

# The Transformation Logic and Realization Path of Enterprise Management Modes under the Dual Carbon Goals

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**Abstract.** With the deepening of global climate governance and the promotion of China's dual-carbon strategy, the linear growth logic of traditional enterprise management model is difficult to meet the needs of low-carbon development, and enterprises are faced with the dual contradiction of lack of environmental legitimacy and decline in competitiveness. This paper takes the transformation logic and realization path of enterprise management mode under the goal of double carbon as the research theme and explores how enterprises can break through the shackles of traditional management and realize systematic green transformation. The research deconstructs the failure crux of the traditional management paradigm at the levels of strategy, operation, organization and supply chain, and puts forward a three-dimensional transformation model of "strategic guidance reshaping-operational process reengineering-organizational capacity support", and constructs a complete transformation closed loop of "top design-process control-support guarantee"; And from the strategic level, the Environmental, Social and Governance (ESG) value integration framework is established, the operational level designs the transformation coordination mechanism, the organizational level cultivates the green innovation leadership, and at the same time, the supporting systems such as supporting system guarantee and resource allocation are established, and the specific transformation measures of each link are clarified. This study enriches the theoretical system of enterprise management transformation under the background of double carbon and provides a practical path for enterprises to break through the dilemma of green development and realize sustainable development.

**Keywords:** Enterprise management modes; dual carbon goals; transformation logic and realization path.

## 1. Introduction

In the current critical transition period characterized by the rapid development of global "climate capitalism" and increasingly fierce competition in green industrial policies, the global emission reduction framework established by the Paris Agreement is substantially reshaping the underlying logic of economic operation. Thus, the internalization of carbon costs has evolved from a policy advocacy into an irreversible market rule. Major economies take the "Green New Deal" as an important tool, elevating the green industry to a new commanding height of technological revolution and geopolitical competition, and a global contest around low-carbon technologies has already unfolded [1]. China's proposal of the Dual Carbon goals is by no means a simple fulfillment of international climate commitments, but a strategic choice to drive the in-depth transformation of China's economic system, whose significance far exceeds mere emission reduction. It is essentially a composite engine for reconstructing technological routes, energy systems, industrial structures and values. As the core subject of carbon emissions and the key carrier of value creation, enterprises stand at a crossroads of transformation [2]. Needless to say, however, the traditional management mode is rooted in the industrial civilization era dominated by fossil energy, and its basic theories regard environmental factors as external conditions that can be exploited infinitely.

Therefore, its presupposition of "environmental exogeneity" is completely invalid in the era of carbon constraints. When carbon emissions themselves have become a production factor with economic attributes, enterprises must redefine their relationship with nature [3]. At this point, the Porter Hypothesis provides an insightful and highly forward-looking analysis: scientific environmental regulation will never inhibit innovation; on the contrary, it will actively and effectively

stimulate the endogenous motivation of enterprises for green transformation through the "innovation offset effect". More importantly, the integration of the resource-based view and the dynamic capability theory provide a clear and solid theoretical framework: green management capabilities are becoming an enterprise's irreplicable strategic assets, and their value creation mechanism can naturally and appropriately extend to such dimensions as circular economy model innovation, whole-life-cycle carbon management and ESG value integration. This naturally leads to a clear and logically sound conclusion: the green transformation of enterprises needs to build a triangular system where strategic guidance, operational optimization and organizational change support each other. At the strategic level, a dynamic assessment mechanism for climate risks and opportunities should be established; at the operational level, the intelligent collaboration of energy flow, material flow and information flow should be realized; and at the organizational level, a new type of leadership with ecological thinking should be cultivated [4]. Transformation is by no means the improvement of a single link, but a fundamental reconstruction of the logic of value creation. Therefore, when enterprises truly incorporate carbon assets into the core resource allocation framework, green innovation will transform from a cost center into a source of value, thus naturally forming a new business ecosystem adapted to the low-carbon economy [5]. Under this background, this paper analyzes the green transformation path of enterprise management mode.

## **2. The Dilemma Faced by Enterprise Management Transformation**

The predicament enterprises face in the wave of green development does not stem merely from technological backwardness or weak environmental awareness; in essence, it is the disconnection between the traditional management mode and the requirements of sustainable development. Systemic management failure leads to insufficient motivation for transformation, and piecemeal green transformation efforts will ultimately prove ineffective.

