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PRACTICES AND EFFECTIVENESS OF MODULAR HR DIGITAL TRANSFORMATION: A LONGITUDINAL CASE STUDY OF A LARGE CHINESE MANUFACTURING ENTERPRISE (COMPANY M)

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Abstract. This study takes Company M, a large traditional manufacturing group in China, as a case to explore the challenges of digital transformation in human resource management. Despite its industrial scale and brand advantages, Company M faces systemic problems in promoting the digital strategy of human resources, including the shortage of HR digital talents, ambiguous career development pathways for employees, inefficient offline processes of core businesses, and low utilization rate of HR systems. Using a combination of literature research, longitudinal case study and questionnaire survey, this study systematically explores the practical pathways for modular digital reconstruction of human resource functions, including constructing a standardized human resource management framework (personnel classification, role clusters, hierarchical mapping) and building an integrated modular digital platform integrating business management, self-service and business intelligence analytics. This study not only enriches the theoretical research on digital transformation of human resources in traditional manufacturing industry, but also provides a practical framework for similar enterprises to break through management bottlenecks and promote the transformation of human resource functions from transactional processing to strategic collaboration.
Keywords: HR modular digital reconstruction, traditional manufacturing, talent development pathways, business process optimisation, digital platform.

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ПРАКТИКИ И ЭФФЕКТИВНОСТЬ МОДУЛЬНОЙ ЦИФРОВОЙ ТРАНСФОРМАЦИИ HR: ПРОДОЛЬНОЕ ИССЛЕДОВАНИЕ КРУПНОГО КИТАЙСКОГО ПРОИЗВОДСТВЕННОГО ПРЕДПРИЯТИЯ (КОМПАНИЯ М)

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Аннотация. В исследовании на примере компании М – крупного китайского традиционного производственного концерна – анализируются проблемы, возникающие при цифровой трансформации управления персоналом. Несмотря на масштабы деятельности и брендовые преимущества в отрасли, компания М сталкивается с системными трудностями при реализации стратегии цифровизации управления персоналом, основными из которых являются нехватка кадров,

обладающих цифровыми компетенциями в сфере HR, нечеткие траектории карьерного роста сотрудников, низкая эффективность офлайн-процессов основной деятельности и низкий уровень использования HR-систем. Исследование выполнено с применением комплекса методов: анализа научной литературы, продольного кейс-анализа и анкетирования. В работе системно обоснованы практические подходы к модульной цифровой реконструкции функций управления персоналом, включая формирование стандартизированной системы управления персоналом (классификация персонала, ролевые группы, иерархическое отображение) и создание интегрированной модульной цифровой платформы, объединяющей бизнес-управление, самообслуживание и бизнес-аналитику. Настоящее исследование не только обогащает теоретические разработки в области цифровой трансформации управления персоналом на традиционных производствах, но и предлагает практический механизм для преодоления управленческих ограничений аналогичными предприятиями и перехода функций управления персоналом от операционной обработки к стратегическому взаимодействию.
Ключевые слова: модульная цифровая реконструкция HR, традиционное производство, пути развития талантов, оптимизация бизнес-процессов, цифровая платформа.

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Introduction. This study examines the digital transformation challenges within human resources (hereinafter – HR) management at Company M, a leading large-scale traditional manufacturing conglomerate in China. Despite its scale and brand advantages within the industry, Company M faces systemic challenges in advancing its digital strategy, including a shortage of HR digital talent, ambiguous employee career development pathways, inefficient offline core business processes, and low utilisation rates of HR systems. Employing a combined methodology of literature review, longitudinal case study, and questionnaire survey, this research systematically explores practical pathways for modular digital reconstruction of HR functions. This involves establishing a standardised HR management framework (encompassing personnel classification, role clusters, and hierarchical mapping) and developing an integrated modular digital platform combining business management, self-service and business intelligence analytics (Liu, 2026). This research not only enriches theoretical explorations into HR digital transformation within traditional manufacturing but also provides a practical framework for similar enterprises to overcome management bottlenecks and transition HR functions from transactional processing to strategic collaboration.

Research Background. A major M enterprise (hereinafter – "Company M") is a leading large-scale industrial conglomerate in China, with a history dating back to the 1950s. The group's operations centre on traditional consumer goods manufacturing, having successfully expanded into multiple related sectors to form a diversified and synergistic industrial structure. Company M employs a substantial workforce and operates extensive production bases, possessing a complete industrial chain and modern manufacturing facilities. Its key financial indicators, including total assets, operating revenue, and profits, rank among the highest in the industry. With exceptional brand value, it not only leads the domestic market but also enjoys a distinguished reputation internationally. Company M remains committed to implementing national macro-strategies, advancing supply-side structural reforms, and upholding its corporate ethos of "Innovation for Progress, Striving for Excellence". It aims to drive the upgrading and transformation of the entire industrial sector through its own high-quality development, actively participating in global competition as a representative of China's national enterprises (Battini et al., 2022).

