic role of talents; to establish talent guarantee mechanism in the way of fostering talents and taking in talents to create the atmosphere of intellectual explosion in the whole society.

Technology Guarantee
Based on the four aspects of voltage grade selection, connection mode, line segment and equipment selection, technical support is provided for enterprises to build capacity building.

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