The root causes of strategic failure can be clearly and hierarchically analyzed from two perspectives: cognitive limitations and goal imbalance, namely, the inherent errors in strategic cognition itself. At present, the mainstream corporate strategic theory is still dominated by the paradigm of shareholder value maximization. As a result, green actions are reduced to lip service, and there is a bias toward short-term financial indicators. Green investment is treated in the discounted cash flow (DCF) model with immediate fixed costs but long-term uncertain returns, which easily leads enterprise senior management into the trap of "strategic drift". More seriously, green strategy is often regarded as an "independent report" that is divorced from mainstream business planning, only used for external communication, and never truly becomes a criterion for resource allocation. From "taking green as the foundation" to "regarding green as a strategic investment and source of innovation for enterprises", the fundamental crux is aptly summarized as the unfinished cognitive transformation of enterprises.

The failure at the strategic execution level is essentially a severe path dependence, due to the large sunk costs in existing production processes, technical equipment, supply chain networks and other aspects. This paper makes a clear and hierarchical analysis of path dependence and system segmentation at the operational level [6]. Generally, the KPIs of operational departments only take output, cost, yield rate, energy consumption, carbon emissions and other indicators as auxiliary monitoring metrics, rather than hard constraints. A more fundamental problem is that the operational system is in a state of fragmentation: raw material costs are managed by the production department, transportation costs by the logistics department, and the environmental costs of the product's whole life cycle are borne by the production department without a dedicated responsible department.

Structural defects, incentive mismatches, organizational lag and distorted incentives are the main manifestations of the failure of organizations as strategic carriers. Environmental protection or safety departments often lack sufficient power and authority to participate in the core business processes of enterprises, with scattered and ambiguous responsibilities, which easily lead to the situation of "no one taking responsibility" [7]. There are serious mismatches in professional systems: first, enterprises

pay little attention to candidates' knowledge of sustainable development in recruitment. Second, special training classes for green skills have not yet been set up. The most fundamental problem is that against this background, it is unrealistic to expect employees to take on additional work such as green innovation and emission reduction, as the performance appraisal and salary incentive systems are completely decoupled from green performance, and employee promotions and bonuses are only assessed based on financial and output indicators. Traditional supply chain management still tends to focus on traditional goals such as cost, quality and delivery time. Even if enterprises have environmental awareness, it is often only a soft requirement. When improving environmental performance, they mostly choose internal collaboration and fail to effectively transmit emission reduction pressures to upstream suppliers, leading to increased difficulty in the overall collaboration of the supply chain.

### **3. The Realization Path of Enterprise Management Mode Transformation**

To address such systemic failures, systematic reconstruction is inevitable. It is by no means a patch on the old system, but an active establishment of a linked transformation of management modes, strategies, operations and organizations, with green value creation as its core.

For strategic transformation, the first step is to truly shift green development from the "periphery" to the "core" of corporate strategy, which requires adequate preparatory work. The reconstruction of strategic intent should take the initiative to integrate green development into the enterprise's mission and vision as a new element of corporate identity, emphasizing that enterprises should regard the Dual Carbon goals as an opportunity to rewrite industry rules and reshape the competitive landscape, rather than a burden—with cognitive innovation as the primary task [8]. The adjustment of resource allocation rules requires enterprises to take the initiative to establish an internal carbon pricing mechanism or a green investment threshold mechanism, so that high-carbon projects face higher "shadow costs" and stricter approval criteria, while green innovation projects are provided with special fund support and a higher tolerance for return on investment.

As a key link to translate green strategy into concrete actions, the core essence of operational transformation can be appropriately summarized as breaking path dependence and system segmentation. The in-depth decarbonization and circulation of the production process require systematic fundamental redesign starting from simple energy-saving transformation: first, vigorously promote renewable energy and electrification technologies; second, realize real-time energy efficiency optimization by using digital twins and artificial intelligence; finally, redesign products and processes in accordance with the principles of the circular economy to realize the full recycling of materials and waste [9]. The transformation path of supply chain management from a cost control hub to a highland of green value co-creation is clear and rigorous: first, build a hierarchical green supplier management system, taking carbon footprint accounting and environmental compliance as the core indicators for supplier access and assessment; second, rely on blockchain and the Internet of Things technologies to build an environmental data traceability platform covering the product's whole life cycle to realize the visual verification of carbon emissions and resource consumption; finally, establish a joint R&D mechanism with core suppliers to form a collaborative ecosystem for sharing carbon emission reduction benefits and promote the overall improvement of the green competitiveness of the supply chain.

