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Trends in the Organizational Transformation of Enterprise Groups in the Era of AI Agents

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Abstract: The rapid development of large language models, generative artificial intelligence, and multi-agent systems is driving enterprise digital transformation from "system-assisted operation" toward "agent-based collaboration." The widespread application of agents does not merely improve local work efficiency; rather, it will further reshape the organizational structure, decision-making mechanisms, boundary forms, capability systems, and headquarters functions of enterprise groups. Based on organizational design theory, transaction cost theory, and dynamic capabilities theory, this paper reviews the evolutionary process of organizational transformation in enterprise groups and analyzes the trends of organizational transformation in the age of agents. The study finds that organizational transformation in enterprise groups in the age of agents is mainly reflected in the following aspects: organizational structures are shifting from hierarchical bureaucracy to platform-based, networked, and agent-augmented organizations; decision-making mechanisms are moving from experience-driven decision-making to hybrid decision-making that integrates data, algorithms, and managerial judgment; organizational boundaries are evolving from internal group boundaries to data boundaries, algorithmic boundaries, and ecosystem boundaries; organizational capabilities are being upgraded from digital capabilities to agent orchestration capabilities; and enterprise group headquarters are transforming from "control-oriented headquarters" to "intelligent orchestration headquarters."

Keywords: AI Agent; Enterprise Group; Organizational Transformation; Organizational Structure

1. Introduction

An enterprise group is an important organizational form that emerges when modern business organizations develop to a certain stage. Compared with a single legal-entity firm, an enterprise group usually has multiple legal entities, multiple business segments, multiple layers of control, multi-regional operations, and diversified resource allocation. Through equity ties, capital control, strategic planning, budget management, performance appraisal, executive appointment, financial supervision, and information systems, the group headquarters manages subsidiaries in order to achieve strategic unity, resource synergy, and risk control. The organizational advantages of enterprise groups lie in their ability to enhance overall competitiveness through economies of scale, economies of scope, internal capital markets, resource sharing, and industrial synergy. Their organizational difficulties are concentrated in long hierarchical chains, delayed information transmission, agency conflicts between parent companies and subsidiaries, obvious departmental barriers, headquarters function expansion, and insufficient business responsiveness.

For a long time, the core issue of organizational transformation in enterprise groups has been how to achieve a dynamic balance between "centralized control" and "decentralized authorization." If the group headquarters centralizes authority excessively, it can weaken subsidiaries' market responsiveness and operational initiative. If authority is decentralized excessively, it may lead to strategic deviation, duplicate resource allocation, intensified internal competition, and increased agency costs. Therefore, organizational transformation in enterprise groups is not simply a matter of expanding headquarters power or delegating operating power. Rather, it is a continuous adjustment of organizational structure, rights and responsibilities, collaboration mechanisms, and governance methods under different development stages, industrial environments, and technological

conditions.

After entering the digital economy era, the technological foundation of organizational transformation in enterprise groups has changed significantly. Digital technologies such as cloud computing, big data, the Internet of Things, the industrial Internet, blockchain, and artificial intelligence enable groups to obtain business data in a more real-time manner, monitor operational processes more accurately, and integrate resources across departments, regions, and subsidiaries more efficiently. Existing studies show that digital transformation can affect the allocation of managerial authority and organizational behavior in enterprise groups by reducing information asymmetry, improving market responsiveness, optimizing the human-capital structure, and reconstructing governance logic [1]. This indicates that digital transformation is not merely a technical application; it is deeply embedded in the organizational structure and governance system of enterprise groups.

However, the arrival of the AI agent era subjects organizational transformation in enterprise groups to deeper structural impacts. Traditional digital transformation mainly emphasizes business onlineization, process standardization, data visualization, and management automation, and its basic logic remains "humans using systems." AI agents further change the relationship between humans and technology on this basis. Related research shows that generative artificial intelligence has had broad impacts on human resource management, organizational behavior, business and management theory, and modes of industrial collaboration [2-4]. The emergence of AI agents and agentic systems further strengthens the organizational significance of artificial intelligence in autonomous collaboration, distributed decision-making, and cross-functional coordination [5].

AI agents can be understood as artificial intelligence systems with goal orientation, environmental perception, task planning, tool invocation, feedback learning, and autonomous execution capabilities. They are no longer tools that passively respond to commands. Instead, within certain rules and authority constraints, they become new technical actors that participate in task completion, business collaboration, and organizational decision-making. As AI agents enter scenarios such as finance, human resources, supply chain, marketing, research and development, customer service, auditing, risk control, and strategic management, the job boundaries, departmental boundaries, organizational boundaries, and power boundaries within enterprise groups will all be redefined.