Research Significance. ***Theoretical Significance.*** Globally, the wave of digital transformation is profoundly reshaping industries. Next-generation information technologies – including cloud computing, big data, the Internet of Things, and artificial intelligence – have become pivotal drivers of corporate innovation and competitiveness (Brynskov et al., 2018). Against this backdrop, how traditional manufacturing enterprises can revolutionise their management models and operational processes through deep integration with digital technologies has emerged as a critical theoretical research topic. This study attempts to use Company M, a typical large traditional enterprise, as a case study to deeply analyse the process and methods of combining traditional human resource management practices with digital technologies. This not only enriches the theoretical exploration of digital transformation in human resource management within traditional industrial contexts but also provides new perspectives and theoretical references for understanding how digital technologies reconstruct organisational capabilities and stimulate management effectiveness (Berhil et al., 2020).

Practical Implications. For Company M, advancing digital transformation represents an imperative response to evolving internal and external environments, underpinning its strategic objectives of focusing on core businesses, optimising diversified operations, and establishing a platform-based enterprise. In recent years, aligning with technological trends, the company has elevated digital development to a core strategic priority. It is committed to constructing a modern organisation with capabilities in platform sharing, efficient management, and data-driven decision-making (da Silva et al., 2022) through unified top-level planning. This journey has revealed several critical challenges requiring urgent resolution: How can traditional operational models achieve leapfrog development through cutting-edge digital technologies? How should management paradigms be re-evaluated and innovated to uncover new value growth points? And how can effective group-level governance be realised through organisational and process transformation? By systematically analysing Company M's practices in modular digital restructuring of HR functions, this study aims to chart a clear transformation pathway. It also seeks to provide actionable insights and solutions for other large traditional enterprises facing similar challenges (Moghaddam, 2025).

Research Methodology. To ensure scientific rigour and reliability, this study employs a comprehensive approach integrating the following three methodologies:

– Literature Review Method. Systematically collecting, organising, and analysing domestic and international literature on digital transformation in human resource management, modular restructuring, and traditional manufacturing sector reform. This aims to establish a robust theoretical foundation, accurately identify research frontiers, and provide a theoretical framework and analytical perspective for this case study.

– Case Study Method. Employing a longitudinal case study design, this research examines Company M as the subject. It conducts an in-depth analysis of the intrinsic motivations, specific implementation pathways, challenges encountered, and ultimate outcomes of its modular digital restructuring of human resource management. Through this thorough examination of a representative case, the study aims to distil transformational models and lessons learned that hold reference value for similar traditional enterprises.

– Questionnaire Survey Method. A structured questionnaire was designed to examine Company M's current human resource management practices and digital transformation initiatives. The survey covered multiple dimensions including business processes, organisational management, talent development, and digital experiences and expectations. Through extensive sampling across different functional departments and business units, quantitative data was collected to capture authentic frontline employee feedback, thereby providing robust empirical support for problem diagnosis and strategy development.

Research Content. ***Company Profile***. Company M is a large diversified industrial group occupying a leading position in the Chinese market, with its core operations concentrated in traditional manufacturing sectors. Boasting a long history and profound cultural heritage,

its flagship products comprise nationally renowned brands that enjoy widespread recognition both domestically and internationally. The company has received multiple national-level honours in China and been included in the protection list of international bilateral trade agreements, with its brand value demonstrating sustained and robust growth.

In recent years, Company M has achieved significant growth in both sales revenue and market capitalisation, maintaining a leading position within the industry. The company places high importance on talent and innovation, establishing a state-level technology R&D centre and a platform for cultivating high-end talent, thereby providing robust intellectual capital for sustainable development. Concurrently, Company M regards digital transformation as a core strategic imperative for future growth. To this end, it has formed strategic partnerships with leading international consulting firms and developed a clear strategic blueprint for digital transformation. This blueprint aims to drive three major transformations – business, capability, and management – by focusing on product quality and user experience. It seeks to build six core competencies encompassing data acquisition, processing, sharing, analysis, mining, and application. Key initiatives include implementing five major projects covering production management, supply chain, financial cost control, brand development, and channel construction, thereby systematically establishing an enterprise-level digital capability framework.

Aligned with China's 14th Five-Year Plan and future development, Company M is fully committed to forging a modern enterprise embodying ecological, quality, cultural, digital and transparent attributes. Its specific pathways include: establishing green ecological campuses, constructing high-standard production bases, cultivating corporate cultural DNA, building an integrated digital ecosystem, and enhancing modern corporate governance capabilities. Through this coordinated five-in-one development, Company M aspires to become a benchmark for the transformation and upgrading of China's traditional manufacturing sector.

