Scholar Publishing Group
International Journal of Business Management and Economics and Trade
https://doi.org/10.38007/IJBMET.2026.070210
ISSN 2790-0959 Vol. 7, Issue 2:92-101

Organizational Change and Management Innovation in the Construction of Ai Data Centers under the Background of "Artificial Intelligence+"

Chenjie Gao

Department of Computer Science and Engineering, University of California - Santa Cruz, Santa Cruz, 95064, CA, US

Keywords: AI data center; project organizational change; interface closure; problem shifting; open procurement

Abstract: AI infrastructure construction is driving data centers from equipment deployment projects to highly coupled engineering systems. Technical interface issues can sometimes be resolved through clarification early on, but sometimes they are delayed until near the deadline or construction preparation stage, leading to delays, document reissues, or adjustments to liability boundaries. Based on publicly available procurement documents from 2021 to 2025, this study distinguishes between centralized contractual responsibility, institutionalized cross-phase joint organizations, and interface closure requirements. It encodes the timing and observable consequences of technical issues in 44 data chain complete projects and employs negative binomial regression, robust linear models, and efficacy analysis. Results show that neither EPC nor individual joint organizations exhibit a stable association. The estimated late-stage disturbance correction point for complete structure-mechanism configurations is low, with an earlier average correction time, but a wider confidence interval. Alternative samples and weighted estimates still do not provide confirmatory evidence. Technical complexity is associated with increased late-stage disturbances. Publicly available document evidence is insufficient to confirm the performance effect of collaborative configurations; future research should shift its focus from "reducing all changes" to "controlling late-stage disturbances and moving problems forward."

1 Introduction

"Artificial intelligence+" drives computing infrastructure to become a composite engineering system that serves large model training, inference and industry applications. AI data centers involve high-density power supply and distribution, liquid cooling or hybrid cooling, network storage, building structure and operation monitoring, and energy and heat dissipation constraints also increase technical uncertainty [1]. Artificial intelligence applications also require organizations to adjust information distribution, decision-making and collaboration methods in sync [2], and organizational level and implementation environment will affect the adjustment effect [3].

Traditional segmented management is convenient for dividing responsibilities, but it also causes information to be transmitted along the contract boundary. Technical problems may be clarified before the bidding process, or they may be forced to be corrected near the deadline or construction preparation stage. The engineering consequences of the two approaches are not the same.

In recent years, EPC, consortiums, BIM and digital twins have been widely used in intelligent computing infrastructure projects. Large-scale projects need to adjust governance arrangements according to changes in technology and environment[4], and the value of projects also depends on the combined effect of contracts, organization and working methods[5]. However, existing research often replaces organizational processes with contract forms, replaces management mechanisms with tool names, and interprets different types of technical adjustments as collaborative performance, which easily leads to a misalignment between theoretical concepts and public evidence.

To address this issue, this study focuses on front-end projects for AI data center construction with open procurement and relatively complete data chains, covering bidding, design coordination, and construction preparation. This study defines organizational change as institutionalized, cross-phase collaborative organizational requirements, and management innovation as a closed-loop interface requirement encompassing issue recording, responsibility assignment, processing nodes, and review closure. The study addresses two questions: whether a complete structure-mechanism configuration corresponds to fewer late-stage disruptive technical corrections, and whether it corresponds to an earlier average correction point.

2. Theoretical Analysis and Research Issues

2.1 Technological Uncertainty and Heterogeneity of Correction Events

AI data centers consist of multiple highly coupled subsystems. Computing power equipment determines rack power and network bandwidth, while power density affects power distribution levels, cooling methods, and spatial layout. Project technical information is scattered across owner requirements, design drawings, equipment parameters, construction conditions, and operational standards. If each entity only completes its own partial tasks according to its contract, the project may leave gaps in cross-system interfaces. High technical uncertainty increases information processing demands and the risk of later disruptions. However, technical modifications have different natures, and research should not consider all modifications as management failures.