For enterprise groups, the organizational transformation brought by AI agents is especially complex. On the one hand, enterprise groups are large in scale, complex in business, rich in data resources, and diverse in application scenarios, and therefore have the practical foundation and scale advantages needed to deploy AI agents. On the other hand, enterprise groups have many levels, many legal entities, long business chains, and complex governance relationships. Once AI agents are embedded, they may trigger new problems such as data security risks, algorithmic bias, unclear responsibility attribution, excessive headquarters monitoring, degradation of grassroots capabilities, and declining organizational trust. Therefore, studying the trends of organizational transformation in enterprise groups in the AI agent era not only helps to understand the deep influence of artificial intelligence on organizational forms, but also provides theoretical references and practical implications for the intelligent transformation of large enterprise groups, state-owned enterprise groups, and diversified industrial groups.

This paper focuses on the core question of how enterprise group organizations will transform in the AI agent era. First, it constructs the theoretical foundation based on organizational design theory, transaction cost theory, and dynamic capabilities theory. Second, it reviews the evolutionary path of organizational transformation in enterprise groups from bureaucratic control, the divisional structure, and matrix organization to platform-based and ecosystem-based organization. Third, it analyzes five major trends in organizational transformation in enterprise groups in the AI agent era. Finally, it presents conclusions and future research directions.

2. Theoretical Foundations

2.1 Organizational Design Theory: From Structural Fit to Intelligent Fit

Organizational design theory emphasizes that there is no universally optimal organizational

structure. Instead, structure should match corporate strategy, technological conditions, environmental uncertainty, and task complexity. Chandler's classic study on "structure follows strategy" points out that strategic expansion drives corresponding organizational structural adjustment, and structural arrangements such as the multidivisional form are important institutional innovations through which large enterprises respond to scale expansion and business complexity [6]. Because enterprise groups have multiple legal entities, multiple business segments, multiple layers of control, and cross-regional operations, they usually need to combine functional structures, divisional structures, matrix structures, holding-company structures, and network structures in order to balance strategic unity, resource synergy, and operational efficiency.

In traditional enterprise groups, organizational design usually centers on the hierarchical relationship of "headquarters-subsidiaries-business units-functional departments." The group headquarters controls subsidiaries through strategic planning, budget management, performance appraisal, financial supervision, and executive appointment, while subsidiaries undertake market operations and value creation within the authorized scope. This structure helps maintain the consistency of the group's overall direction, but it can also result in long hierarchical chains, obvious departmental barriers, delayed information transmission, and insufficient grassroots responsiveness.

The arrival of the AI agent era changes the objects and logic of organizational design in enterprise groups. AI agents can function not only as auxiliary tools for employees, but also as new actors embedded in business processes, management decisions, and cross-departmental collaboration. Accordingly, organizational design no longer only deals with relationships between people, departments, and headquarters and subsidiaries. It must also deal with relationships between people and AI agents, between AI agents and other AI agents, and between AI agents and organizational institutions. The organizational structure of enterprise groups will shift from the static design of "positions-departments-hierarchies" to the dynamic design of "tasks-processes-data-AI agents."

In this context, enterprise groups need to rethink the basic units of organizational structure. In the past, organizational operation mainly depended on fixed positions and departmental boundaries. In the future, more work will be organized around task flows and data flows and jointly completed by employees in different positions, professional systems, and AI agents. For example, in group investment decision-making, a policy analysis agent, financial calculation agent, legal compliance agent, and risk assessment agent may jointly provide auxiliary proposals, which managers then synthesize into an overall judgment. This means that organizational design in enterprise groups will pay greater attention to task decomposition, process orchestration, authority allocation, and human-AI collaboration mechanisms. Organizational design theory therefore provides an important theoretical foundation for understanding structural adjustment, departmental reorganization, and job redesign in enterprise groups in the AI agent era.

2.2 Transaction Cost Theory: from Reducing Coordination Costs to Reshaping Organizational Boundaries

Transaction cost theory holds that firms exist because market transactions involve costs such as search, negotiation, monitoring, and contract enforcement. When internal organizational coordination costs are lower than market transaction costs, firms tend to internalize related activities. When external market transactions are more efficient, firms may adopt outsourcing, alliances, or platform collaboration. Coase's classic analysis of the nature of the firm uses the comparison between market transaction costs and internal organizational costs as an important basis for explaining firm boundaries [7]. The formation of enterprise groups is essentially also intended to reduce transaction costs and improve resource allocation efficiency through internal capital markets, internal supply chains, internal knowledge transfer, and internal control mechanisms.

Within enterprise groups, transaction costs are mainly reflected in information asymmetry, agency costs, monitoring costs, and coordination costs between headquarters and subsidiaries. The group headquarters needs to supervise subsidiaries' operating activities, but subsidiaries are closer to market front lines and often possess more specific information, giving them an information advantage. Excessive headquarters centralization may produce lengthy approval

chains and slow market responses. Excessive decentralization may bring opportunistic behavior, duplicate resource allocation, and strategic deviation. Thus, a core issue of organizational transformation in enterprise groups is how to balance internal control costs and business collaboration efficiency.