Questionnaire Survey. This questionnaire survey primarily covers organisational structure, human resources systems, business processes, remuneration management, recruitment and selection, talent development, and perceptions and expectations regarding digital transformation. The questionnaire comprises 25 multiple-choice questions using a five-point Likert scale, with responses ranging from Strongly Disagree" to Strongly Agree (corresponding to scores of 1 to 5 respectively). The survey is distributed to all employees across Company M's functional departments and production units (table 1).

Table 1 – Overall Evaluation of the Questionnaire Survey

Functional Departments & Workshops	Number of questionnaires collected	HR Management System	HR Business Processes	Employee Career Development	Employee Relations Management	HR Service Evaluation	Digital Transformation of HR	Weighted average score
1	2	3	4	5	6	7	8	9
Board of Directors Office	6	2.00	1.23	1.17	1.45	4.20	2.51	1.95
Security Department	263	1.58	1.33	1.08	1.42	3.81	2.37	1.83
Department of Work Safety Supervision	104	1.74	2.12	1.49	2.78	4.43	3.85	2.51
Product Development Department	19	2.27	2.72	2.35	1.07	4.72	1.24	2.29
Communist Party and Mass Work Department	34	2.47	1.59	2.20	2.67	3.12	3.05	2.41

End of the table 1

1	2	3	4	5	6	7	8	9
Department of External Cooperation	28	1.32	2.02	1.32	1.95	4.05	1.42	1.87
Corporation's Office	142	2.87	1.15	1.23	1.56	3.32	3.13	2.17
Financial Management Department	83	2.26	1.30	1.44	2.52	4.67	2.10	2.27
Department of Family Planning and Logistics	374	1.40	2.59	1.89	1.15	3.37	2.04	1.93
Discipline Inspection and Supervision Department	13	2.21	1.20	1.37	1.34	4.43	3.23	2.15
Technological Research Centre	98	1.07	2.27	2.68	1.30	3.22	2.45	2.10
Energy and Environmental Management Department	32	2.42	2.25	1.61	1.86	4.79	2.99	2.50
Brand Protection and Logistics Department	37	2.31	2.36	2.87	2.83	3.54	2.44	2.59
Human Resources Department	14	2.26	1.35	2.13	1.58	4.06	1.74	2.16
Audit and Supervision Department	34	1.97	1.11	2.07	2.15	4.70	3.53	2.36
Production Management Department	47	2.13	1.32	2.81	1.50	4.26	3.45	2.36
Marketing Department	20	2.64	1.08	2.10	2.95	4.98	3.73	2.78
Investment and Technical Transformation Department	67	2.27	1.17	1.87	2.92	4.45	1.43	2.26
Brand Division	354	1.36	2.59	1.68	1.18	3.58	3.08	2.10
Packaging Materials Procurement and Supply Department	8	1.05	1.93	2.30	1.39	4.90	3.60	2.40
Sales and Service Department	42	2.18	1.18	1.14	2.28	3.90	1.08	1.93
Information Management Centre	25	1.69	2.19	2.68	1.57	4.66	1.38	2.29
Strategic Development Department	38	2.04	1.83	1.53	1.98	3.68	1.21	2.02
Corporate Affiliates	31	1.16	1.64	2.42	1.18	3.52	3.30	2.12
Staff Management Centre	249	1.31	1.73	1.74	1.08	3.24	2.05	1.84
Staff Education and Training Centre	7	1.17	2.54	2.88	2.78	4.17	3.02	2.52
Quality Management Department	108	2.15	2.57	2.44	2.19	4.22	1.78	2.46
Quality Inspection Centre	53	2.93	1.10	1.13	1.99	4.37	3.74	2.45
Asset Management Department	86	2.55	1.53	2.01	2.75	4.82	2.09	2.40
Workshop1	20	2.35	1.7	2.49	2.83	3.64	3.08	2.54
Workshop2	20	2.89	1.76	2.72	1.21	3.52	3.17	2.39
Workshop3	20	1.41	1.70	1.19	2.53	3.65	2.81	2.14
Workshop4	20	1.32	1.53	1.18	1.40	3.36	1.69	1.75
Workshop5	20	2.51	2.53	2.13	1.90	4.66	2.01	2.39
Workshop6	20	1.90	2.91	2.10	2.13	3.78	3.67	2.63
Workshop7	20	1.36	1.89	1.28	1.44	4.41	1.69	1.95
Workshop8	20	2.26	1.45	1.29	2.86	4.84	3.03	2.48
Workshop 10	20	1.13	2.26	1.21	1.06	3.34	2.28	1.77
Workshop 11	18	2.39	1.28	2.63	2.84	3.88	3.47	2.60
Workshop 13	20	2.40	2.87	2.55	1.14	4.88	2.56	2.55
Workshop 15	20	1.29	2.57	1.27	2.92	3.15	3.26	2.33
Workshop 17	20	1.58	1.99	1.08	2.28	3.96	1.96	2.12
Workshop 21	20	1.71	2.10	2.56	1.81	3.09	1.22	2.04
Workshop 23	20	1.59	2.91	1.46	2.94	3.01	1.16	2.12
Workshop 29	20	2.37	1.23	1.82	1.47	3.48	1.06	1.84
Subtotal	2734	1.94	1.86	1.88	1.96	4.00	2.47	2.24