Publicly available documents typically record the time and specific content of revisions, as well as whether the revisions caused delays, reissue of core documents, or changes in the boundaries of responsibility. However, these documents rarely directly reflect the behavioral intentions of the participating entities. This study distinguishes between non-disruptive clarifications, adaptive adjustments, and disruptive revisions based on observable consequences. It focuses on examining later-stage disturbances that alter procurement milestones and construction preparation conditions, while also observing whether general interface issues are addressed earlier.

2.2 Formal Integration and Institutionalized Information Processing Path

Centralized contractual responsibility does not equate to a change in project organization. EPC can clarify overall delivery responsibility, but it cannot guarantee that the general contractor has changed the handover sequence between design, procurement, and construction lines. Integrated project delivery studies suggest that early involvement, joint decision-making, and continuous collaboration are the key differences between project integration and general contractual concentration [6]. The institutionalized cross-phase joint organization requirement mentioned in this study refers to the clear identification of the overall integration leader or joint review organization before the outcome event occurs, and requires the design, equipment, electromechanical, construction, or operation entities to jointly confirm the technical interfaces. Such arrangements establish horizontal information channels, but documented provisions can only reflect potential coordination capacity and cannot directly represent that on-site collaboration is already operating effectively.

Whether cross-entity participation can lead to sustained processing depends on whether technical issues are addressed through clear control procedures. Cross-organizational project research indicates that strategic relationships require sustained interaction, common rules, and long-term collaboration to maintain [7]; data collaboration governance also requires clear definition of participating entities, decision-making procedures, and responsibility boundaries [8]. Based on these understandings, this study defines the interface closure requirement as four institutional arrangements: issue recording, responsibility assignment, processing nodes, and review and closure. BIM, digital twins, and collaborative platforms are merely carriers; they only enter the operational definition of management innovation when they carry these rules.

2.3 Research Questions and Theoretical Boundaries

Institutionalized joint organizations answer the question "Which entities jointly determine the interface?", while interface closures answer "How are issues continuously tracked?". When both types of arrangements coexist, interface matters are more likely to enter a traceable path before affecting procurement milestones. However, publicly available documents can only prove the institutional configuration, not that actual authorization and on-site implementation have been in place. Therefore, this study examines the correlation between institutional configuration and the timing of technical matters, without directly interpreting document requirements as established information processing capabilities. The relevant framework is shown in Figure 1.

Around this boundary, RQ1 examines whether the complete structure-mechanism configuration is associated with fewer late-stage perturbational technical interface corrections, while RQ2 examines whether this configuration is associated with earlier average relative correction points. Technical complexity is presented as a direct risk factor in both the illustrations and the model; results for high and low complexity are only used to observe potential scenario boundaries.

