



Construction Ideas of "Three Types and one Transformation" of Financial Intelligence in Y Company

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Abstract. The transformation and construction of financial digital intelligence is an important measure for central enterprises to implement and accelerate the construction of a world-class financial management system, give full play to the leading role of the state-owned economy, and promote the integrated development of the digital economy and the real economy. Based on the analysis of the current situation of Y company's financial digital intelligence, the "14th five year plan" financial plan defines the key path of the transformation of "strategic finance", "integrated finance", "intensive finance" and "digital intelligence finance" (i.e. "three types and one transformation"), constructs the overall framework of the transformation of financial digital intelligence, describes the blueprint of digital intelligence transformation of "three vertical, four horizontal and five elements", and designs 19 measures at the scene level, application level, capability level and foundation level, and sets corresponding KPI indicators to comprehensively promote the transformation and upgrading of financial digital intelligence.

Keywords: current situation of digital intelligence; Three types and one transformation; Three vertical, four horizontal and five elements

1 Introduction

Accelerating digital development is of great significance to the economic and social development during the 14th Five Year Plan period. Digital technology and digital economy have become the focus of the party and the state. The SASAC mentioned in the notice on accelerating the digital transformation of state-owned enterprises that we should give full play to the leading role of the state-owned economy and promote the integrated development of the digital economy and the real economy; In the guidance on central enterprises' accelerating the construction of a world-class financial management system, central enterprises are required to use technology to enable them to promote the transformation of financial management from informatization to digitalization and intelligence. In order to implement the responsibilities of state-owned enterprises and accelerate the construction of a world-class financial management system, company Y has constructed its own characteristic transformation framework of financial digital intelligence based on sorting out its current situation of financial

digital intelligence, and has promoted the completion of the goal of digital intelligence transformation through specific measures.

2 Current Situation of Financial Intelligence of Y Company

Y company started the informatization construction in 2000. The digital intelligence in the financial field has gone through four stages: ERP Construction (2000-2004), full system coverage (2005-2014), centralized reform (2015-2020) and digital intelligence improvement (2021 present). It has carried out a series of construction contents around the accounting system, management system, digital intelligence application, shared services and other aspects, and has achieved remarkable results, but there are still directions to be improved.

2.1 Remarkable Achievements Have Been Made in the Construction of Digital Intelligence

1. Complete the construction of a centralized financial accounting system, and achieve the effect of "system from decentralized to centralized, management from difference to unity, and data from fragmentation to connectivity"^[4]

(1) Build a centralized system to cover major accounting businesses

Focusing on the main accounting fields such as reimbursement, accounting, funds, statements, taxation, etc., the company has integrated more than 300 original systems into one accounting system, covering all domestic units, nearly 500000 employees, and accommodating nearly 100 million fixed assets, realizing the system from decentralized to centralized;

(2) Through the business and financial process, strengthen the unification of management standards

211 unified accounting processes; Relying on the centralized system, the related party transaction policy, accounting policy, fund management method, internal control management method and other policies are formulated, and the management requirements go directly to the end link; According to the requirements of eight regulations, rigid budget control, contract ceiling control, supplier management and other requirements, relying on the system to consolidate the control rules, unify the group wide control standards, and realize automatic control;

(3) Unify business and financial data to achieve "the same track for vehicles and the same text for books"

It unifies the caliber of 32 basic data and 100 business data to achieve horizontal comparability and vertical penetration; Get through human, financial, material, engineering and control systems, establish business and financial data mapping rules, eliminate data islands, strengthen system second level docking, and reduce human intervention.

2. Explore the application of digital intelligence and intelligence, and improve the automation and intelligence level of financial management^[5]

(1) Upgrade the traditional reimbursement and accounting mode: the automation rate of the company's statements has reached 70%. The main means is to embed AI functions in the centralized system, which can achieve automatic filling, intelligent review, risk audit and electronic reconciliation, and help improve the efficiency of business personnel and financial personnel;

(2) Build a financial robot to effectively save costs and release labor: Based on the platform of Panjiang digital intelligence employees, the headquarters and provincial specialized companies actively explore the construction of more than 800 robots to help improve the work efficiency of financial personnel by 50%, which can save 25000 people/day per year;

(3) Promote the electronization of accounting vouchers and explore paperless reimbursement: vigorously promote the electronic filing of accounting materials, realize the electronization of the whole process of electronic voucher reimbursement entry and filing, improve the efficiency by 40%, and save more than 30million yuan per year;

