



Research on Organizational Effectiveness Evaluation Model of Internet Enterprises with High Resilience Energy Based on Multiple Integrations

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Abstract. This paper summarizes the relevant theories of efficiency evaluation Indicators and methods, the research constructs the energy Internet enterprise organization operation effectiveness evaluation model, puts forward the energy Internet enterprise organization operation effectiveness evaluation of application scenarios, evaluates index evaluation and style, and the energy Internet operation effectiveness evaluation model of enterprise organization, the empirical analysis, the paper analyzes the result of different department and style type analysis, for the energy interconnection Network enterprises implement enterprise strategy to carry out organizational innovation to provide technical methods.

Keywords: Fuzzy logic · Energy internet enterprise · The evaluation model of organizational operation efficiency · Index analysis and style analysis

1 Introduction

Enterprises organization and management of energy networks, in-depth research analysis, considering the theory system of the advantages and disadvantages and enterprise function orientation, building contains three ability, seven dimensions (indicators), eight kinds of style, 16 tertiary and 22 secondary index, index based on the diversity of high elastic energy internet enterprise organizational effectiveness evaluation index system. The overall structure of the index system is shown in Table 1.

1.1 Operation Capability

Ability to operate mainly reflects the current situation of organization level, with economic and personnel equipped with two level of index to reflect, including economic benefit as the financial indexes, mainly reflects input-output efficiency of organization operation, respectively adopt economic input, output, scale, four secondary indexes to reflect the business performance. Corresponding to the per capita labor cost, per capita labor productivity, per capita benefits and performance level four indicators. Staffing reflects the organization's human resource situation, adopt the project configuration and structure of two secondary indexes to reflect the configuration of employment personnel allocation is used to evaluate, personnel structure, the structure is the average age, age structure, four three-level index reflects the comprehensive talents equivalent density within the organization staffing [1].

1.2 Professional Ability

Professional ability is mainly reflected by assessment organizations of professional responsibility to set up and started, from two aspects of external collaboration and internal operation to evaluate, including external collaboration reflect the organization and other organizations business synergy is the responsibility of the interface is clear and smooth, set a target and organizations join two secondary indexes. Corresponding to the responsibility interface and business collaboration two three indicators. Internal operation reflects whether the organization's internal institutions and positions are reasonable and efficient. It sets two second-level indicators, organizational structure and operation efficiency, corresponding to two third-level indicators of internal institutions and positions [2].

1.3 Development Ability

Future sustainable development ability to reflect the organizations improve running efficiency of the development potential, from the growth and development, strategic support and institutions approved to evaluate three aspects, including potential growth development reflect the organization's business development and personal growth opportunities, including organizational growth and employee growth two secondary indexes, tissue growth business scale is used to evaluate, Staff growth is evaluated comprehensively by three indicators: job development channel, staff development channel and talent development channel. Strategic support reflects the ability of the organization to serve the enterprise strategy. The two second-level indicators of international leadership and energy Internet are used, which correspond to the two third-level indicators of benchmarking ranking and initiative achievement respectively. Institutional recognition reflects the satisfaction degree of internal employees and external customers to the organization, including a secondary index of mass satisfaction, and two tertiary indicators of employee satisfaction and customer satisfaction are used for evaluation [3].

Table 1. Operational efficiency evaluation index system of energy Internet enterprises

Ability	Dimension (first-level indicator)	Secondary indicators	Three-level indicator
Operational capability	Economic benefits	Economic input	Per capita labor cost
		Economic output	Per capita labor productivity
		Economies of scale	Per capita benefit
		Operating results	Performance level
	Staffing	Employment configuration	Staffing rate
		Staff structure	Post structure
			Average age
			Age structure
		Talent Equivalent Density	
	Professional ability	External collaboration	Target setting
Organizational articulation			Business collaboration
Internal operation		Organizational structure	Internal organization
		Operational efficiency	Job setting
Development ability	Growth and development	Organizational growth	Business scale
		Employee growth	Career development channel
			Staff development channel
		Talent development channel	
	Strategic support	International leading	Benchmark ranking
		Energy Internet	First achievement
	Institutional accreditation	The masses are satisfied	Employee satisfaction
			Customer satisfaction