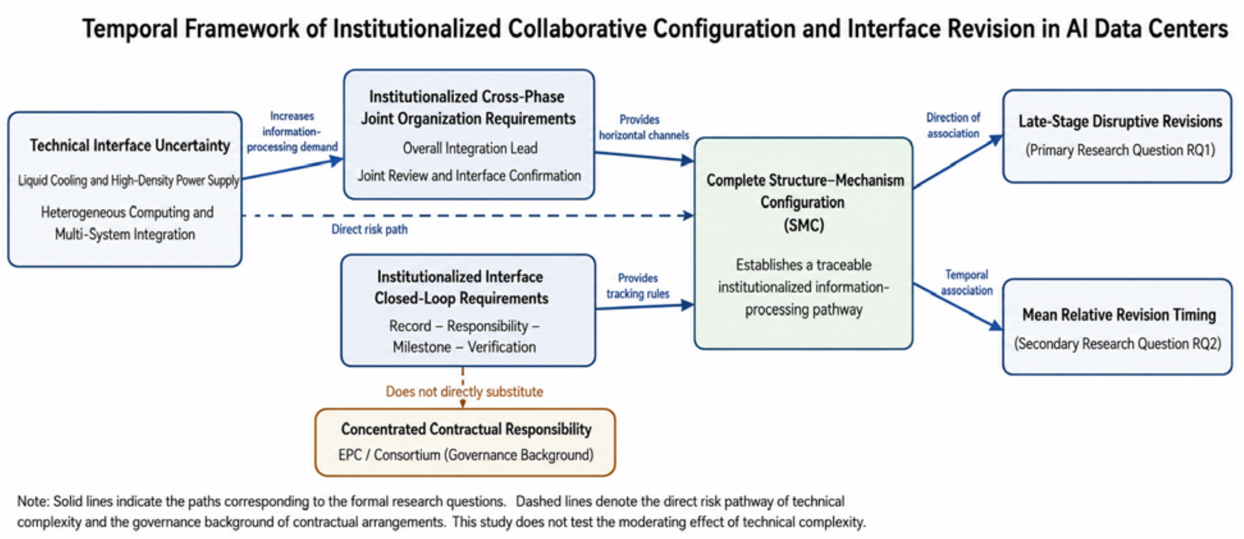

Figure 1. Institutionalized Collaborative Configuration and Interface Modification Timing Framework

3. Research Design

3.1 Data Sources, Target Population, and Sample Selection

This study employed a retrospective observational design based on publicly available documents, analyzing AI data center projects with independent construction goals. Research data were sourced from national and local public resource trading platforms, the China Government Procurement Network, project approval and environmental impact assessment announcements, listed company announcements, and publicly available pages allowing for the retrieval of original documents. The search period was from January 1, 2021 to December 31, 2025. Keywords included "intelligent computing center," "artificial intelligence computing center," "AIDC," "GPU computing power center," and "heterogeneous computing power center," combined with terms such as "EPC," "electromechanical," "liquid cooling," "renovation," and "expansion."

Sample projects needed to possess clearly defined AI computing power attributes, with construction content including electromechanical systems, power supply and distribution, refrigeration, equipment installation, or system integration. Projects also needed to obtain initial tender documents, technical specifications, and continuous corrections, clarifications, and results of successful or terminated bids. The initial search yielded 96 records, which were consolidated into 68 independent projects. Due to missing technical specifications, incomplete correction chains, or unidentifiable organizational structures, the study excluded 12, 8, and 4 projects respectively, ultimately retaining 44 projects with complete data chains.

Stricter document standards improved the observability of corrective events, but also biased the sample towards large and medium-sized projects with open procurement and high compliance requirements. The proportion of public owners, EPC adoption rate, and investment scale in included projects were all higher than in excluded projects, with standardized differences ranging from 0.22 to 0.38. Considering this sample characteristic, this study does not generalize its findings to internal investments, low-disclosure, or purely private projects; it only controls for and weights overlapping observable covariates and adheres to the use of correlational expressions.

3.2 Construct Coding and Event Measurement

This study established project tables, document tables, and correction tables. The research team prioritized merging projects based on unified codes and numbers; when a number was missing, the team matched based on name, owner, region, and construction content, and then manually verified the match again. Each project retained its source address, access date, file type, local hash, and "original record—final project" mapping. The study's reproducibility was limited to archived data snapshots.

This study only recognizes the existence of cross-phase joint organization requirements when both types of evidence are present simultaneously. Documentation must clearly identify the overall integration lead, joint review team, or cross-disciplinary coordination organization, and requires at least two professional entities to jointly confirm the technical interfaces. Interface closure requirements must simultaneously include issue logging, responsibility assignment, processing nodes, and review closure. EPC, consortiums, and tender packages are only considered as variables for contractual responsibility concentration and are not included in the core coding of organizational change. The complete structure-mechanism configuration (SMC) is set to 1, indicating the simultaneous existence of joint organization requirements and closure requirements; other projects are set to 0. All explanatory variables are derived from publicly available tender documents, draft contracts, or construction organization requirements prior to the first revision; the study does not use contracts signed after the bid is awarded to retrospectively deduce earlier configurations.