(4) Using big data means to carry out centralized risk supervision: build 84 risk models around the risk points in the five major fields of engineering, network, finance, market, government and enterprises, and explore all-weather and centralized supervision relying on the system;

(5) Centralized construction of smart financial screen, visual data display: 150 scenarios have been launched in the fields of accounting management, business performance, risk monitoring, etc., to improve the quality and efficiency of reimbursement, avoid risks, and save 30million yuan per year;

(6) Promote the business travel project and strengthen the controllability of the whole process of travel: realize the unified control of the whole process of "prior approval - machine wine reservation - one click reimbursement - expense settlement", and employees do not advance money and travel without Invoicing, so as to effectively reduce costs, improve efficiency and prevent risks.

2.2 Digital Intelligence Construction Needs to be Improved

1. Business support capability

Financial intelligence still needs to be improved in terms of supporting budget foresight and insight, asset whole process IOT, multi-dimensional automatic accounting, agile and accurate tax payment, real-time risk control intelligence, industry finance integration, analytical wisdom foresight, capital security intelligence and so on:

(1) Budget assessment

The budget management system of the whole process, whole process and all elements is not complete enough; The budgeting and forecasting systems need to be improved, and the ability to support resource allocation needs to be improved; There are great differences in budget management methods and refinement levels among companies, and standardization has not been achieved; Real time and automatic evaluation of the organization has not yet been realized;

(2) Asset Management

The asset management system with full elements, full cycle and full process needs to be improved; The means of asset management need to be rich, and the real-time and accuracy of management need to be improved;

(3) financial accounting

Lack of data support for standardized multidimensional analysis and small accounting; The report preparation partly depends on manual work, and the automation level needs to be improved; The digital intelligence level of connected transaction management needs to be improved, and the reconciliation difference is large;

(4) Tax administration

The automatic management level of the whole tax process needs to be improved, and the digital management of all elements of tax related information has not yet been realized; The means of tax risk monitoring, early warning and analysis need to be improved, and the ability needs to be improved;

(5) risk management

Failure to realize centralized and all-weather supervision of risks; It is difficult to track the disposal of risk results, and the effectiveness of risk control needs to be improved; The maintenance and management of the whole process internal control system rely on manual operation;

(6) Industry finance integration

The business finance process still needs to be connected, the data consistency needs to be improved, the value of business finance data has not been brought into full play, and the support for business refined management is insufficient;

(7) business analysis

Industry and finance data need to be further aggregated, and the supporting ability for analysis needs to be improved; The analysis tools are lack of digital intelligence, which is difficult to efficiently support business analysis; The analysis results are displayed on the large screen PC、 The means of multi terminal integration support of mobile phones need to be strengthened;

(8) fund management

The accuracy, timeliness and agility of capital budget need to be improved; The globally integrated fund pool has not yet been established, and the centralized supervision of overseas funds needs to be strengthened; The digital intelligent management means of industrial chain financial business need to be improved.

2.Digital intelligence platform capability

In terms of the support ability of the digital intelligence platform, there is still room for improvement in the application of ideas, process data management, system technology management and system guarantee, as shown in the following:

(1) Concept application

It is necessary to establish a two wheel drive from "system construction" to "process and data", construct an agile financial digital intelligence ecosystem, and enrich digital intelligence scenarios.

(2) process data

The process data has not yet changed from "functional" to "process", and the flexible team of process management and data governance has not yet been built.

(3) system technology

The group wide centralized construction of system technology in financial management systems such as budget, assets, costs and internal control risks has not yet achieved vertical connectivity, the financial system and business system have not yet achieved horizontal connectivity, and intelligent technology has not yet achieved the ability to update and iterate.

(4) system

The cloud native technology platform has not yet been built, the framework of financial personnel's digital intelligence ability has not been defined, the financial personnel training system and innovation talent echelon have not been built^[2], and the digital intelligence evaluation system has not been built.