Source: It compiled based on the results of authors' own research.

Business Process Evaluation. Analysis of questionnaire responses regarding business processes reveals significant challenges in process management at Company M. Over 83 % of employees perceive relevant business processes as insufficiently clear; more than 71 % find application procedures inconvenient and ill-suited to rapidly evolving operational demands. Preliminary interviews further confirmed that most core business processes still rely heavily on offline operations, causing considerable operational inefficiencies and employee dissatisfaction. This underscores that a comprehensive review, standardisation, and optimisation of the company's business processes are imperative prerequisites for achieving digital transformation in human resources. Specific data is presented in the table 2.

Table 2 – Personnel Business Processes

HR Business Processes	Completely disagree	Disagree	Unclear	Agreed	Fully agreed
Streamlined and efficient employee application process	3.04 %	37.86 %	30.43 %	26.85 %	1.83 %
The HR processes are comprehensive, clear and well-defined.	8.56 %	48.87 %	25.82 %	15.95 %	0.80 %
HR processes align with the company's business development	8.96 %	51.79 %	34.31 %	4.57 %	0.37 %
High integration of HR business processes enables high levels of functionality	19.60 %	58.89 %	21.40 %	0.11 %	0.00 %

Source: It compiled based on the results of authors' own research.

Talent Development Evaluation. Analysis of the questionnaire concerning talent development (table 3) reveals that employees generally lack a clear understanding of their career progression pathways within the organisation. The overwhelming majority of staff are unaware of the company's promotion pathways, application criteria, competency requirements, and assessment methods. From the company's perspective, relevant policies remain rather vague; from the employees' viewpoint, this uncertainty diminishes their initiative and sense of direction in their work. Consequently, the company urgently needs to establish a clear employee classification system and design explicit, actionable career progression routes with supporting mechanisms for different employee categories (da Silva et al., 2022).

Table 3 – Company Talent Development

Company Talent Development	Completely disagree	Disagree	Unclear	Agreed	Fully agreed
You are familiar with the company's career progression pathways	3.99 %	92.17 %	3.47 %	0.18 %	0.18 %
You are familiar with the eligibility criteria for career progression applications	15.36 %	81.20 %	1.46 %	1.17 %	0.80 %
You are familiar with the competency requirements corresponding to each career level	13.90 %	77.72 %	7.21 %	0.80 %	0.37 %
You are familiar with the assessment methods for career progression	13.17 %	81.71 %	4.28 %	0.44 %	0.40 %

Source: It compiled based on the results of authors' own research.

Digital Transformation Assessment. Questionnaire analysis indicates that Company M possesses a relatively weak foundation in human resources information systems, with existing systems unable to effectively support business development. The scope and depth of application for the company's early-deployed HR system remain severely limited. Primary operations still rely on manual data entry via spreadsheets for information collection and statistics, resulting in issues such as inconsistent data, redundant labour, and poor timeliness and accuracy. Survey data corroborates this, with virtually all employees expressing dissatisfaction with the current systems. Concurrently, over 87 % of staff lack a fundamental understanding of the concept of digital transformation. Despite this, more than 70 % of employees demonstrate clear expectations for the digital transformation of human resources management, providing significant internal momentum for change (table 4).

Table 4 – Digital Transformation of Human Resource Management

Digital Transformation of Human Resource Management	Completely disagree	Disagree	Unclear	Agreed	Fully agreed
The company's current human resource management system is fully functional	74.40 %	5.82 %	19.79 %	0.00 %	0.00 %
You are proficient in operating the company's human resource management system	75.09 %	20.34 %	3.91 %	0.40 %	0.26 %
You are satisfied with the company's current human resource management system	72.35 %	23.66 %	3.84 %	0.15 %	0.00 %
You understand the digital transformation of human resource management	20.48 %	24.54 %	41.33 %	9.25 %	4.39 %
You understand the purpose of the digital transformation of human resource management	11.41 %	15.87 %	49.74 %	21.95 %	1.02 %
You look forward to the digital transformation of the company's human resource management	0.59 %	2.52 %	25.02 %	59.80 %	12.07 %

Source: It compiled based on the results of authors' own research.