This study categorizes technical matters into power supply capacity, cooling methods, cabinet and equipment dimensions, network interfaces, system boundaries, civil-mechanical interface, installation responsibility, and commissioning responsibility. If a matter leads to a bid delay, reissue of core technical documents, changes in key parameters or responsibility boundaries, termination, or re-tendering, this study classifies it as a disruptive correction; other matters are categorized as non-disruptive clarifications or adaptive adjustments. Relative correction dates are standardized based on the initial announcement date and the original deadline, and are treated as continuous variables in secondary analysis. The first half of the window is used only for description.

Two coders independently reviewed all organizational configurations and 60% of the technical matters without knowing the project's SMC groupings. Cohen's Kappa values for each type of code ranged from 0.75 to 0.85. The two coders revisited the original documents for points of disagreement and made final decisions based on the document content. Key constructs, outcome events, and evidentiary boundaries are shown in Table 1.

Table 1. Key constructs, outcome events, and boundaries of evidence

Variables/Types	Operation definition	Source of evidence
Joint Organization Requirements for Phase-Based Development (JCO)	The document clearly identifies the overall integration leader or joint review organization and requires two or more professional entities to jointly confirm the technical interfaces.	Initial tender documents and construction organization requirements before the first revision
Interface Closed-Loop Requirements (ICM)	The four requirements of problem logging, responsibility assignment, processing nodes, and review and closure must coexist.	The tender documents and draft contract before the first revision
Full Configuration (SMC)	The value is 1 if both JCO and ICM exist; otherwise, it is 0.	JCO and ICM combination
Disturbance-based technical correction (Ndis)	Technical issues leading to delays, reissue of core documents, changes in key parameters or boundaries of responsibility, termination or re-tendering	Subsequent corrections and clarifications
Relative correction point (R)	The relative position of the revised date between the initial announcement date and the original deadline is used as a continuous variable.	Announcement date, correction date, original deadline
Technical Complexity (TC)	The average of six characteristics: heterogeneous computing power, liquid cooling, high-density racks, multi-path power supply, multi-system integration, and complex transformation.	Initial technical specifications and construction content

3.3 Variables, Models, and Recognition Constraints

This study sets the number of late-stage disruptive technical interface corrections (Ndis) as the primary outcome variable and the average relative correction time (Rbar) of project technical items as the secondary outcome variable. The core explanatory variable is the complete institutionalized structure-mechanism configuration (SMC), with projects meeting only the joint organization requirements used for auxiliary comparison. Technical complexity (TC) is represented by the mean of six characteristics: heterogeneous computing power, liquid cooling, high-density racks, multi-source power supply, multi-system integration, and complex retrofitting. The model controls for the natural logarithm of investment amount, owner type, year trend, and technical specification length; the fixed offset model is only used for sensitivity analysis.

Later-stage disturbances exhibit excessive dispersion; RQ1 employs negative binomial regression and reports the occurrence ratio, 95% confidence interval, and exact p-value. RQ2 uses the average relative time point at the project level and employs a linear model with HC3 robust standard errors. Projects without technical events remain in RQ1, but since the average corrected time point cannot be calculated, they are not included in RQ2. RQ2 is interpreted only as a conditional analysis of projects with occurred technical events; event-level checks are clustered by project.

The master model retains only theoretically necessary variables, omitting interaction terms and numerous fixed effects. The study uses overlapping weights constructed based on technological complexity, investment size, owner type, year, and EPC adoption to examine the impact of observable self-selection on the results. This method cannot control for unobserved factors such as owner management capabilities and contractor experience, and therefore serves only as a sensitivity analysis. The study also uses bootstrap, leave-one-out method, official platform subsamples, alternative definitions, and power analysis to examine estimation accuracy, with the random seed fixed at 2025.