3 Financial digital intelligence planning of Y Company during the "14th Five Year Plan"

In the company's "14th five year plan" financial plan, the key path for the transformation of "strategic finance", "integrated finance", "intensive finance" and "digital intelligence finance" (i.e. "three types and one transformation") has been defined. Digital intelligence finance, as the base, needs to fully support the management upgrading of Strategic Finance, integrated finance and intensive finance. To this end, the overall framework of financial digital intelligence transformation is constructed, as shown in Figure 1:

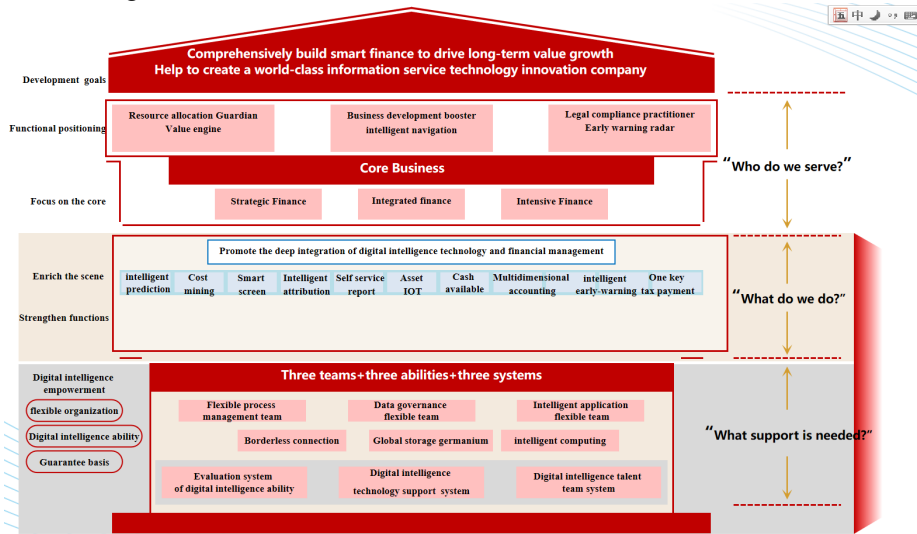


Fig. 1. overall framework of Y company's financial digital intelligence transformation

Focusing on the development goal of "comprehensively building smart finance, driving long-term value growth, and helping to create a world-class information service technology innovation company^[1], the framework gives full play to the functions of "value engine", "intelligent navigation" and "early warning radar" of digital intelligence, and focuses on the core business construction of "strategic finance", "integrated finance" and "intensive finance", so as to enrich the application scenarios of "intelligent prediction", "cost mining", "smart screen", "intelligent attribution", "self-service report", "asset IOT", "fund visibility", "multi-dimensional accounting", "intelligent early warning" and "one button tax payment", and strengthen "intelligent insight budget management", "value tracking cost management", "dynamic and agile financial analysis", "intelligent attribution performance appraisal", "Human computer interactive reporting system", "asset management of IOT interoperability", "safe and intelligent treasurer management", "multidimensional accounting of panoramic records", "forward-looking risk management", "accurate and flexible tax management"^[6] and other digital intelligence functions. The achievement of the above goals needs to be supported by "flexible process management team+flexible data governance team+flexible intelligent application team". The digital intelligence capability should achieve "borderless connection+global storage+Intelligent Computing", and the guarantee basis is "digital intelligence capability evaluation system+digital intelligence technology support system+digital intelligence talent team system".

3.1 Blueprint for Transformation of Financial Digital Intelligence: Three Vertical, four Horizontal and five Elements

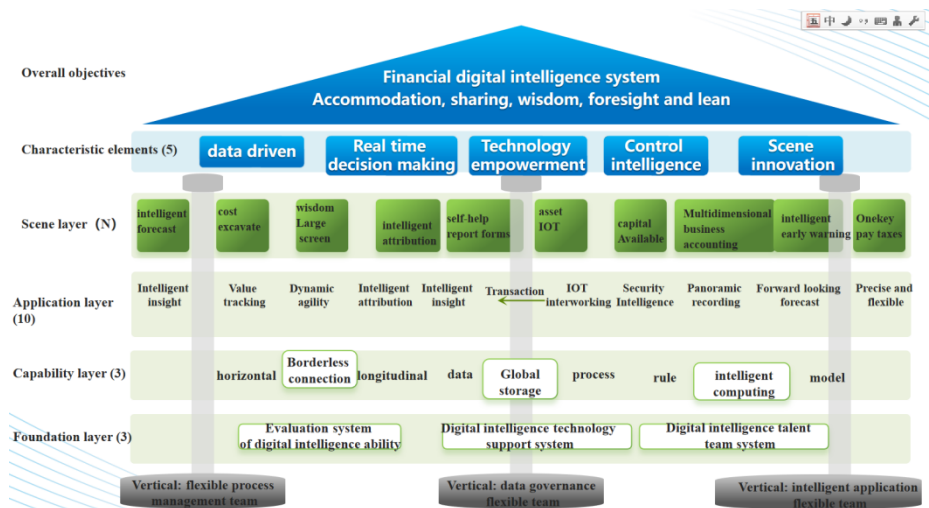


Fig. 2. blueprint for digital intelligence transformation of Y company: three vertical, four horizontal and five elements

As shown in Figure 2, on the overall framework of financial digital intelligence, company Y described the transformation blueprint of "three vertical, four horizontal

and five elements" of financial digital intelligence, "Three vertical, four horizontal and five elements" means relying on the capabilities of process management flexible team, data governance flexible team and intelligent application flexible team to realize data-driven, real-time decision-making, scientific and technological empowerment, management and control intelligence and scene innovation at the scene layer, application layer, capability layer and foundation layer.