Existing Issues. Based on an in-depth understanding of the company's current state of digital transformation in human resources management, combined with analysis of the preliminary questionnaire survey, it has been identified that the company does indeed face several systemic issues in its digital human resources management. These issues are primarily concentrated in four areas: insufficient reserves of digital talent, unclear talent development pathways, weak awareness of business process management, and low utilisation rates of human resources systems.

Insufficient Digital Talent Reserves. Analysis of the preliminary questionnaire results indicates that the company's current human resources management remains predominantly traditional. 86.35 % of employees lack a fundamental understanding of digital transformation in human resources management (Moghaddam, 2025).

Concurrently, analysis of staff educational qualifications reveals that employees holding bachelor's degrees or higher constitute merely 15 % of the workforce. Among these, professionals specialising in disciplines directly relevant to digital technologies represent an extremely low proportion, virtually negligible. This further underscores that the company faces a significant challenge in advancing its digital transformation strategy: a severe mismatch between foundational talent capabilities and strategic requirements, indicating a substantial gap in digital talent reserves.

Unclear career progression pathways. Preliminary questionnaire surveys reveal that employees generally lack clarity regarding their professional development. The vast majority are unaware of promotion channels, triggering a series of adverse effects:

– low work efficiency: Ambiguous career pathways leave staff uncertain about their professional prospects, hindering the effective alignment of personal goals with organisational objectives. This prevents the full realisation of employees' potential and motivation, consequently impacting overall productivity;

– increased turnover: This issue is particularly pronounced on production lines. Factors such as working conditions and intensity, coupled with unclear career progression, contribute to persistently high staff attrition. The organisation must continually invest resources in recruitment and new employee training, incurring additional labour costs.

Weak Business Process Management Awareness. Preliminary interviews and questionnaire surveys reveal that core HR-related business processes largely rely on offline operations. These processes themselves lack clarity and standardisation, resulting in inefficient operations, poor employee experience, and ultimately hindering the effective implementation and execution of HR management systems (Wang, Wang, 2026).

a) Inefficiency: The absence of standardised operational procedures and clear division of responsibilities leaves employees without effective guidance when executing tasks. This

frequently results in redundant work, high communication costs, and delays, thereby diminishing the organisation's overall operational efficiency.

b) Resource wastage: When processes lack clarity, organisations cannot accurately assess resource and time requirements at each stage, leading to uneven resource allocation (Al-Kfairy, 2025). Furthermore, the absence of effective process monitoring and continuous improvement mechanisms makes it difficult to promptly identify and rectify resource wastage.

c) Difficulties in cross-departmental collaboration: Data and processes across functional departments remain relatively isolated, lacking a unified collaboration platform and clear delineation of responsibilities. During process execution, communication breakdowns and buck-passing are commonplace, severely undermining team collaboration efficiency and work quality. For instance, a straightforward employee certificate issuance process requires the employee to physically carry paper documents through multiple departments for manual circulation and hierarchical approvals. Such complex, redundant offline procedures not only drastically reduce employee satisfaction but also incur substantial unnecessary labour costs for the company.

Low Utilisation of Human Resources Systems. Preliminary interviews and questionnaire surveys revealed that the company's existing human resources management system was deployed as far back as 2008. Its design philosophy and functional architecture are now severely outdated relative to current business requirements. The system's primary users are confined to the internal human resources department, with functionality limited to basic information entry and statistics. A substantial volume of practical work still relies on spreadsheets, creating a dual workload of offline processing and online data entry (Qi, 2025). The system's inflexible operation, coupled with a failure to iterate and upgrade in response to business changes, has led users to gradually abandon it. They now resort to more primitive methods like email for data submission, resulting in extremely low system usage rates.

Furthermore, similar information silos are prevalent across other functional departments. For instance: while the logistics department employs in-house standalone software for payroll calculations, relying on spreadsheets for attendance and leave management. With each department maintaining isolated databases and inconsistent data standards, the HR department is compelled to expend significant effort on manual data collation, verification, and aggregation. This not only creates high levels of repetitive work but also compromises the timeliness, accuracy, and consistency of data, hindering the conversion of data assets into managerial value.

Modular Digital Reconstruction of HR Functions to Enhance Corporate HR Management Efficiency. To address the aforementioned four core issues, Company M advanced a modular digital reconstruction of HR functions through two dimensions: system restructuring and platform development. This initiative aims to systematically elevate human resource management efficacy.