2 Construction of Evaluation Model of Organizational Operation Efficiency

On the basis of in-depth analysis of the connotation of indicators at all levels in the operating efficiency evaluation index system of the organization, the weight of indicators at all levels in the index system is obtained through in-depth interviews and surveys with experts from various departments of energy Internet enterprises, so as to establish the operating efficiency evaluation model of the organization (Table 2).

The results of performance evaluation can be analyzed from two perspectives:

Table 2. The evaluation model of organizational operation efficiency

Ability	Weights	First-level indicator	Weights	Secondary indicators	Weights	Three-level indicator		
Operational capability	80%	Economic benefits	25%	Standard input	100%	Standard per capita labor cost		
			25%	Standard output	100%	Standard per capita labor rate		
			25%	Economies of scale	100%	Standard per capita benefit		
			25%	Operating results	100%	Performance level		
	20%	Staffing	50%	50%	Employment configuration	100%	Staffing rate	
				50%	Staff structure	25%	Post structure	
						25%	Average age	
						25%	Age structure	
	50%	Internal operation	55%	55%	Organizational structure	100%	Internal organization	
				50%	External collaboration	35%	Target setting	100%
65%						Organizational articulation	100%	Business collaboration
45%				Operational efficiency	100%	Job setting		

(continued)

Table 2. (continued)

Ability	Weights	First-level indicator	Weights	Secondary indicators	Weights	Three-level indicator
Development ability	30%	Growth and development	50%	Organizational growth	100%	Business scale
			50%	Employee growth	30%	Career development channel
					35%	Staff development channel
	35%	Talent development channel				
	40%	Strategic support	35%	International leading	100%	Benchmark ranking
			65%	Energy Internet	100%	First achievement
	30%	Institutional accreditation	100%	The masses are satisfied	50%	Employee satisfaction
					50%	Customer satisfaction

2.1 Index Evaluation

Based on the evaluation results of seven first-level indicators (economic benefit staffing, external cooperation, internal operation, growth and development strategy support organization recognition) of the effectiveness evaluation object, the radar chart of organizational evaluation index evaluation (Fig. 1) is drawn, which can directly reflect the advantages and disadvantages of the evaluation object in the seven dimensions of organizational effectiveness [4].

2.2 Style Evaluation

Taking operation ability, professional ability and development ability as the coordinate axis, and dividing each ability into two levels of high and low, there can be 8 kinds of organizational effectiveness style types, which are set as mature, strategic, service, developmental, stable, traditional, professional and declining. During the performance evaluation, the evaluation objects can be helped to determine their organizational effectiveness style types according to their scores in the three dimensions [5].

- **Mature.** The organization has good operational capabilities, professional capabilities and development capabilities, and the development in the three capabilities dimensions is relatively balanced, which is embodied in: able to effectively support the strategy, high economic input and output efficiency, efficient internal operation, smooth

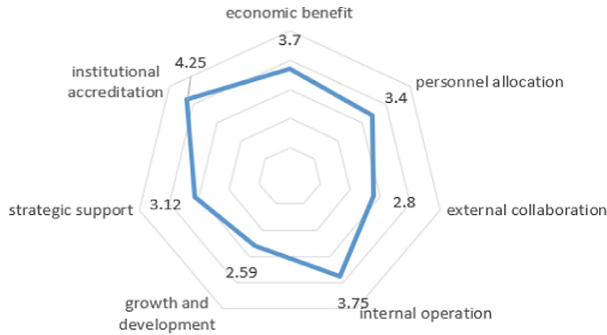


Fig. 1. Seven dimensional index radar chart

external collaboration, personnel The configuration is reasonable, employees have room for growth and development, and can be unanimously recognized by internal employees and external customers. Continue to maintain a good development trend, conduct regular performance evaluations, monitor the changes of the three capabilities, and appropriately increase economic and personnel input to obtain better output returns [6].