In addition, in order to ensure the successful implementation of the green transformation path, people need to build the following guarantee mechanisms. The core mission of organizational and human resource transformation is to build a solid carrier and endogenous driving force for green strategy and the new operational mode. To ensure the authoritative support for transformation work, enterprises can explore the establishment of a top-level decision-making body, the "Sustainable Development Committee", and set up a permanent ESG office as a supporting measure, which reports directly to the top management. This body needs to coordinate key functions such as strategy formulation, goal decomposition, cross-departmental collaboration and performance tracking to form

a top-down strategic transmission mechanism. At the execution level, by setting up green transformation specialists or additional special positions in each business unit and functional department, a grid-based governance system covering the entire value chain is built to ensure the effective implementation of green strategy at the grassroots level. The "greening" of human resource management is a key path for strategic implementation. Enterprises need to systematically integrate green genes into all links of the talent life cycle: in the recruitment link, give priority to selecting compound talents with cognition of sustainable development or relevant technical backgrounds; establish a hierarchical and classified training system to continuously improve the environmental management capabilities and innovation awareness of all employees; reform the assessment and incentive mechanism, and directly link the green KPIs of departments and individuals (such as energy consumption per unit of output value, carbon emission reduction effects, and the number of green patents) with salary adjustment, position promotion and equity incentives, making green behavior a core evaluation indicator for career development [10]. The effective implementation of the above transformation measures depends on the construction of a matching support system, which requires systematic design from multiple dimensions such as organizational structure adaptation, institutional process optimization and cultural concept reshaping, to ensure the synergy between the strategic level, execution level and support level, and ultimately drive enterprises to complete the comprehensive transformation to a sustainable development mode.

As a resource-intensive systematic project, green transformation requires enterprises to build a long-term guarantee mechanism with strategic resolve. At the financial level, a special green fund should be established to ensure that investment in key areas such as R&D and innovation, technological upgrading and talent reserve is not affected by economic cycle fluctuations, forming a sustainable capital support chain. In terms of human resources, a dual-track mechanism of "external introduction + internal training" should be built, and a green talent echelon with interdisciplinary capabilities should be cultivated through customized career development planning. Enterprises need to take the initiative to break the passive response mode and make a systematic layout of the transformation ecosystem: at the policy level, deeply connect with government industrial support policies and maximize the use of tools such as R&D subsidies, tax reductions and exemptions, and green credit; in the field of standard setting, take the lead in or participate in the formulation of industry standards to transform their own practices into industry benchmarks; in industry-university-research cooperation, build innovation consortia with universities and research institutions to seize the technological high ground; in inter-industry collaboration, carry out healthy competition by co-constructing infrastructure and sharing logistics networks, so as to reduce transformation costs and improve the operational efficiency of the entire industrial chain. This three-dimensional ecological construction will provide multi-dimensional support for enterprise transformation.

#### **4. Conclusion**

This paper focuses on the transformation of enterprise management mode under the goal of double carbon, analyzes the systematic failure of traditional management mode in strategic cognition, operation execution, organizational support and supply chain coordination, demonstrates the inevitability of green transformation of enterprises under carbon constraints, puts forward a three-dimensional transformation model and measures for the whole process, clarifies the transformation core and collaborative logic at all levels of strategy, operation and organization, constructs a guarantee system including systems and resources, and forms a complete enterprise management mode transformation system. This study only constructs the transformation path from the theory and mechanism level, lacking the empirical test of enterprises of different industries and sizes, and the quantitative analysis of risks in the transformation process is also insufficient. In the future, people can select manufacturing, energy and other key industries to carry out cross-case empirical research and quantitatively analyze the influence weight of each element of transformation; At the same time, the integration path of digital technology and green transformation, as well as the mechanism design

of industrial chain collaborative transformation, are deeply explored to further improve the practicality and adaptability of the transformation path.

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