

Research on the Optimization of Intelligent Financial Shared Services—A Case Study of SY Group

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Abstract: With economic development, the impact and challenges of the new generation of information technology on the financial field are emerging. The traditional financial model centered on post-event processing can no longer match the management needs of front-end rapid response, and intelligent financial shared services have emerged as the times require. With the continuous upgrading of information technology, the generation and processing speed of information and data are accelerating. Enterprises need to achieve more extensive business integration and digital processing, which puts forward higher requirements for human-machine collaborative work. Taking intelligent financial shared services as the research object, this paper analyzes the current situation of financial organizations, business processes, and operation management of intelligent financial shared services in a typical group in the construction industry, and puts forward reasonable countermeasures and suggestions for its intelligent and digital transformation and upgrading.

Keywords: Construction industry; Intelligent finance; Shared services; Artificial intelligence; Digital transformation

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1. Introduction

On September 28, 2024, the Ministry of Finance's *Accounting Informatization Work Specifications* proposed that qualified units should use information technology to promote the intensification, automation, and intelligence of accounting work. In March 2022, the guiding opinions of the State-owned Assets Supervision and Administration Commission pointed out that central enterprises should accelerate construction, give play to financial advantages, use new technologies to improve the informatization of financial management, and promote digital transformation. Therefore, building a first-class financial shared platform is a necessary way for central and state-owned enterprises to achieve first-class financial management^[1].

The Financial Shared Service Center of SY Group established a working group in 2014, approved the project and cooperated with Inspur in 2015, and launched the pilot project for the first batch of accounting units in 2016,

changing the decentralized financial management model. At present, there are problems in the application of traditional financial sharing: at the management level, there are contradictions between needs and standards, services and control; at the operational level, a large number of repetitive tasks in positions lead to high turnover rates. Intelligent upgrading is urgently needed, and sharing intelligence has become a new goal, which will improve the operational efficiency, risk control capabilities, and service levels of financial sharing, and help enterprises transform. Aiming at the intelligent transformation of intelligent financial shared services of SY Group, combined with the nature and characteristics of the enterprise, this paper analyzes the problems of its financial organization, business processes, and operation management, and puts forward optimization measures. On the basis of previous research, this paper applies the new generation of technologies to the financial shared platform to solve the problems of data collection, storage, and analysis, and provides feasible suggestions for improving the overall operational efficiency, reducing costs, and enhancing service levels of intelligent financial shared services.

2. Theoretical basis

In China, Professor Liu Qin from the Shanghai National Accounting Institute is one of the earliest researchers in intelligent finance and is still at the forefront of the research. He is the first person to propose the concept of intelligent finance in China. In his view, the biggest difference between intelligent finance and traditional finance lies in human-machine collaboration. The traditional financial management model needs to rely on the systematic and unified actions of intelligent machines and human financial experts to complete complex financial management work. Under this working model, it is still necessary to rely on advanced financial management theories, intelligent tools, and methods to complete the connotation and extension of financial management work through human-machine collaboration. In this transformation process, humans are the main body at the beginning, and humans need to use technology to develop machines. With the deepening of machine learning, machines will gradually replace some activities of human financial experts.

After he put forward this view, Professor Zhang Min, Director of the Accounting Department of Renmin University of China, believed that intelligent finance is a new financial management method with characteristics such as intelligence and automation. This method is based on new technologies such as “big data, artificial intelligence, mobile internet, cloud computing, and the Internet of Things.” In addition to completing traditional financial work, it can also participate in decision-making. The most important thing is to provide real-time data related to decisions, so as to realize the function of enhancing the value creation of financial management^[2-3]. AI, RPA, and other intelligent tools and big data analysis are the three elements of intelligent finance. These three elements cooperate with each other in the intelligent financial shared service center, which can not only realize refined and automated management, such as compiling consolidated financial statements and realizing automatic tax declaration, which brings changes to the enterprise’s business model, but also promote the financial management work from accounting-oriented to management-oriented.

When foreign scholars talk about shared services, they generally believe that the so-called shared services refer to the integrated application of various resources, such as human resources, material resources, technology, or processes, in the same or different geographical locations. The shared service center centrally integrates and processes businesses with economies of scale and scope, which can improve the quality of internal and external services, achieve cost reduction, accumulate knowledge and capabilities, and increase the application of new technologies^[4-5].

