



"Four Forces" Model of Organizational Behavior in Power Grid Construction

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Abstract. Good organizational behavior in power grid construction is the core support for promoting high-quality development of power grid construction and solving engineering pain points. Reasonable organizational behavior design can optimize the division of powers and responsibilities and personnel allocation, solve common problems such as collaboration barriers and process redundancies in power grid infrastructure, and enable precise implementation of technological innovation, government-enterprise linkage and other measures. This study sorted out the core ideas of institutional management theory, and constructed a "four forces" model of organizational behavior in power grid construction from the four dimensions of institution, competition, culture, and laws, and then determined 10 major issues that need to be solved in power grid construction in the current period.

Keywords: Power Grid Construction, Organizational Behavior, Influencing Factors, Problem Identification.

1 Introduction

1.1 A Subsection Sample

Power grid infrastructure projects are cross-regional, cross-sector, technology-intensive, and have diverse stakeholders. Power grid infrastructure faces multiple risks such as the natural environment, policy adjustments, and supply chain fluctuations. The scientific nature of organizational behavior directly determines project promotion efficiency and implementation quality, and is of great significance to infrastructure work in the extraordinary development stage. By studying individual motivations and team collaboration models within the power grid construction organization, we can stimulate personnel enthusiasm, improve the execution efficiency of construction management, construction, design, supervision and other majors, and avoid delaying project progress and increasing costs due to internal friction within the organization.

Wu Shaoyan et al. (2025) explored the overall effect of inter-organizational trust, relational behavior, and engineering project performance, deeply explored the relationship between inter-organizational trust measurement dimensions, relational behavior,

and engineering project performance, and verified the mediating role of relational behavior^[1]. Chen Chen (2024) took the influencing factors of the value-added of engineering projects as the research object, constructed a structural equation model covering elements such as behavioral subjects, behavioral content, behavioral organization, behavioral process and behavior occurrence environment, and empirically explored the influencing factors of the value-added of engineering projects^[2]. Zhang Jianting (2024) analyzed the scope of benign organizational behavior in water conservancy projects based on the characteristics of water conservancy projects^[3]. Ge Zihan et al. (2023) analyzed the influencing factors, evolution and incentive mechanisms, and conducted a map analysis of the research focus on the influencing mechanism of cross-organizational cooperation behavior in engineering construction projects and the scholar cooperation team^[4]. Feng Jingchun et al. (2022) used the theory of planned behavior, taking the low-trust construction market environment as the background and the subjective psychological factors behind organizational interface management behavior as the perspective, and used the structural equation model to build a multi-factor mediation model to verify the action mechanism and psychological influence mechanism between trust and organizational interface management behavior^[5]. Yang Yu et al. (2022) used evolutionary game theory to construct a three-party collaborative evolution game model of prefabricated construction projects, and analyzed the dynamic evolution process of the behavior of each participating organization in prefabricated construction projects^[6].

This study draws on the theoretical ideas of institutional management, considers the impact of the four major factors of institution, competition, culture, and rules on organizational behavior, proposes a "four forces" model of organizational behavior in power grid construction, and identifies key issues that urgently need to be solved in power grid construction during the extraordinary development stage based on the model.

2 Theoretical Thoughts of Institutional Theory

Due to the prominent social embeddedness of major projects, institutional theory has become a new perspective for studying and explaining key issues in major projects. Large-scale project organization and management shall take into account administrative work, marketing activities, as well as their integrated synergies. If the engineering organization model does not match the institutional environment, there will be many unexpected events, conflicts and disputes, project delays, and even project cancellations. Even the same engineering organization model will have significant differences when faced with different political systems, industrial structures, local institutional systems, and different histories and cultures. Studying the impact of institutional theory on major project organizations has particularly important theoretical and practical significance.

Institutional theory adopts an open system view of organizations: organizations are profoundly affected by the environment, and this environment is, to a certain extent, the result of continuous precipitation of historical social construction. In this environment, institutions are the “rules of the game” by which individuals and organizations govern social transactions. Institutional theory has a long history of development. It

mainly emphasizes the important influence of the external institutional environment on organizational behavior. It believes that organizational behavior choices are often determined by factors such as regulations, norms, and cultural cognition in the institutional environment. The purpose is to pursue the legitimacy of the organization in the environment. Starting from the legitimacy mechanism, Meyr and Rowan proposed the proposition that organizations are shaped by and tend to be similar to the external institutional environment, that is, organizational isomorphism. The various institutional pressures that play a role in the isomorphism process are called isomorphic pressures. In the organizational behavior process, isomorphic pressures can originate from formal regulations, such as laws, norms, and mandatory requirements; they can also come from informal constraints, such as culture, tradition, and expectations. On this basis, DiMaggio and Powell further classified isomorphic pressures into three types: coercive pressure, mimetic pressure, and normative pressure. Among them, coercive pressure refers to the formal or informal pressure exerted by the organizations that the organization relies on; mimetic pressure mainly refers to the influence of the "legitimate" or successful behavior of organizational competitors (or similar organizations) on the organization; normative pressure mainly refers to the influence or constraint exerted on the organization by the consensus formed among professional institutions.