AI-agent technology will profoundly change the transaction cost structure of enterprise groups. On the one hand, AI agents can reduce internal information-processing costs and monitoring costs. For example, financial agents can identify abnormal vouchers, capital flows, and financial risks in real time. Supply-chain agents can dynamically track inventory, logistics, and supplier performance. Audit agents can continuously monitor business processes and promptly detect abnormal transactions and institutional loopholes. This enables the group headquarters to obtain more timely and detailed operational information at lower cost, thereby reducing blind spots in the monitoring of subsidiaries' operations.

On the other hand, AI agents can also reduce transaction costs between enterprise groups and external market actors. Through intelligent customer service, automatic quotation, contract review, supplier evaluation, intelligent procurement, and API interface connections, groups can collaborate more efficiently with customers, suppliers, platform enterprises, financial institutions, and research organizations. External collaboration that previously required substantial manual communication and contract negotiation may in the future be supported by AI agents in early-stage matching, proposal generation, and process monitoring. This means that the organizational boundaries of enterprise groups will no longer be determined solely by property-right relationships and legal-entity relationships, but will increasingly depend on whether data can be connected, algorithms can collaborate, and resources can be intelligently orchestrated.

Therefore, transaction cost theory offers an important explanation for changes in organizational boundaries in enterprise groups in the AI agent era. AI agents, on the one hand, enhance internal coordination and monitoring capabilities, enabling firms to reduce agency risks while maintaining the vitality of decentralization. On the other hand, they reduce the costs of external collaboration, enabling enterprise groups to connect more openly with external ecosystem resources. As a result, organizational boundaries in enterprise groups will gradually shift from relatively closed property-right boundaries toward more open, dynamic, and ecosystem-based collaborative boundaries.

2.3 Dynamic Capabilities Theory: from Resource Integration to Intelligent Reconstruction

Dynamic capabilities theory emphasizes that, in highly uncertain environments, a firm's competitive advantage comes not only from possession of existing resources, but also from its ability to sense opportunities, seize opportunities, and reconfigure resources. The dynamic capabilities framework proposed by Teece and others regards the process by which firms integrate, build, and reconfigure internal and external capabilities in rapidly changing environments as an important source of sustained competitive advantage [8]. Enterprise groups usually possess abundant capital, brands, channels, talent, data, and industrial scenario resources, but resource scale does not necessarily translate into organizational competitive advantage. Many large enterprise groups experience problems such as being "large but not strong," "large but not agile," or "resource-rich but poorly coordinated." The root cause is the lack of capability for dynamic integration and continuous reconfiguration of resources.

In traditional enterprise groups, dynamic capabilities mainly depend on managerial experience, organizational processes, strategic planning, and cross-departmental coordination mechanisms. The group headquarters identifies market opportunities through strategic analysis, supports key businesses through capital allocation, promotes resource flows through organizational adjustment, and guides subsidiary actions through performance appraisal. However, against the background of rapid environmental change, accelerated technological iteration, and continuous reconstruction of industrial boundaries, relying solely on traditional managerial experience and periodic strategic planning has become insufficient for responding to complex changes in a timely way. Enterprise groups need organizational capabilities that are more real-time, intelligent, and agile.

AI agents provide new technical support for the

construction of dynamic capabilities in enterprise groups. First, AI agents can strengthen environmental sensing capabilities. Through continuous analysis of policy texts, market data, industry reports, customer feedback, competitive intelligence, and public opinion information, AI agents can help groups identify external opportunities and risks in a timely manner. Second, AI agents can strengthen opportunity-seizing capabilities. In response to new market demands or technological trends, AI agents can assist in generating business plans, product ideas, investment calculations, and operational strategies, thereby increasing the speed of group decision response. Third, AI agents can strengthen resource-reconfiguration capabilities. Through analysis of personnel structure, asset allocation, supply-chain status, financial performance, and business portfolios, AI agents can help groups determine which resources need to be integrated, transferred, withdrawn, or reallocated.

From the perspective of dynamic capabilities, the key to the competitive advantage of enterprise groups in the AI agent era lies not in whether they possess large amounts of data or advanced tools, but in whether they can integrate data, algorithms, business processes, and organizational institutions into continuously evolving intelligent capabilities. Enterprise groups need to use AI agents to identify, connect, combine, and optimize resources dispersed across subsidiaries, business lines, functional departments, and ecosystem partners, so that the group can continuously complete strategic renewal and organizational reconstruction in complex environments. Dynamic capabilities theory therefore provides important theoretical support for analyzing the transformation of enterprise groups from resource-possessing organizations into intelligently reconstructive organizations in the AI agent era.