- **Strategic.** The organization has good operational and development capabilities, but relatively weak professional capabilities. The specific manifestations are: able to effectively support strategies, high economic input and output efficiency, reasonable staffing, employees with room for growth and development, and access to internal and external employees. Unanimously recognized by customers, but the internal operation efficiency is not high and the external collaboration is not smooth enough. Strengthen professional capacity building, improve internal operation efficiency and improve external collaboration capabilities by optimizing business processes, clarifying organizational responsibilities, streamlining internal organizations, strengthening post integration, and strengthening departmental coordination.
- **Stable.** The organization has good operational and professional capabilities, but relatively weak development capabilities, as shown in: high economic input-output efficiency, efficient internal operation, smooth external collaboration, reasonable staffing, but insufficient support for strategy, employees The career development channel is not smooth and the public recognition is low. Strengthen development capacity building, improve support for strategies, promote employee growth, and increase public recognition by increasing innovation input, strengthening talent channel construction, and improving service levels.
- **Service type.** The organization has good professional ability and development ability, but the transportation ability is relatively weak. The specific manifestations are: can effectively support the strategy, efficient internal operation, smooth external cooperation, employees have room for growth and development, and can obtain internal employees and external customers. Unanimously approved, but the input-output efficiency of the organization is not high and the staffing is unreasonable. Strengthen

the construction of operational capabilities, and improve the organization's input-output efficiency by controlling resource input, optimizing personnel structure, and improving labor efficiency.

- Professional. The organization has good professional capabilities, but is relatively weak in terms of operational capabilities and development capabilities. The specific manifestations are: efficient internal operation and smooth external collaboration, but in terms of economic benefits, staffing, institutional recognition and employee career development. There are shortcomings. Improve the organization's input-output efficiency by controlling resource input, optimizing personnel structure, and improving labor efficiency; improving development capabilities by increasing innovation input, strengthening talent channel construction, and improving service levels.
- Developmental. The organization has good development capabilities, but is relatively weak in terms of operational capabilities and professional capabilities. The specific manifestations are: it can effectively support the strategy, employees have room for growth and development, and can obtain unanimous approval from internal employees and external customers. There are weaknesses in economics, staffing, internal operations and external collaboration. Improve the organization's input-output efficiency by controlling resource input, optimizing personnel structure, and improving labor efficiency; improving professional capabilities by optimizing business processes, clarifying organizational responsibilities, streamlining internal organizations, strengthening job integration, and strengthening departmental collaboration.
- Traditional. The organization has good operational capabilities, but is relatively weak in terms of professional capabilities and development capabilities. The specific manifestations are: high economic input and output efficiency, reasonable personnel allocation, but in supporting strategy, internal operation, external collaboration, employee development and There are shortcomings in institutional recognition. Improve professional capabilities by optimizing business processes, clarifying organizational responsibilities, streamlining internal organizations, strengthening job integration, and strengthening departmental coordination; improving development capabilities by increasing innovation input, strengthening talent channel construction, and improving service levels.
- Recessionary. The performance of the organization is poor in terms of operational capability, professional capability and development capability. The specific manifestations are: it is difficult to effectively support the strategy, the economic input and output efficiency is low, the internal operation is not smooth, the external collaboration is difficult, the staffing is unreasonable, and the employees are difficult to obtain. There is less room for growth and development, and the organization is poorly recognized by the masses. Continuously monitor the results of organizational effectiveness evaluation. If the organization cannot effectively improve its operational, professional and development capabilities within a certain period of time, the organization needs to be revoked.