Refining the Human Resource Management System. To resolve unclear talent development pathways and chaotic job classification systems, Company M first undertook a standardised, modular reconstruction of its HR management framework:

– Personnel Classification System Restructuring. The personnel classification system reflects the company's management priorities for different employee categories across various operational contexts. The new framework is categorised as follows:

By working hours: Full-time employees, part-time employees.

By employment type: Permanent staff, agency workers, interns, etc.

By employee status: Active (including probationary/trainee), on leave, on standby, retired, departed, etc.

By functional nature: Production personnel, Sales personnel, R&D personnel, Management personnel, Administrative support personnel, etc.

By business segment: Management segment, Production segment, R&D segment, Marketing segment, etc.

– Position Management System (table 5).

Table 5 – Content and Basic Ideas of Post Management System Design

Work	Position Establishment	Job Analysis	Job Evaluation	Job Groups	Position System
Objectives	Conduct research into the company's human resources management and propose organisational structure proposals for the production system and functional departments, along with position recommendations	Clarify job objectives, responsibilities, and content; revise and draft job descriptions	Establish a unified job grading system based on positional value contribution	Establishing Job Groups	Position Hierarchy and Groups, Sequences Cross-referenced to Form Position Matrix
Methodology	By interpreting the requirements of the overall development strategy and designing the organisational structure, clarify and refine departmental responsibilities, then allocate them to each position	1. Train and mentor staff in drafting job descriptions 2. Compile and revise analysed job descriptions 3.Systematise and standardise job descriptions into a unified, scientifically sound framework	1.Organise and conduct job evaluation activities 2. Analyse job evaluation outcomes to form a job grading chart	1.Define the principles for job groups classification 2.Classify groups based on value chain analysis and sequence them according to workflow module analysis	1. Based on the established position hierarchy diagram, 2.Cross-referenced with group sequences 3.Establish the position matrix
Outputs	Organisational structure design proposals and functional department position establishment	Job Descriptions	Job Grading	Job Groups Sequence Classification and Job Groups Sequence Description	Position Matrix

Source: It compiled based on the results of authors' own research.

The design content and fundamental approach of the position management system, as shown in Table 5, centres on establishing unified position value standards and clear career progression pathways.

The position management system encompasses four fundamental concepts: positions, position tiers, position groups, and position maps (or position matrix), as illustrated in Figure 1.

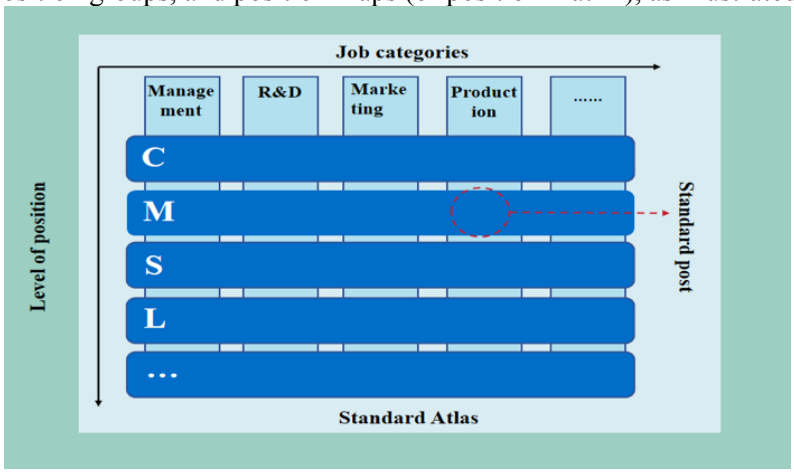

Figure 1 – Post Management System
Source: It compiled based on the results of authors' own research

First, job Groups. These can be divided into management roles, professional support roles, R&D roles, production and operational roles, marketing roles and so on.

Second, Job Grading. A comprehensive job grading system has been established covering all personnel, ranging from company leadership (Grade A), directors/assistant directors (Grade C), middle management (Grade M) to specialist staff (Grade S, Grade L). A special grade (Grade Z) has been created for interns and similar roles, enabling a unified measurement of job value.

Third, Standard Positions. Positions are further subdivided into sequences and sub-sequences within each category, ultimately defining standard roles that provide precise benchmarks for recruitment, remuneration, and promotion.

Establishing a Modular Digital Platform for Human Resource Management. To address issues such as inefficient business processes, low system utilisation, and data silos, Company M constructed an integrated digital platform centred around a core HR management system, incorporating multiple services. This platform aims to facilitate the transformation of HR roles from administrative processors to strategic partners, delivering differentiated value to distinct functions as outlined in the table 6.