3.2 Challenges Faced by Y Company in the Transformation of Financial Intelligence

Financial digitalization is not only a system or technology innovation, but also requires the financial department to change its work philosophy, organization, personnel, processes and other aspects around the transformation goal, and these new changes are bound to affect the traditional working habits and methods. At the same time, the financial digital transformation needs the collaborative promotion of all departments. In the process of implementation, it may face many challenges, such as unclear vision, lack of key resources such as talents and funds, difficulty in data problem remediation, difficulty in cross departmental communication and cooperation, and difficulty in historical data governance.

3.3 Key Measures of Financial Intelligence in the 14th Five Year Plan

In order to solve the difficulties faced by transformation, Y company focused on "three vertical, four horizontal and five elements" and designed a total of 19 measures corresponding to the scene layer, application layer, capability layer and foundation layer. This paper introduces the overall objectives and construction tasks under the 10 measures of Y company's Application layer (As shown in Figure 3) , so as to understand its comprehensive promotion of transformation and upgrading of financial digital intelligence.

application layer	Action 1: continue to build and strengthen the budget management system, provide intelligent insight and support strategy	Action 2: build a strong cost management platform, real-time value tracking and lean management
	Action 3: build a smart financial analysis platform, smart, agile and data insight	Action 4: build a performance appraisal system, performance attribution and dynamic evaluation
	Action 5: build a smart report platform, human-computer interaction and report automation	Action 6: continue to build and strengthen the asset management system and enable the "three in one" management of assets
	Action 7: continue to build and strengthen the treasurer management system, select and upgrade the generation, and inject intelligence and capabilities	Action 8: continue to strengthen the accounting system, panoramic records and multidimensional accounting
	Action 9: continue to strengthen the forward-looking prediction and dynamic control of the internal control risk management system	Action 10: continue to build a strong tax management system, pay taxes accurately and plan flexibly

Fig. 3. 10 measures for smart transformation of Y company's application layers

3.4 Application Layer: ten Financial Digital Intelligence Function Planning

The application layer involves ten financial intelligence function plans. The KPI indicator is: the centralization rate of the main financial system is 100%; The intelligent

supervision rate of key risks is 80%; The one click report generation rate is 90%; The electronic rate of accounting archives is 90%.

(1) Function 1: smart insight budget management (action 1)

The overall goal of function 1 is to build a comprehensive closed-loop budget management system, a unified and clear budget data dimension, a multidimensional budget system integrating industry and finance, digital budget control rules, intelligent prediction, and accurate and agile resource allocation^[7].

To complete the goal of function 1, the corresponding tasks include: ① building a budget management system covering the whole organization, whole process, whole element and whole cycle; ② Establish a multidimensional budget data system; ③ Digitize the budget control rules and establish an intelligent budget prediction model; ④ Build a visual budget report system for dynamic display and real-time monitoring.

(2) Function 2: cost management of value tracking (action 2)

The overall goal of function 2 is to build a cost management system covering the company's internal value chain, realize multi-dimensional cost collection, intelligent analysis and visual report display, and track value drivers in real time.

To complete the goal of function 2, the corresponding tasks include: ① establish a cost management system to lay the foundation for multidimensional data collection; ② Establish a standard data flow specification to realize the standardization of cost data link; ③ Establish an intelligent cost analysis model to track the value drivers in real time.

(3) Function 3: dynamic and agile business and financial analysis (action 3)

The overall goal of function 3 is to integrate intelligent business and financial analysis platform, agile and solid data base, support business analysis scenarios, iterative and optimized intelligent analysis model, real-time and dynamic display ability, and forward-looking and insightful business analysis^[8].

Complete the goal of function 3, and the corresponding tasks include: ① build an intelligent business and financial analysis platform to improve the analysis ability; ② Tamp the data base to achieve efficient convergence of business and financial data; ③ Enrich application scenarios and iterative analysis models; ④ Intelligent dynamic display can effectively help decision-making.