3. Analysis of problems existing in the intelligent financial shared services of SY Group

3.1. Unclear organizational positioning and poor independence

According to the survey on the independence of intelligent financial shared services, as shown in **Table 1**, 77.03% of the respondents believe that the current way of belonging to the headquarters in the construction of financial shared services will affect its independence.

Table 1. Whether the way of belonging to the headquarters will affect its independence

Options	Number of choices	Percentage
Yes	114	77.03%
No	34	22.97%
Number of respondents	148	100%

In terms of design, the positioning of intelligent financial shared services is the same as that of the fund management department, both of which are subordinate institutions of the finance department. With the construction of intelligent financial shared services gradually transitioning from the initial stage to the stable stage and mature stage, strategic finance, business finance and shared finance have achieved separation in the operation process, but there is still a lack of scientific and reasonable standards in organizational positioning, and there are varying degrees of overlap and overlap in functional positioning, which affects the division of labor and cooperation and overall operational efficiency of the financial organization.

Financial shared services are not only the “processors” of financial information, but also the “reflectors” of economic operation and the “supervisors” of financial risks. Managers should fully recognize the important role of financial shared services, and provide sufficient policy and resource support during the construction process to maintain objectivity in basic businesses such as accounting, settlement, and final accounts, and independence in management support businesses such as business supervision, risk early warning, and data analysis^[6-7].

3.2. Insufficient application of artificial intelligence technology

From the perspective of respondents’ satisfaction with the intelligence of financial shared service business processes, only 31.08% of the respondents are very satisfied, and 16.89% of the respondents have opinions, believing that the participation of artificial intelligence in business process design is low and human-machine collaboration needs to be improved. 30.83% of the respondents believe that this is an inevitable result of tracking new technologies and innovating business models. Other transformation motivations include national policies, financial transformation, and market competition.

There are prominent problems in the design of process links: first, the division of business interfaces is unclear, and different positions and regions have different understandings of business processing, leading to differences in standards and specifications, which affects the division of department functions and the definition of responsibilities; second, the business processes need to be solidified, and there are differences between efficient and inefficient operations. Some links need to be optimized; otherwise, the work quality and efficiency will be affected.

Taking expense control as an example, after a transaction occurs, there is a lot of repetitive work in the application, approval, and processing links, resulting in low management efficiency and high costs. For example,

in the mobile reimbursement link, the filling is complex, the budget is processed manually, there is a lack of rule presets, the early warning of false and fraudulent behaviors is insufficient, the compliance control is weak, and the data on employees' reimbursement behaviors is not analyzed and utilized. The review of financial documents requires a lot of manual work, resulting in high labor and time costs, difficulty in ensuring quality and efficiency, increased potential risks, and reduced employee satisfaction. Business processes that can be replaced by artificial intelligence, such as intelligent reporting, settlement, and audit, have not been developed, failing to achieve the goal of reducing costs and increasing efficiency.

The research report shows that 58.78% of the respondents believe that shared services lack hierarchical connections and have high communication costs. The reason is that the business system is not included in the overall planning, the integration capability of the financial shared information system is insufficient, and data needs to be collected twice, which reduces management efficiency. In addition, there is a lack of a master data management mechanism, making it impossible to analyze and utilize business and financial data.

At present, although SY Group has established an enterprise information system, with the expansion of business scale, the audit workload and pressure of intelligent financial shared services have increased exponentially, and the traditional manual audit model can no longer adapt to the development needs^[8-9]. Auditors need to confirm a large number of contract audit points in a short time, resulting in high potential risks, leading to an increase in labor costs. Financial personnel are faced with business and communication pressure, and the work is boring. The superposition of these factors increases the turnover tendency of auditors, making the enterprise face the problems of fast personnel flow and difficult management. The manual audit model has hidden dangers: auditors are only responsible for the results, the process cannot be presented, and it is difficult to track responsibilities. In the face of a large amount of audit work, data collection cannot be synchronized, making it difficult to provide standardized guidance on the compliance of employees' reimbursement, and also unable to provide data decision support for financial risk prevention and control. Therefore, empowering the financial system with artificial intelligence technology has become an urgent need for SY Group. Empowering finance with artificial intelligence can give play to the advantages of human-machine collaboration, solve existing problems, and guide the enterprise onto the right track.