3. Evolution of Organizational Transformation in Enterprise Groups

3.1 Bureaucratic Control Stage: Administrative Hierarchy and Functional Division as the Core

Early enterprise group organizational structures were usually based on bureaucracy. The group headquarters possessed strong administrative control and managed subsidiaries through hierarchical commands, institutional norms, approval processes, and functional departments. Key powers related to finance, personnel, investment, procurement, and auditing were concentrated at the headquarters, while subsidiaries mainly assumed production, operations, and market execution functions. This model is conducive to unifying strategic direction, preventing operational risks, and safeguarding the overall interests of the group. It is especially applicable when business relatedness is high, the external environment is relatively stable, and managers have relatively sufficient information.

As enterprise scale expanded and the operating environment became more complex, however, the drawbacks of bureaucratic control gradually became apparent. First, excessive hierarchy slowed information transmission, making it difficult for market signals from the front line to reach headquarters in a timely manner. Second, professional barriers were easily formed among functional departments, and cross-departmental collaboration costs were high. Third, lengthy headquarters approval chains weakened subsidiary autonomy. Fourth, management control relied too heavily on reports, meetings, and manual reporting, creating problems of information delay and distortion. Therefore, enterprise groups gradually moved from single functional control toward more business-oriented divisional structures and strategic business unit structures.

3.2 Divisional and Strategic Business Unit Stage: Business Decentralization and Profit Responsibility as the Core

When enterprise groups enter the stage of diversified operations, the divisional structure and strategic business units become important organizational forms. The group headquarters divides divisions according to products, regions, customers, or links in the industrial chain, delegates operating decision-making authority to business units, and manages them through profit centers, investment centers, and performance appraisal mechanisms. The advantages of the divisional structure lie in its ability to improve business responsiveness, strengthen operational responsibility, and stimulate the vitality of business units. The group headquarters then assumes more functions in strategic planning, capital allocation, major investment, human resources, and risk control.

The organizational transformation at this stage is essentially a shift from "administrative control" toward "strategic control" and "financial control." Enterprise groups no longer require the headquarters to make direct decisions on all operating matters. Instead, they realize indirect control through target responsibility, budget management, and performance evaluation. However, the divisional structure may also create new problems: different business units may duplicate resource allocation, internal competition may intensify, and collaboration may be insufficient. Each division's pursuit of its own profit maximization may weaken the group's overall strategy. If the headquarters lacks an effective data system, it will have difficulty identifying the true operational risks of subsidiaries in a timely manner. Therefore, enterprise groups began to explore matrix organizations and shared service models in order to enhance horizontal collaboration.

3.3 Matrix Organization and Shared Services Stage: Horizontal Collaboration and Professional Centralization as the Core

Matrix organization attempts to solve the problems of vertical control and horizontal collaboration simultaneously. Enterprise groups establish functional lines, regional lines, or project lines in addition to business lines, so that employees and resources can be allocated around multiple management dimensions. For example, a group may manage subsidiaries by industrial segments while also establishing professional lines for finance, human resources, procurement, legal affairs, information technology, and other functions. Shared service centers centralize repetitive and highly standardized functional activities, such as financial shared services, human resource shared services, procurement shared services, and IT shared services, in order to reduce costs, unify standards, and improve service efficiency.

Matrix organization and shared service models improve the professional management level of enterprise groups, but they also bring problems such as "dual leadership," overlapping rights and responsibilities, excessive coordination meetings, and declining response speed. In large enterprise groups in particular, ambiguity can easily arise among business departments, functional departments, regional organizations, and project organizations. If shared service centers only emphasize process standardization while ignoring business differences, services may become rigid. Thus, enterprise groups further move toward platform-based and ecosystem-based organizations, using digital platforms to realize resource openness, capability reuse, and cross-boundary collaboration.

3.4 Platformization and Ecosystemization Stage: Capability Openness and Ecosystem Collaboration as the Core

Platform-based organization emphasizes modularizing, interfacing, and servicizing internal technologies, data, channels, supply chains, brands, and management capabilities, so that different business units can acquire organizational capabilities in the same way they call platform services. For enterprise groups, platform-based transformation means that the headquarters is no longer merely a controller, but also a capability provider, rule maker, and ecosystem coordinator. Through unified data middle platforms, business middle platforms, financial middle platforms, human-resource middle platforms, and risk-control middle platforms, groups can provide shared capabilities to subsidiaries while allowing subsidiaries to innovate flexibly according to market demand.