2.3 Application Scenario of Organizational Operation Efficiency Evaluation System

- Comparison of efficiency evaluation before and after the establishment of the internal institutions of the enterprise. In the stage of feasibility evaluation and organization

design of newly established organization, the effectiveness evaluation model can be used to predict the organization effectiveness. After the establishment of the organization, post-test the organization effectiveness of the organization, compare the results before and after the evaluation of effectiveness, timely evaluate whether the organization design meets expectations, and timely develop the problems in the operation process of the newly established organization [7].

- Assessment of the development trend of the efficiency of the newly established internal institutions. Regularly and continuously evaluate the organizational effectiveness of the newly established institutions, accurately grasp the development trend of organizational effectiveness of the newly established institutions, and provide support for organizational development in view of the continuous improvement of organizational effectiveness; For the organization efficiency cannot be effectively improved for a long time, according to the situation of the organization to adjust, merge or cancel [8].
- Horizontal comparison and competition of organizational efficiency of homogeneous units. The efficiency evaluation system can be used for horizontal comparison of the operational efficiency of the same type of organizations, and the evaluation objects can be benchmarked against the same type of benchmarking organizations in terms of ability, dimension and indicators, so as to find gaps and deficiencies and promote the improvement of organizational efficiency.
- The auxiliary decision of style type for the overall strategy of the enterprise. Through efficiency evaluation, we can comprehensively grasp the styles and types of various types of enterprise organizations, which is helpful to accurately judge the division of labor roles and target positioning of various types of organizations in the process of realizing enterprise strategy, and play an auxiliary role in decision-making to support the realization of enterprise strategic goals.

3 Empirical Analysis of Energy Internet Enterprise Organization Operation Efficiency Evaluation Model

3.1 Evaluation Model Index Result Analysis

The functional departments of energy Internet enterprises are taken as the research object to conduct empirical research on the model. Finally, departments such as human resources department, safety and health department, office department, finance department, development department, internet department and construction department are selected to collect relevant data and evaluate the model calculation results of each first-level index of the model as follows (Table 3).

According to the evaluation results of all departments, the scores of the Ministry of Human Resources in the seven first-level indicators are all above 2.5 points, and the scores of all indicators are relatively balanced, without obvious shortcomings. The Department of Safety and Health scored higher in the three indicators of internal operation, strategic support and personnel allocation, while external cooperation and economic benefits were the weak points of the Department of Safety Supervision. The office also scored more evenly on the seven level 1 indicators, with staffing and growth and development being relatively weak areas. The Financial department has relative advantages in

Table 3. Evaluation results of first-level indicators of operational efficiency of functional departments of energy Internet enterprises

First-level indicator	Human Resources Department	Safety and Health Department	Office	Finance Department	Ministry of Development	Internet Department	Ministry of Construction
Economic benefits	3.7	1.85	3.3	2.45	4.5	4.025	2.55
Staffing	3.4	2.89	2.185	1.43	4.55	4.4	3.06
External collaboration	2.8	1.5	2.5	3.8	0.15	2.05	3.3
Internal operation	3.75	3.75	3.75	3.75	3.75	3.75	3.75
Growth and Development	2.5	2.2	2.3	2.35	1.75	2.45	2.3
Strategic support	3.12	3.34	2.9	3.12	3.4	3.8	3
Institutional accreditation	4.25	2.2	4.2	2.5	3.8	0.75	1.8

external cooperation and internal operation, but it has obvious shortcomings in staffing. The Development Department scored high in the five aspects of economic efficiency, staffing, internal operation, strategic support and institutional recognition, but it had obvious shortcomings in external collaboration and growth and development. The Internet Department has obtained high scores in the four indicators of economic benefit, staffing, strategic support and internal operation, but there are obvious shortcomings in institutional recognition. The Ministry of Construction has obvious shortcomings in institutional recognition, and its scores on the other six indicators are more balanced [9].

3.2 Analysis of Organizational Effectiveness Style Types

According to the evaluation results of the first-level indicators of each functional department model, the evaluation model is further formed to evaluate the evaluation results of the three capabilities (Table 4).