The relative point in time of the correction event within the original tender window is defined as:

$$R_{\mathrm{ij}} = (t_{\mathrm{ij}} - t_{\mathrm{i}}^{\mathrm{ann}})/(t_{\mathrm{i}}^{\mathrm{dead}} - t_{\mathrm{i}}^{\mathrm{ann}})$$

The principal model of RQ1 is represented as follows:

$$\ln(\mu_{\mathrm{i}}) = \beta^0 + \beta^1 SMC_{\mathrm{i}} + \beta^2 JCOonly_{\mathrm{i}} + \beta^3 TC_{\mathrm{i}} + \beta^4 EPC_{\mathrm{i}} + \beta^5 \ln(Size_{\mathrm{i}}) + \beta^6 Owner_{\mathrm{i}} + \beta^7 \ln(L_{\mathrm{i}}) + \lambda_{\mathrm{t}}$$

4. Empirical Results and Analysis

4.1 Sample Structure and Distribution of Technical Issues

Looking at the sample structure, among the 44 projects, state-owned enterprises, government agencies, and public institutions accounted for 75.0%, new projects accounted for 61.4%, and the median investment was 438 million yuan. The benchmark group, the group with only joint organization requirements, and the full configuration group contained 17, 16, and 11 projects respectively. The average technical complexity of the full configuration group was 0.63, higher than the benchmark group's 0.37. 31 projects adopted EPC or consortium models, but 9 of them still did not meet the cross-phase joint organization requirements, indicating that the concentration of contractual responsibilities and organizational coordination arrangements do not completely overlap.

Table 2. Sample Structure and Distribution of Technical Items

index	Baseline group (n=17)	Only joint organizations (n=16)	Full configuration (n=11)	Total/Inspection
EPC or consortium projects	9	13	9	31
Mean of technical complexity	0.37	0.49	0.63	P=0.018
Total number of technical items	45	49	37	131
Non-disruptive items/parts in the first half of the window	13	19	17	49
Disturbance technology correction/item	16	12	7	35
Mean relative correction time point	0.60	0.55	0.49	P=0.176
Non-technical corrections to mean/item	2.12	2.06	2.18	P=0.934

Note: Between-group tests are for descriptive purposes only; formal inferences are based on regression models, confidence intervals, and sensitivity analyses.

A total of 131 technical interface items were identified in the sample. 49 items were located in the first half of the window and did not cause any disturbances; 47 items were adaptive adjustments; and 35 items caused delays, re-issuance of core documents, changes in major boundaries, or termination of the bidding process. The number of disturbance items in the three groups were 16, 12, and 7, respectively, with average relative correction times of 0.60, 0.55, and 0.49. The descriptive results show differences in order, but formal judgment still requires a regression model. The sample structure and distribution of technical items are shown in Table 2.

4.2 Primary and Secondary Research Questions

Table 3 shows that there is no stable association between setting up joint organizations independently and subsequent disturbance corrections. The point estimate for the fully configured group is lower than that of the baseline group, but the confidence interval still includes 1, and RQ1 is not confirmed. Concentration of contractual liability also does not show a stable association. In contrast, the relationship between technical complexity and increased disturbance events is relatively stable.

RQ2 was conducted on 40 projects where technical issues had occurred. The average relative correction time for the fully configured group was 0.08 earlier than the baseline group, but the confidence interval crossed 0; the difference was even smaller for the joint organization requirement group alone. The existing data can only provide a weak correlation clue that the issue time may have shifted earlier, and cannot confirm that the institutional configuration has changed the correction timeline.

4.3 Selection of sensitivity, reproduction boundary and statistical power

Table 3. Primary Results, Secondary Results, and Sensitivity Analysis

Test/Variable	estimated value	95% confidence interval or range	P-value / Judgment
RQ1: Joint Organizations Only vs. Benchmark	IRR=0.93	[0.64, 1.35]	0.704
RQ1: Full Configuration vs. Baseline	IRR=0.76	[0.50, 1.14]	0.183
RQ1: Full Configuration vs. Joint Organization Only	IRR=0.82	[0.56, 1.21]	0.318
Technical complexity	IRR=1.31	[1.04, 1.66]	0.024
RQ2: Full Configuration vs. Baseline	ΔR=-0.08	[-0.19, 0.03]	0.146
Overlapping weighted analysis	IRR=0.79	[0.52, 1.19]	0.263
Subsample from the official platform (n=36)	IRR=0.81	—	0.294
Alternate perturbation caliber	IRR=0.72	—	0.121
Leave one out for reassessment	IRR = 0.68–0.86	Most intervals contain 1	Insufficient accuracy
80% efficacy, minimum detectable effect	IRR approximately 0.50	It needs to be reduced by about 50%.	Point estimation is lower than recognition capability