Ecosystem-based organization further breaks through internal enterprise boundaries and incorporates suppliers, customers, research institutions, financial institutions, platform enterprises, and government departments into value co-creation networks. The competitive advantage of an enterprise group no longer depends only on its own resources, but on its ability to integrate ecosystem resources, coordinate ecosystem partners, and shape ecosystem rules. The impact of generative artificial intelligence on digital platforms shows that boundary resources are moving from passive interfaces toward more active intelligent value media [9], which also provides a new technical foundation for enterprise groups to move from internal platforms toward external ecosystems. At this stage, group organizational structures display characteristics of networking, openness, and modularity, but they also place higher requirements on data governance, interface governance, and ecosystem rule design.

4. Organizational Transformation Trends of Enterprise Groups in the AI Agent Era

4.1 Organizational Structures Will Shift from Hierarchical Bureaucracy toward Platform-Based, Networked, and AI-Agent-Augmented Organizations

AI agents will drive enterprise group organizational structures to evolve further from traditional hierarchy toward platform-based, networked, and AI-agent-augmented organizations. In traditional bureaucratic organizations, tasks are decomposed step by step according to departments and positions, information flows along hierarchical chains, and coordination mainly relies on meetings, documents, reports, and approvals. Although this structure helps clarify rights and responsibilities and maintain order, it easily leads to slow responses, high communication costs, and obvious departmental barriers when organizations face complex market changes and cross-business collaboration.

After AI agents are embedded in enterprise groups, many management tasks can be automatically decomposed around business processes and jointly completed by different AI agents, professionals, and managers. For example, group investment decisions no longer need to rely entirely on investment departments manually collecting materials. Instead, policy analysis agents, industry research agents, financial calculation agents, legal compliance agents, and risk assessment agents can jointly generate preliminary proposals, which are then synthesized by senior management. Similarly, in supply-chain management, demand forecasting agents, inventory optimization agents, procurement agents, and logistics scheduling agents can collaborate around the same business goal, reducing the costs of repeated interdepartmental communication and manual information transmission.

This change means that the basic unit of enterprise group organizational structure will shift from fixed departments to dynamic task networks. The headquarters, subsidiaries, functional departments, and external partners will no longer be connected only through superior-subordinate relationships or contractual relationships. Instead, they may form temporary, networked, and reconfigurable collaboration relationships around projects, processes, data, and AI-agent systems. Research on AI agents and agentic systems also indicates that agentic systems may promote decentralized decision-making, redefine organizational structures, and strengthen cross-functional collaboration [5]. AI agents thereby become important organizational interfaces connecting different departments, systems, and business scenarios.

At the same time, AI agents will change the functional positioning of middle managers. Traditional middle managers undertake duties such as transmitting orders, assigning tasks, supervising progress, and summarizing information. AI agents can replace a large amount of procedural, repetitive, and information-processing work. As a result, middle managers will shift from "information transmitters" and "process supervisors" toward "problem definers," "resource coordinators," "team enablers," and "exception judges." Research on the digital transformation of industrial organizations shows that organizational structural adjustment usually unfolds around hierarchy compression, enhanced integration, and adjustment of formalization [10]. AI-agent applications will further promote intelligent organizational augmentation on this basis.

Therefore, the direction of organizational structural transformation in enterprise groups in the AI agent era is neither simply compressing hierarchies nor completely eliminating the middle layer. Rather, it is to use AI agents to enhance organizational connectivity, information-processing capability, and task collaboration capability, so that organizations move from hierarchy-centered control toward platform support, network collaboration, and intelligent augmentation.

4.2 Decision-Making Mechanisms Will Shift from Experience-Driven Decision-Making toward Hybrid Decision-Making Combining Data, Algorithms, and Managerial Judgment

Decision-making in enterprise groups is usually complex, long-term, and high-risk. Strategic investment, mergers and acquisitions, industrial layout, capital scheduling, major project construction, and risk disposal often involve multi-source information, multiple objectives, and multiple stakeholder interests. Traditional decision-making mainly relies on managerial experience, expert demonstration, departmental reporting, and hierarchical approval. After digital transformation, data analysis has played an increasingly important role in decision-making. In the AI agent era, enterprise group decision-making mechanisms will further evolve

into a hybrid decision-making model that combines data, algorithms, and managerial judgment.

AI agents can undertake information search, data cleaning, scenario simulation, proposal generation, and risk warning at the front end of decision-making. For example, in group industrial investment decisions, AI agents can automatically collect macro policies, industry data, competitive landscapes, financial indicators, public opinion risks, and legal restrictions, and conduct return calculations, risk assessments, and scenario simulations for different investment proposals. During the decision-making process, AI agents can help management compare different proposals in terms of cash flow, payback period, market share, policy risk, and matching with organizational capabilities. At the back end of decision-making, AI agents can continuously track project implementation effects and form a dynamic feedback loop.