3.3. Lack of effective means of knowledge management

According to the survey results, 94.59% of the respondents believe that the group still has great room for improvement in knowledge management and talent training. It is particularly important to emphasize that, in addition to the construction of intelligent financial management systems, the construction of knowledge management-related systems is also very important for intelligent financial shared services. More and more financial businesses are included in the online processing of shared services, which greatly simplifies the handling process and improves the handling efficiency. However, in the process of system iteration and process reengineering, business personnel are not familiar with business handling matters, financial-related information, system operation processes, etc., resulting in a large number of consulting needs. Financial shared service personnel are faced with problems such as repeated answers, poor communication, and an inability to answer in a timely manner. Due to the lack of knowledge management-related systems in the center, they are trapped in a dilemma of low efficiency and poor service quality. From the group's perspective, talent training has not yet formed a system, and the talent introduction policy is less competitive.

4. Specific optimization measures for intelligent financial shared services of SY Group

4.1. Implement an independent operation model for intelligent financial shared services

According to the theory of economies of scale, intelligent financial shared services centrally process decentralized businesses, reduce the time for individual operations, and form economies of scale. The application of new technologies can expand the business scope, shorten the time used, and improve efficiency. According to the internal control theory, a reasonable organizational structure should be set up to optimize the organizational structure. The chief accountant of the group manages the management department and business department of intelligent financial shared services, and finally, the intelligent financial shared services replaces the finance department of the group company to be responsible for the group's financial work. The management department is responsible for the management of the finance departments of subsidiaries, policy formulation, contract management, and performance appraisal; the business department is responsible for the control and services of the group and its subsidiaries. In this way, the intercommunication of financial and business data is realized, independence is maintained, the transformation to management functions is encouraged, and the digital transformation of the enterprise is driven^[10].

In addition, according to the *Measures for the Compliance Management of Central Enterprises*, consideration should be given to adding a chief compliance officer, who can be concurrently held by the general legal counsel and is responsible to the main person in charge of the enterprise. At present, concurrent appointments are common, and full-time appointments will be more common in the future. The chief compliance officer needs to draft compliance documents in line with the actual situation of the enterprise, be responsible for compliance review, organize personnel to identify and respond to compliance risks, and carry out compliance training, which is related to the construction of a learning organization. Compliance management is important for enterprises. Under human-machine collaboration, as a core member of the management team, the chief compliance officer is fully responsible for the construction and operation of the compliance management system, providing organizational structure guarantee for the intelligent financial shared service to become a value creation center.

4.2. Reshape the human-machine collaboration process

- (1) Add a voice assistant to the intelligent reimbursement link. Equipped with artificial intelligence technology, the voice intelligent form-filling function realizes the full-process voice interaction between employees and the financial system to handle financial business, solves interaction problems, and improves satisfaction. This function is embedded in the reimbursement system and automatically generates documents after receiving voice messages through conversion, recognition, response, and other steps. Intelligent reimbursement can quickly distinguish business scenarios, automatically select expense types, optimize experience, support mobile operations, and the front-end reimbursement interface is friendly and easy to use.
- (2) Intelligent contract review. In the drafting stage, the system uses OCR and NLP technologies to identify and extract key contract information; in the review stage, it reviews and verifies the legality, compliance, and rationality of the contract according to rules to prevent and control risks; in the signing stage, the system prevents contract signing risks.
- (3) Intelligent document review. In the expense reimbursement process, intelligent document review uses OCR and NLP technologies to automatically fill in forms, extract key elements, verify invoices through

interfaces or RPA, and integrate with systems and regulations to achieve rapid compliance review, improving the accuracy of expense collection and allocation. The intelligent review system reviews documents according to rules, displays results visually, and transfers or returns the reviewed documents according to the situation. The platform realizes multiple functions through review rules, intelligent review, and review monitoring^[11-12]. In addition, the group can establish the adaptation of institutional inspection processes to ensure the unification of process standards and specifications.

- (4) Implement intelligent comprehensive budget management. In terms of budget preparation, approval, and control, combined with various technologies to form reusable intelligent service capabilities. Refine budget preparation, adopt innovative declaration methods, realize full traceability of the approval process, and flexibly control execution. Add a budget control module to form a closed-loop budget management system to help enterprises implement comprehensive budget management.