Table 6 – Four Role Transformation Services

Senior Management	Manager	HRCOE、HRSSC、HRBP	Staff
Management Insights: Operational Dashboards, Risk Forecasting	Team Management: Personnel changes, talent reviews	Driving Transformation: Management Systems, Standardised Operations	Performance Appraisal: Target Setting, Self-Assessment
Talent Management: Talent Pipeline, Key Personnel	Effective Communication: Probationary assessments, contract renewals	Shared Services: Centralised Processing, Premium Service Delivery	Communication & Interaction: Tagging Colleagues, Sending Greetings
Management Systems: Management Transformation, Business Processes	Performance Management: Performance coaching, performance evaluations	Sustained Performance: Strategic Decoding, Target Setting	Online Services: Certificate Issuance, Contract Printing
	Remuneration Distribution: Secondary bonus allocation	Talent Supply: Talent Development, Talent Assessment	Information Access: Attendance & Payroll Records, Company Policies
	Team Oversight: Total payroll, departmental staffing levels	Management Consultancy	Process Initiation: Leave Requests, Business Travel Applications

Source: It compiled based on the results of authors' own research.

The integrated digital platform for human resources management provides a unified entry point for all HR-related business systems, integrating relevant systems to enable one-stop processing. It features a flexible, scalable and integrated application architecture for human resources management systems, as illustrated in Figure 2.

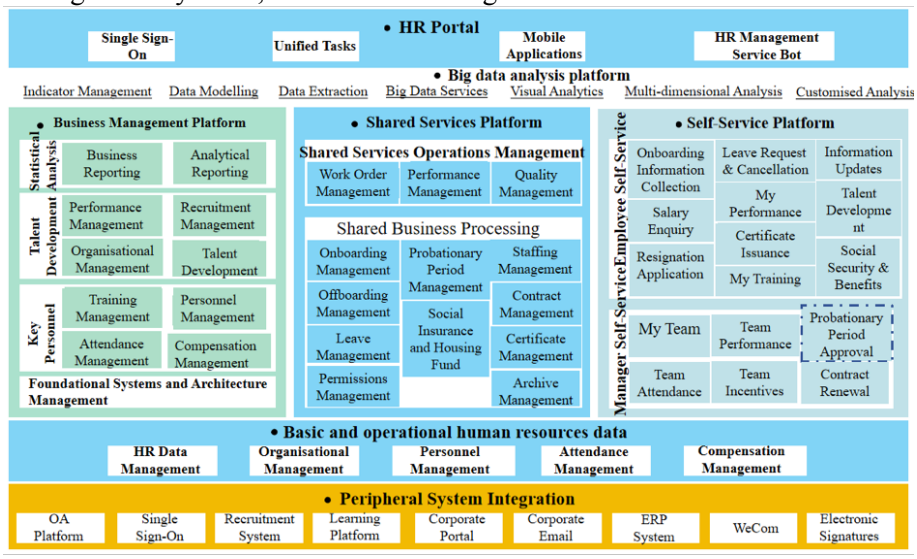

Figure 2 – Functional Framework of the Digital Platform for Human Resource Management
Source: It compiled based on the results of authors' own research

a) Business Management Platform. As the system's central hub, this platform leverages the SAP (System Applications and Products) system (Sokolov, 2025). Built upon the human resources management module of an industry-leading ERP system, it houses all human resources business rules, specialised operations, and core data records. Primarily designed for human resources professionals, it enables the online, standardised, and integrated processing of business workflows.

b) Self-Service Platform. This platform focuses on delivering convenient HR services to managers and employees, aiming to enhance employee experience and reduce administrative burdens on HR.

Employee Self-Service: Provides functions including personal information enquiry and maintenance, salary and benefits enquiry, attendance record viewing, online certificate issuance, and initiation of various workflows (e.g., leave requests, business travel) (Sasidharakarnavar, 2025).

Manager Self-Service: Empowers managers at all levels to query team information, approve personnel matters (e.g., probation confirmation, leave requests), receive pending task notifications, and view team analytics reports (e.g., workforce structure analysis).

c) Business Intelligence Analytics Platform. Targeting corporate decision-makers and HR managers, this platform dynamically visualises key HR metrics (e.g., talent attrition rate, per capita productivity, staffing compliance) via dashboards, providing data-driven support for strategic decisions.

d) Peripheral System Integration. Completely dismantles information silos by integrating key peripheral systems, enabling data interoperability and operational synergy. Integration solutions include:

Integration with OA systems: Initiates personnel processes within the HR system, facilitates approvals via the OA system, and enables real-time status updates (Liu et al., 2025).

Integration with unified identity authentication systems: Implements single sign-on to enhance user experience and security.