Type of style in order to differentiate each department, each department of the three ability score standard score (Z score) transformation, so that each department can clear in the style of organizational effectiveness evaluation chart their coordinates, according to the result of standard score conversion, will each department is divided into six types of style (Table 5).

Organizations with mature organizational effectiveness style have better operational ability, professional ability and development ability, and the development of the three ability dimensions is relatively balanced. The human resources department and office of energy internet enterprises are typical representatives.

Organizations with strategic organizational effectiveness style have good operational and development ability, but relatively weak professional ability, mainly manifested as less external cooperation with other organizations, with the energy internet enterprise development department as a typical representative [10].

Table 4. Results of three kinds of ability evaluation of organizational efficiency of functional departments of energy Internet enterprises

Ability	Human Resources Department	Safety and Health Department	Office	Finance Department	Ministry of Development	Internet Department	Ministry of Construction
Operational capability	3.6	2.0	3.1	2.2	4.7	4.1	2.7 _
Professional ability	3.2	2.6	3.1	3.7	1.9	2.9	3.5
Development ability	3.3	2.6	3.1	2.7	3.0	2.5	2.5

Table 5. Evaluation results of various dimensions of organizational effectiveness of functional departments of energy Internet enterprises (after Z-score conversion)

Ability	Human Resources Department	Safety Supervision Department	Office	Finance Department	Ministry of Development	Internet Department	Ministry of Construction
Operational capability	1.142	-0.959	0.420	-0.681	2.564	1.758	-0.170
Professional ability	0.779	-1.062	0.354	2.195	-2.973	-0.284	1.487
Development ability	2.250	-0.323	1.599	-0.122	1.161	-1.124	-1.256

Organizations with traditional organizational effectiveness style have good operational ability, but relatively weak professional ability and development ability, mainly manifested as good economic benefits and reasonable personnel allocation, but there are shortcomings in support strategy, internal operation, external cooperation, staff development and organizational recognition.

Organizations with professional organizational efficacy style have good professional ability, but are relatively weak in operation ability and development ability, and there are shortcomings in economic benefits, staffing, institutional recognition and employee career development. The financial department and construction department of energy internet enterprises are typical representatives.

The performance of organizations with recessionary organizational effectiveness style is poor in terms of operational ability, professional ability and development ability. The specific performance is as follows: It is difficult to effectively support the strategy, low efficiency of economic input and output, poor internal operation, difficult external cooperation, unreasonable staffing, difficult for employees to get space for growth and development, and poor public recognition of the organization. The ministry of safety and health, an energy Internet enterprise, is a typical representative (Table 6).

Table 6. The organizational efficiency style of functional departments of energy Internet enterprises

Style type	Operational capability	Professional ability	Development ability	Department
Mature	+	+	+	Human Resources Department, Office
Strategic	+	–	+	Ministry of Development
Traditional	+	–	–	Internet Department
Professional	–	+	–	Finance Department, Construction Department
Recessionary	–	–	–	Safety and Health Department

4 Conclusion

Based on the evaluation results of seven first-level indicators (economic benefits, staffing, external cooperation, internal operation, growth and development, strategic support, and institutional recognition) of the evaluation objects, the radar chart of organizational evaluation indicators is drawn, which can directly reflect the advantages and disadvantages of the evaluation objects in the seven dimensions of organizational effectiveness. Taking operation ability, professional ability and development ability as the coordinate axis, and dividing each ability into two levels: high and low, there can be 8 power types of organizational effectiveness styles, which are set as mature, strategic, service, developmental, stable, traditional, professional and declining. When carrying out the efficiency evaluation, it can help the evaluation object to determine its organizational effectiveness style type according to the evaluation object's score in the three dimensions.

The evaluation system can be applied to the comparison of the efficiency evaluation before and after the establishment of the internal organization of the enterprise, the evaluation of the development trend of the efficiency of the newly established internal organization, the horizontal comparison and competition of the efficiency of the organization of the homogeneous unit, and the auxiliary decision of the style type for the overall strategy of the enterprise.

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