Table 3 also summarizes the sensitivity analyses. The estimation directions of overlapping weighting, official platform subsamples, removal of extreme items, alternative event definitions, and leave-one-out methods are generally consistent, but most confidence intervals still cross 1. No significant reversal of direction was observed among the different analyses; however, the estimation accuracy of the existing sample remains insufficient.

In contrast, the non-technical correction analysis did not show that the full configuration generally reduced all published corrections. This result suggests that the potential effect is not simply a reduction in the number of corrections, but observational bias cannot be completely ruled out.

Power analysis shows that the current sample requires a true IRR close to 0.50 to achieve 80% power, while the principal model point estimate is 0.76. Even if a moderate association truly exists, it may not be reliably identified due to the small sample size.

5. Discussion

5.1 The Boundary Between Zero Results and Formal Integration

Neither the EPC nor individual joint organizations have formed a stable relationship, a result that warrants attention. Formal centralization of responsibility can only provide potential conditions for coordination. Horizontal engagement will not automatically translate into sustained information processing capabilities if the order of professional decision-making, authorization relationships, and problem-solving rules do not change synchronously.

Existing research indicates that BIM, integrated delivery, and lean management require both technological conditions and organizational processes to mature [9][10]. The publicly available documents used in this study can only identify whether governance arrangements have been written into institutional requirements, but cannot observe whether joint reviews are actually implemented, nor can they directly evaluate on-site organizational capabilities.

5.2 Exploratory theoretical propositions on shifting technical problems forward

The practical effectiveness of digital collaboration tools depends on information sharing behavior, governance arrangements, and process tracking capabilities [11-12]. While the full configuration presents lower disturbance correction point estimates and earlier mean correction times, both results have wide ranges. Existing results can only serve as theoretical clues and cannot be written as verified causal conclusions [13-15]

By combining zero results with corrective timing clues, this study yields two propositions that still require testing. Formal integration in high-uncertainty engineering can only translate into practical coordination capability when combined with executable accountability and closure procedures. Project governance performance cannot be judged solely by the total amount of technical adjustments; it should also be observed whether disruptive events have decreased and whether general issues have entered the processing path earlier [16-20]

5.3 Practical Implications, Statistical Uncertainty, and Research Boundaries

For highly complex AI data centers procured through open tendering, owners need to clearly define the overall integration manager, the scope of joint review, the equipment-electromechanical interface list, and pre-operation milestones in the tender documents and construction organization documents. The documents should also specify the responsible parties, processing deadlines, review personnel, and closure conditions. Project evaluations should also differentiate between general clarifications, adaptive adjustments, disruptive corrections, extensions, and core boundary re-evaluations, avoiding substituting total corrections for governance effectiveness [21-22]

The evidentiary boundaries of this study limit the applicability of these recommendations. The current sample cannot reliably identify moderate-amplitude associations, and policy configurations may be affected by project complexity and the owner's management capabilities. The conclusions only apply to projects with open procurement and complete data chains; document requirements do not represent on-site implementation, and dynamic web pages can affect source sourcing. Future research needs to expand the sample size and incorporate issue work orders, joint review minutes, and commissioning records to verify the timing of issue discovery and closure [23-24].

6. Conclusion

This study did not obtain confirmatory evidence that institutionalized collaborative configurations reduce later disturbances or advance the timing of corrections. This result does not indicate that collaborative arrangements are without value, but rather that publicly available documents and 44 projects are insufficient to reliably identify moderate-amplitude associations. The main contribution of this study lies in clarifying the boundaries of governance evaluation: contractual forms cannot replace organizational processes, and technical adjustments cannot be judged solely by quantity. Future research needs to incorporate larger samples and process logs to examine whether accountability tracking and closed-loop control truly change the timing of interface problem handling.