Integration with recruitment systems and learning platforms: Enables end-to-end connectivity from candidate to employee, spanning training to competency data.

Integration with time-clock devices, WeCom/corporate email: Facilitates automated data collection and proactive message push notifications.

Integration with file servers and electronic signature systems: Ensures legal compliance and paperless operations for attachment management and online contract signing (figure 3).

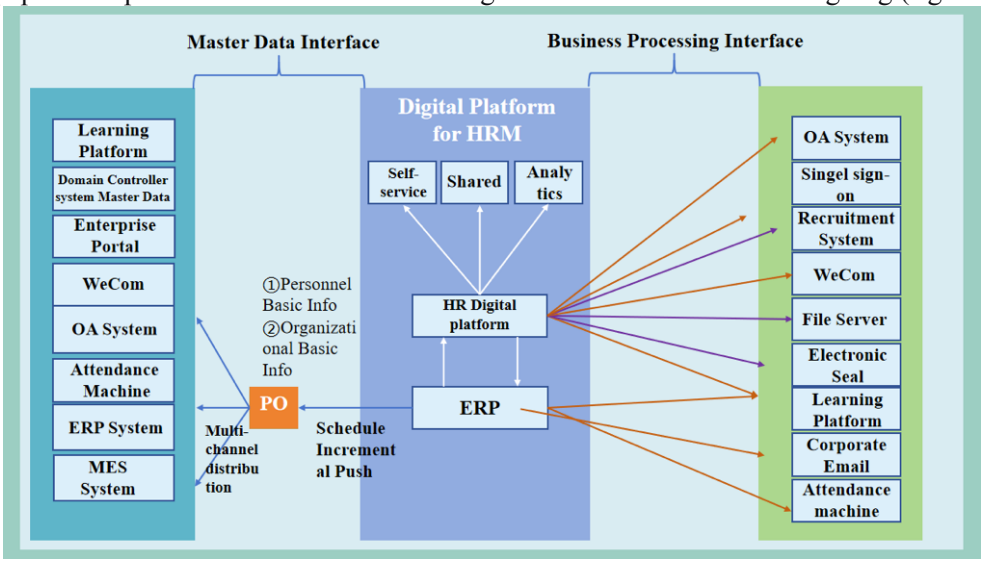

Figure 3 – Integration Scheme of the Digital Platform for Human Resource Management
Source: It compiled based on the results of authors' own research

Conclusions. This study employs Company M, a representative large-scale traditional manufacturing enterprise, as a longitudinal case. Through a comprehensive application of literature analysis, case studies, and questionnaire surveys, it systematically explores the practical pathways and efficacy outcomes of modular digital reconstruction within HR. The research aims to provide traditional enterprises facing similar challenges with a reference framework and implementation strategies for digital transformation.

Through in-depth investigation, this study identified four core bottlenecks in Company M's HR digitalisation process: insufficient digital talent reserves, ambiguous talent development pathways, weak awareness of business process management, and low utilisation rates of HR systems. Collectively, these issues constitute major obstacles to transitioning from traditional management models to digital and intelligent management (Rinaldi et al., 2022).

Addressing these issues, the study proposes a dual-pronged systemic solution:

Systemic Reconstruction: By strengthening the human resources management framework, personnel categories were refined through granular segmentation. A standardised job map encompassing role groups, sequences, and hierarchical levels was established, providing employees with clear career progression pathways and laying a robust institutional foundation for digital management.

Platform Development: A modular digital platform integrates three core components: business management centred on the core HR system, self-service portals for employees and managers, and business intelligence analytics for decision support (Sivathanu, Pillai, 2018). Through deep integration with peripheral systems such as OA, attendance tracking, and recruitment, this platform achieves online HR operations, unified data management, and intelligent service delivery. This effectively dismantles information silos and enhances overall operational efficiency.

This case demonstrates the efficacy of modular digital HR restructuring in enhancing traditional enterprises' human resource management capabilities. The solution successfully liberated Company M's HR function from cumbersome administrative tasks, facilitating its gradual evolution from a reactive operational support role to a proactive strategic partner.

Theoretically, this research enriches empirical explorations of HR digital transformation within traditional industries, offering fresh perspectives on how digital technologies reshape organisational capabilities. Practically, the dual-drive model of system restructuring plus platform development summarised herein, alongside its specific implementation pathways, provides a clear, replicable framework for HR digital transformation within the baijiu industry and broader traditional manufacturing sectors (Sugiana, 2024).

Future research may build upon this work by expanding the case scope to explore the adaptability and optimisation pathways of this model across enterprises of varying scales, ownership structures, or industry segments, thereby deepening our understanding of digital transformation patterns in traditional enterprises.

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