This hybrid decision-making mechanism can significantly improve the information adequacy and response speed of enterprise group decisions. In the past, major group decisions often required multiple departments to repeatedly collect materials, organize statements, and submit reports, making the cycle long. AI agents can integrate multi-source information and generate structured analytical results in a relatively short time, helping management identify key issues more quickly. At the same time, AI agents can reduce cognitive biases that may arise from relying solely on experience and improve the systematicness and traceability of decision-making. An integrative study of AI management points out that artificial intelligence in organizational management mainly involves two core scenarios: human-AI collaborative decision-making and algorithmic management control [11]. These are highly relevant to the intelligent transformation of decision-making and control mechanisms in enterprise groups.

However, AI agents cannot replace the strategic judgment of senior managers in enterprise groups. Enterprise group decision-making is not only a technical issue, but also an issue of values, responsibility, and interest coordination. Algorithms can provide probabilistic forecasts and proposal recommendations, but they cannot fully assume strategic trade-offs, social responsibility, organizational culture, and long-term value judgment. Especially on issues involving major investment, organizational restructuring, employee resettlement, compliance risk, and public responsibility, human managers must still assume ultimate responsibility.

Therefore, enterprise groups in the AI agent era should establish clear rules for human-AI joint decision-making. They should clarify which matters can be automatically executed by AI agents, which matters can be recommended by AI agents and then approved by managers, which matters must be reviewed by expert committees, and which high-risk matters must retain final human discretion. Research on hybrid intelligence emphasizes that the combination of human intelligence and artificial intelligence can expand the search space of organizational problem solving and the capacity for proposal generation [12]. The reasonable direction of enterprise group decision-making mechanisms is not "algorithms replacing managers," but "algorithms augmenting managers."

4.3 Organizational Boundaries Will Shift from Internal Group Boundaries toward Data Boundaries, Algorithmic Boundaries, and Ecosystem Boundaries

In the AI agent era, the organizational boundaries of enterprise groups will become more open, dynamic, and complex. Traditional organizational boundaries are mainly determined by property-right relationships, legal-entity relationships, and administrative hierarchies. Inside the group is the organization, and outside the group is the market. The boundaries among parent companies, subsidiaries, and investee companies are mainly distinguished by equity structures, governance relationships, and management authority. However, with the development of platformization, digitalization, and intelligence, the connections between enterprise groups and external actors are becoming increasingly close, and organizational boundaries are shifting from property-right boundaries toward data boundaries, algorithmic boundaries, and ecosystem boundaries.

First, data boundaries are becoming new organizational boundaries. Whether enterprise groups can form effective collaboration with subsidiaries, suppliers, customers, platform partners, and government departments increasingly depends on whether data can flow securely, compliantly, and in standardized form.

Actors that possess data access rights, use rights, and governance rights often have key influence in organizational collaboration. For enterprise groups, data is not only a management resource but also the foundation of organizational connection. If the group headquarters can establish unified data standards, data asset catalogs, and data sharing mechanisms, it can effectively integrate information resources dispersed across different subsidiaries and business systems. Conversely, if data definitions are chaotic and systems are fragmented, AI agents will find it difficult to play a collaborative role.

Second, algorithmic boundaries are becoming new power boundaries. AI agents execute tasks according to models, rules, permissions, and evaluation indicators. Those who design models, set permissions, and define evaluation criteria may influence organizational decisions. If the group headquarters controls the core algorithmic platform, it can form a new kind of technical control over subsidiaries. If subsidiaries possess professional models closer to markets and customers, they may also strengthen their operational autonomy and bargaining power. Therefore, algorithms are not merely technical tools; they may also become important carriers of internal power allocation and governance relationships within enterprise groups. Future group governance must pay attention not only to equity and personnel authority, but also to algorithm design rights, model invocation rights, data interpretation rights, and AI-agent use rights.

Third, ecosystem boundaries are becoming new value boundaries. AI agents can cross internal enterprise systems and connect with external platforms, supplier systems, customer systems, and public service systems. Enterprise groups are no longer merely integrating internal resources; they are orchestrating external resources through AI agents to form cross-organizational, cross-platform, and cross-scenario value co-creation networks. The transformative value of generative artificial intelligence for digital platforms indicates that intelligent technologies can transform platform boundary resources from passive interfaces into intelligent media that actively participate in value creation [11]. This provides important implications for enterprise groups in building open ecosystem collaboration networks.

It follows that the change in organizational boundaries of enterprise groups in the AI agent era does not mean the disappearance of boundaries. Rather, it means a transformation in boundary forms. Property-right boundaries remain important, but data boundaries, algorithmic boundaries, and ecosystem boundaries will become more prominent. Enterprise groups need to establish new boundary governance mechanisms for open collaboration. While promoting data flows, algorithmic collaboration, and ecosystem co-creation, they must also guard against data leakage, algorithmic abuse, and ecosystem-dependence risks.