Organizational behavior and organizational form are both shaped by institutions. The isomorphism of organizational behavior may have nothing to do with the technical efficiency within the organization. In the social environment, institutional elements emphasize the collaborative mechanism that can solve the collective action problem in complex organizational situations by forming new commitment forms and rules of compliance or normative compliance. DiMaggio and Powell proposed the informal forces in the process of institutionalization and isomorphism, namely mimetic isomorphism, normative isomorphism, and coercive isomorphism. Through these three channels, organizations will generate corresponding thoughts and actions. The three informal institutional forces constitute three independent yet interrelated elements of institutions, namely regulatory elements, normative elements, and cultural cognitive elements. The process by which the three elements of institutions exert isomorphic influence on organizational behavior is independent of each other and may even be contradictory. Zucker believes that institutionalization is a hierarchical process, and the diffusion of organizational behavior caused by isomorphic effects is the result of institutionalization rather than the cause. Galaskiewicz and Wasserman believe that the relationship network among organizations actually provides a channel for the spread of organizational institutionalization, such as the isomorphic process of institutional imitation. The social relationship network is an important factor in determining who the decision-makers will imitate. Decision-makers will imitate those they know and trust based on the relationship network.

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Institutional management theory believes that the external institutional environment constitutes a triple pressure that has an important impact on organizational behavior. The first is coercive pressure, that is, formalized regulations, such as the requirements of laws, norms, systems, etc. The second is imitation pressure, which comes from competitors, similar organizations, and examples of successful cases. The third is normative pressure, which is the group consensus or behavioral inertia formed subtly during the long-term operation of the organization. These three forces work together on the organization, and the resultant force formed after the game between them profoundly affects the organization's final behavior and organizational model.

This study believes that in addition to the triple pressures proposed by institutional management theory, the objective laws of organizational evolution will also have an important impact on organizational behavior. Regularity pressure means that organizations have their own objective development trends, behavioral patterns, and carrying capacity. Violations of scientific laws will lead to problems. The objectivity and universality of scientific laws require us to follow the laws and act in accordance with the objective laws. We cannot violate the laws. Once we violate the laws, we will be punished by the laws.

Taken together, the four-force game of mandatory pressure (system), imitative pressure (competition), normative pressure (culture), and regular pressure (science) determines the adjustment direction and presentation form of organizational behavior, which is the "four forces" model of organizational behavior in power grid construction. Specific to the practice of power grid construction, mandatory pressure requires the analysis and implementation of various systems, norms, and requirements at the national and enterprise levels; imitative pressure requires the study of typical practices in the infrastructure industry and the promotion of useful experiences in power grid construction; normative pressure requires the investigation of practical problems in units at all levels and the analysis of the culture and habits of all parties involved; regular pressure requires the deduction of the history and practical logic of the power grid, the grasp of the essence of infrastructure characteristics, and the analysis of objective data.

4 Model-Based Identification of Key Issues

Regarding the many issues obtained from written surveys and interviews, the "Four Forces" model of power grid construction organizational behavior was used to determine 9 key issues that affect the efficient operation of the power grid construction system, and the main influencing factors of various key issues were analyzed. Among them, strengthening construction management resources, strengthening provincial resources, strengthening original collective enterprise resources, and strengthening machinery sharing are resource allocation issues; construction management interface divi-

sion, two early stage integration, and external team management are management optimization issues; key technology research and support team management are technology improvement issues. As shown in Table 1.

Table 1. Key issues affecting the efficient operation of the power grid construction system.

Category	Key Issue	Coercive Pressure	Mimetic Pressure	Normative Pressure	Regularity Pressure
Resource Allocation	Strengthen construction and management resources			★	★
	Strengthen provincial delivery of resources			★	★
	Strengthen the original collective enterprise resources	★		★	★
	Strengthen machinery sharing		★	★	★
Management Optimization	Construction management interface division			★	★
	Fusion of two early stages		★	★	★
	External team management	★	★	★	
Technology Enhancement	Key technology research		★	★	
	Support team management		★	★	

It can be seen that all key issues are affected by normative pressure, that is, all key issues need to be solved through adjustment and change of the organization's existing inertial behavior patterns and cultural consensus. Strengthening the resources and external team management of the original collective enterprises respectively involves the compulsory pressure of homogeneous management of the original collective enterprises and deepening business liberalization. Strengthening machinery sharing, early integration of the two, external team management, key technology research, and support team management involve benchmarking and learning from enterprises outside the company system and exchanges and mutual learning among units within the system, which are affected by imitative pressure. Strengthening construction and management resources, strengthening provincial resources, strengthening original collective enterprise resources, strengthening machinery sharing, dividing construction and management interfaces, and the two early stages of integration involve scientific allocation and reasonable coordination of human resources, funds, materials, time and other factors, which are affected by regular pressure.

5 Conclusion

Under the extraordinary development stage, the scale of power grid construction tasks has increased sharply. Only by rationalizing the organizational behavior of power grid construction can we better adapt to the new situation and challenges. This study fully draws on the ideas of institutional management theory and proposes an organizational behavior model for power grid construction that takes into account the four major factors of institution, competition, culture, and rules to achieve effective identification of key issues in actual work.

In the next step, measures need to be taken to strengthen policy tracking and analysis, strengthen mutual learning of internal and external experiences, strengthen resource allocation for power grid construction, and strengthen power grid construction management optimization to solve specific problems identified by the model.

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