(4) Function 4: performance appraisal of intelligent attribution (action 4)

The overall goal of function 4 is to enrich the business rules and intelligent cognitive reasoning model of performance appraisal, establish a multi-level and three-dimensional comprehensive appraisal management system, enhance the traction and accuracy of appraisal, and comprehensively guide high-quality development.

Complete the goal of function 4, and the corresponding tasks include: ① build a forward-looking and scientific performance appraisal system to improve the traction ability of appraisal; ② Gather internal and external data and establish a comprehensive and accurate index system; ③ AI and other digital intelligence technologies are used to realize intelligent attribution analysis.

(5) Function 5: human computer interactive reporting system (action 5)

The overall goal of function 5 is an agile and automatic unified reporting platform^[9], compliant and transparent reporting data, rich knowledge maps, flexibly con-

figured preparation rules, dynamic and agile human-computer interaction, and real-time online report presentation.

Complete the goal of function 5, and the corresponding tasks include: ① build a unified reporting platform of cloud native and micro services; ② Consolidate the report types and update the report system; ③ Use intelligent technology to realize agile self-service report.

(6) Function 6: asset management of IOT interworking (action 6)

The overall goal of function 6 is to build a centralized asset management system around the "three integrity" management system of all elements, all processes, all cycles and digital intelligence of assets, open up the breakpoints of the industry and finance system, and apply OCR and RPA technologies to promote the improvement of asset management efficiency.

Complete the objectives of function 6, and the corresponding tasks include: ① build a centralized asset management system to promote the full life cycle management of assets; ② Applying intelligent technology to promote asset management efficiency; ③ Strengthen data mining and application to support asset management decisions.

(7) Function 7: treasurer management of intelligent security (action 7)

The overall goal of function 7 is to use digital intelligence technology to inject intelligence and empower core business scenarios, comprehensively tap data value, and further improve the digital intelligence level of treasurer management, resource overall management ability, and strategic decision support ability.

Complete the objectives of function 7, and the corresponding tasks include: ① continuously build and strengthen the treasurer management system; ② Continuously excavate the data value of the treasurer; ③ Promote digital intelligence and empowerment.

(8) Function 8: multidimensional accounting of panoramic records (action 8)

The overall goal of function 8 is an accounting system through the whole process^[10], automatic and real-time data collection, standardized and unified accounting dimensions, traceable data relationships, visual and controllable accounting business, and the electronic rate of accounting files reaches 90%.

Complete the goal of function 8, and the corresponding tasks include: ① optimize and improve the accounting system to realize the whole process of financial data; ② Realize the data dimension unification of accounting system and budget management system; ③ Promote the electronization of accounting archives; ④ Use digital intelligence technology to realize accounting automation and interactive intelligence.

(9) Function 9: real time forward-looking risk management (action 9)

The overall goal of function 9 is to build a digital intelligence risk management system, create a centralized internal control risk management system, promote forward-looking prediction of risks, online management of internal control, improve the five capabilities of risk management, achieve full coverage of risks, centralized monitoring and one-stop closed-loop management, and achieve a digital intelligence supervision rate of 80% for key risks.

Complete the goal of function 9, and the corresponding tasks include: ① build a centralized risk control system and promote the digital intelligence of risk management; ② Build a risk early warning model to realize the quantitative supervision of risks in the whole field; ③ Promote the solidification of internal control it and realize the deep integration of internal control risk management and system; ④ Promote the digital intelligence of internal control management and realize the integration of internal control and business.

(10) Function 10: precise and flexible tax management (action 10)

The overall goal of function 10 is to build a tax management system covering the whole tax category and the whole process, integrate business scenarios and information systems, open up data interfaces, form a tax related data mart, use intelligent technology and tax risk audit and early warning model, realize online, digital and intelligent tax management, and effectively improve the ability of tax risk prevention.

Complete the goal of function 10, and the corresponding tasks include: ① build a tax management system covering the whole tax category and the whole process; ② Build invoice data pool to realize the digitization of purchase and sales invoices; ③ Build a tax risk early warning model to improve the ability of tax risk monitoring.

4 Conclusion

By formulating the "14th five year plan" for financial digital intelligence and the 2023-2025 rolling plan for financial digital intelligence, company Y defined the goal of digital intelligence transformation and generated the corresponding construction tasks. With the deep integration of digital technology and financial management as the starting point, company Y accelerated the construction of a world-class financial management system and contributed construction measures and experience for accelerating the construction of Digital China^[3].

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