4.4 Organizational Capabilities Will Evolve from Digital Capabilities into AI-Agent Orchestration Capabilities

The deeper result of organizational transformation in enterprise groups in the AI agent era is a change in the structure of organizational capabilities. In the past, enterprise groups emphasized strategic capabilities, capital capabilities, operational capabilities, brand capabilities, and control capabilities. In the digitalization stage, they emphasized data capabilities, platform capabilities, and process capabilities. In the AI agent era, they will further emphasize AI-agent orchestration capabilities. Competitive gaps among enterprise groups will no longer be reflected only in whether they possess data platforms or large-model tools, but in whether they can truly embed AI agents into strategic management, business processes, organizational institutions, and value creation processes.

AI-agent orchestration capability refers to the ability of an enterprise group to combine and configure different types of AI agents, business processes, organizational roles, data resources, and governance rules around strategic objectives. It is not a single technical capability, but a composite organizational capability. First, AI-agent orchestration capability includes scenario identification capability. Enterprise groups need to judge which business scenarios are suitable for AI-agent intervention and which scenarios should still be dominated by humans. Generally, scenarios with clear processes, a good data foundation, relatively explicit rules, and controllable risks are more suitable for the initial introduction of AI agents, while scenarios involving major value judgment, complex interest coordination, and high-risk

responsibility require greater caution.

Second, AI-agent orchestration capability includes task decomposition capability. Complex management tasks often cannot be directly assigned to a single AI agent, but must be divided into several subtasks and then completed collaboratively by different AI agents and personnel. For example, group strategic planning can be divided into macro-environment analysis, industry trend analysis, internal resource assessment, competitor analysis, financial forecasting, and risk identification. Each type of task can be supported by corresponding AI agents. The key managerial capability lies in identifying task structures and clarifying which parts should be completed by AI agents and which parts require human expert judgment.

Third, AI-agent orchestration capability includes process reconstruction capability. AI agents are not simply embedded in existing processes; they compel enterprise groups to redesign processes. Processes that used to center on manual approval, departmental circulation, and paper-based materials can, after AI-agent intervention, shift toward automatic triggering, real-time analysis, and dynamic feedback. For example, budget management will no longer consist only of annual budget preparation and quarterly adjustment. AI agents can continuously track business changes, use of funds, and performance deviations, thereby enabling rolling forecasts and dynamic adjustment.

Fourth, AI-agent orchestration capability includes authority governance capability. Enterprise groups must clarify what AI agents can do, what they cannot do, and the point at which human intervention is mandatory. For low-risk, repetitive, and rule-based tasks, AI agents can be granted relatively high automation authority. For high-risk, strategic, and ethically sensitive tasks, mechanisms for human review and responsibility tracing must be established. Authority governance capability is directly related to whether AI agents can be safely, controllably, and effectively embedded in organizational operations.

Fifth, AI-agent orchestration capability includes organizational learning capability. AI-agent application is not a one-time deployment, but a continuous optimization process. Enterprise groups need to use business feedback, employee feedback, model evaluation, and performance results to continuously adjust AI agents' task boundaries, data sources, operating rules, and collaboration modes. Only when AI-agent systems and organizational processes continue to co-evolve can AI agents truly be transformed into organizational capabilities.

Therefore, AI-agent orchestration capability will become the core capability of intelligent transformation in enterprise groups. It requires enterprise groups to possess not only technology procurement and system-construction capabilities, but also strategic understanding, business insight, process reconstruction, data governance, and organizational collaboration capabilities. The future competitive advantage of outstanding enterprise groups may not lie in how many AI agents they own, but in whether they can effectively orchestrate AI agents so that they serve group strategy, organizational collaboration, and value creation.

4.5 Headquarters Functions Will Shift from "Control Headquarters" Toward "Intelligent Orchestration Headquarters"

In the AI agent era, the positioning of enterprise group headquarters will change significantly. Traditional group headquarters mainly undertakes functions such as strategic planning, resource allocation, approval and supervision, performance appraisal, and risk control, and can easily form a headquarters model centered on administrative control. In this model, the headquarters manages subsidiaries through institutions, processes, budgets, reports, and meetings. Although this helps maintain the group's overall control, it can also cause headquarters function expansion, low approval efficiency, and insufficient grassroots vitality.

As enterprise groups advance platform-based and digital transformation, headquarters functions have begun to shift from simple control toward platform empowerment. The headquarters is no longer only an approval center and supervision center, but is gradually becoming a capability supply center, rule-making center, and resource coordination center. In the AI agent era, this trend will deepen further, and group headquarters will shift from "control headquarters" toward "intelligent orchestration headquarters."