References

[1] MASANET E, LEI N, KOOMEY J. To better understand AI's growing energy use, analysts need a data revolution[J]. Joule, 2024, 8(9): 2427-2436.

[2] AGRAWAL A, GANS J S, GOLDFARB A. Artificial intelligence adoption and system-wide change[J]. Journal of Economics & Management Strategy, 2024, 33(2): 327-337. BANKINS S, OCAMPO A C G, MARRONE M, et al. A multilevel review of artificial intelligence in organizations: Implications for organizational behavior research and practice[J]. Journal of Organizational Behavior, 2024, 45(2): 159-182.

[3] Han, X. (2026). Research on Adaptive Optimization Methods for Multi-Objective Manufacturing Process Parameters in Complex Assembly Processes. Procedia Computer Science, 279, 366-374.

[4] Wang, N. (2026). Construction and Application of Interpretable Enterprise Performance Prediction Model Based on Multi-Source Operational Data.

[5] Ma, X. (2026). Distributed Fault Root Cause Localization and Self-Healing Strategy Generation Based on Causal Inference. Procedia Computer Science, 281, 753-760.

[6] Chi, C. (2026). Research on Mortgage Asset Cash Flow Simulation and Risk Transmission Mechanisms across Structural Tranches Based on Loan-Level Data.

[7] Han, X. (2026). Research on Manufacturing Deviation Vehicle Performance Transmission Mechanism and Intelligent Compensation Control for Automotive Engineering. Procedia Computer Science, 281, 594-602.

[8] Ma, W. (2026). Cloud Data Platform Governance Model under Infrastructure Automation.

[9] Yang, Y. (2026). The Integration and Application of Ai Technology in Marketing Data Analysis and Business Decision-Making.

[10] Wang, Z. (2026). Research on Data Analysis and Quality Prediction of Manufacturing Processes Based on Improved Deep Learning Algorithms. Procedia Computer Science, 281, 1328-1337.

[11] Wang, N. (2026). Research on Integrated Analysis Method of Sales and Operations Data for Management Decision Support.

[12] Chi, C. (2026). Quantitative Evaluation of Tranche-Level Returns and Loss Distributions of Structured Credit Assets under Stress Scenarios.

[13] Su, J. (2026). Design and Implementation of Android High Reliability Communication Module Based on Hierarchical Architecture.

[14] Sun, L. (2026). Resource Scheduling and Elastic Scaling Optimization of Distributed Advertising Systems in Cloud-Native Environments.

[15] Qian, X. (2026). Market Data–Driven Demand Forecasting and Inventory Coordination Mechanisms in Retail Supply Chains.

[16] Han, X. (2026). Research on Standardized Pathways for Automotive Manufacturing Process Quality Systems Oriented Toward Defect Prevention. Advances in Computer and Communication, 7(2).

[17] Zhang, Z. (2026). Research on Performance Monitoring and Data-driven Optimization Mechanisms for AI Systems Oriented Toward Decision Support. Advances in Computer and Communication, 7(2).

[18] Ma, X. (2026). Research on the Design and Application of Observability Architectures for High-reliability Distributed Systems in Cloud-native Environments. Engineering Advances, 6(2).

[19] Wang, Z. (2026). Earnings Quality of Resource Enterprises Under Commodity Price Volatility Transmission.

[20] Ma, W. (2026). Reliable Data Infrastructure Supported by Automated Data Pipelines. Engineering Advances, 6(2).

[21] Jin, C. (2026). Research on the Optimization Strategy of Retail Enterprise Product Portfolio Based on Association Rule Analysis. Advances in Computer and Communication, 7(2).

[22] Wang, Z. (2026). Data-driven Pathways for Optimizing Supply Chain Operational Efficiency in Physical Industries. Advances in Computer and Communication, 7(2).

[23] Huijie Pan. Discussion on Low-Latency Computing Strategies in Real-Time Hardware Generation. International Journal of Neural Network (2025), Vol. 4, Issue 1: 57-64.