An intelligent orchestration headquarters first assumes a strategic orchestration function. Around the group's overall strategy, the group headquarters needs to clarify the direction of AI-agent construction, key application scenarios, and organizational transformation pathways,

avoiding duplicate construction, scattered procurement, and disordered pilots across subsidiaries. From the perspective of the group's overall interests, the headquarters should determine which AI-agent capabilities should be uniformly built by the headquarters, which capabilities can be independently explored by subsidiaries, and which capabilities are suitable for joint development with external platforms. Through strategic orchestration, the headquarters can ensure that AI-agent applications serve the group's long-term development rather than remaining at the level of local efficiency improvement.

Second, an intelligent orchestration headquarters assumes a data orchestration function. The operation of AI agents relies on high-quality data. The group headquarters needs to unify data standards, data definitions, data permissions, and data asset catalogs, and promote data connections among different subsidiaries, business systems, and functional departments. Without data orchestration, AI agents can only function in local scenarios and cannot form group-level collaborative capabilities. Through data orchestration, the headquarters can turn dispersed data into the foundation of the group's overall intelligent capabilities.

Third, an intelligent orchestration headquarters assumes a capability orchestration function. The group headquarters should modularize, platformize, and intelligently encapsulate professional capabilities in finance, procurement, human resources, legal affairs, risk control, auditing, R&D, and marketing, forming shared capabilities that can be invoked by subsidiaries. For example, financial analysis capability can be transformed into financial-agent services, contract-review capability into legal-agent services, and supplier-management capability into procurement-agent services. Subsidiaries can invoke these capabilities as needed during operations, thereby reducing duplicate construction costs and improving the group's overall professionalization level.

Finally, an intelligent orchestration headquarters assumes a governance orchestration function. The deeper AI agents are embedded in enterprise group operations, the more unified governance rules are needed. The headquarters must establish AI-agent use norms, permission classification mechanisms, model evaluation mechanisms, risk warning mechanisms, and responsibility tracing mechanisms in order to prevent the abuse, misuse, and loss of control of AI agents. Especially in high-risk matters involving funds, contracts, personnel, investment, and compliance, the headquarters must clarify the responsibility boundary between AI agents and human managers.

It can therefore be seen that group headquarters does not become unimportant in the AI agent era. Rather, the source of its importance shifts. The headquarters should not continue to focus excessively on specific transaction approvals and administrative control. Instead, it should turn toward integrated orchestration of strategy, data, capabilities, and governance. Subsidiaries are not merely execution units subject to control. Under the intelligent infrastructure and governance rules provided by the headquarters, they can gain stronger market responsiveness and operational autonomy. In the future, the relationship between headquarters and subsidiaries in enterprise groups will shift from a "command-obedience" relationship toward a new relationship of "rules-platform-empowerment-feedback."

5. Conclusions and Future Research Directions

Organizational transformation in enterprise groups in the AI agent era is essentially a further intelligent leap based on digital organization. Based on organizational design theory, transaction cost theory, and dynamic capabilities theory, this paper argues that AI agents will gradually transform from tools for task execution, information processing, and process assistance into important components of organizational collaboration, decision support, and capability reconstruction in enterprise groups. Their influence is reflected not only in local efficiency improvement, but also in systematic adjustments to organizational structure, decision-making mechanisms, boundary forms, capability systems, and headquarters functions.

Specifically, organizational transformation in enterprise groups in the AI agent era presents five major trends. First, organizational structures will shift from hierarchical bureaucracy toward platform-based, networked, and AI-agent-augmented organizations. Second, decision-making mechanisms will shift from experience-driven decision-making toward hybrid decision-making that combines data, algorithms, and managerial judgment. Third, organizational

boundaries will shift from internal group boundaries toward data boundaries, algorithmic boundaries, and ecosystem boundaries. Fourth, organizational capabilities will evolve from digital capabilities into AI-agent orchestration capabilities. Fifth, group headquarters will shift from traditional "control headquarters" toward "intelligent orchestration headquarters." These trends indicate that the focus of intelligent transformation in enterprise groups should not remain at the level of technical deployment, but should be further implemented in organizational design, allocation of rights and responsibilities, process reengineering, and optimization of governance mechanisms.

Future research can be deepened in three directions. First, case studies of AI-agent applications in enterprise groups can be conducted to compare the path differences among state-owned enterprise groups, private enterprise groups, and multinational enterprise groups in AI-agent-enabled organizational transformation. Second, a measurement index system for "AI-agent orchestration capability" can be developed, and its impact on group collaboration efficiency, innovation performance, and risk control can be empirically tested. Third, governance issues after AI-agent embedding should be examined, with particular attention to algorithmic power allocation, responsibility attribution, human-AI trust, employee capability reshaping, and the rebalancing of headquarters-subsidiary relationships.

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