4.3. Build a learning organization with comprehensive knowledge management

Establish a sound knowledge management system using an intelligent Q&A financial assistant. With NLP, speech recognition, and machine learning as the technical engines, the intelligent Q&A financial assistant has high-performance natural language response capabilities. It can be accessed through WeChat official accounts, financial cloud applets, etc., and users include business and financial personnel. After receiving voice information, it first decodes it into text, then uses NLP technology to extract keywords and push them to the rule base to trigger the rule engine, which can respond 24/7 and guide users to operate. At the same time, it uses machine learning to analyze users' historical behaviors to form a "one-to-one" financial assistant. In addition, it can handle routine problems, improve user experience, record problems, and conduct statistical analysis, so as to improve the service quality of the financial shared service center^[13-14].

Use knowledge graphs to build a learning organization. First, establish a competent department for knowledge management. Set up an inter-departmental knowledge management committee to share results in real time, and the management should attach importance to and supervise the implementation.

Second, clarify the focus of knowledge management in combination with business needs. Knowledge management based on business can help new employees grow, increase the enterprise's intellectual capital, and realize the innovation and development of knowledge. Without business, it is difficult to obtain support.

Third, formulate knowledge-sharing plans according to priorities. Clarify the objects, content, and methods of sharing. Distinguish objects according to the length of service, share different knowledge for employees at different stages, and the methods include centralized training.

Fourth, establish knowledge packages and create an innovation assembly line. Set up different knowledge packages according to positions and departments, and update them in a timely manner. The technical experience created and accumulated by employees is precipitated into the knowledge base, and the innovation assembly line connects work scenarios through intelligent workbenches.

Build a talent echelon and fully implement the talent-strengthening enterprise plan and clarify the demand for echelon personnel through talent inventory. Evaluate from multiple dimensions of personnel quantity and quality, take performance and values as the standards, and adopt different measures for employees in different situations. Understand the current situation of enterprise talents through inventory and clarify the demand in combination with future plans.

Selection of echelon personnel. Select talents to establish a talent pool, which is divided into three categories:

leaders, backbones, and engineers. Leaders and backbones focus on long-term training, focusing on whether they do things correctly and whether they do things respectively; engineers have easily extractable knowledge and skills, and short-term training is effective, focusing on whether they do things well.

Formulation and implementation of training plans. The training plan is implemented in various forms, such as internal training and external further study. The HR department strengthens control, assigns instructors, supervises the implementation of the plan, communicates more, evaluates, and adjusts in a timely manner.

Tracking and assessment during the training period. Adopt KPI assessment as the main method and multi-dimensional evaluation as a supplement. Evaluate from the perspectives of superiors, colleagues, subordinates, and internal and external customers to make the results more fair and objective.

Compile an overseas talent map to achieve precise targeted talent introduction. Overseas talents are diverse in types, and their motivation for returning to China has changed. Insight into the labor market can be gained by using the overseas talent map, the current situation of talent can be mastered, and the direction and strategy of talent introduction can be found. Overseas enterprise talents have advanced concepts, which can help domestic enterprises make breakthroughs. Key points for compilation: first, talent positioning, clarifying the concerned groups from professional and other dimensions; second, data sources, collecting information by contacting talents in a targeted manner; third, data dimension analysis, analyzing talent situation according to purposes; fourth, report presentation, drawing conclusions and outputting plans. With the talent map, recruitment can be carried out, the salary system can be formulated, and overseas talent introduction workstations can be set up for docking^[15].

5. Conclusion

In summary, the optimization of intelligent financial shared services of SY Group is a systematic project involving multiple levels, such as organizational structure, business processes, technology application, and talent training. Implementing an independent operation model can clarify the positioning of the intelligent financial shared service center, enhance its independence and professionalism in group governance, and lay a solid organizational foundation for its effective operation. Reshaping the human-machine collaboration process and deeply integrating artificial intelligence technology into core financial links such as reimbursement, contract review, document review, and budget management can not only significantly reduce labor costs, improve work efficiency and quality, but also free up the energy of financial personnel to transform them into more valuable management accounting and strategic support roles. Building a learning organization with comprehensive knowledge management is the key to ensuring the continuous optimization and innovation of intelligent financial shared services. Through the construction of intelligent Q&A assistants, knowledge graphs, and the systematic training of talent echelons, it can effectively improve employees' capabilities, promote knowledge precipitation and sharing, and enhance the core competitiveness of enterprises. Looking forward to the future, SY Group should continue to pay attention to the development of cutting-edge technologies such as artificial intelligence, constantly iterate and optimize the intelligent financial shared service model, strengthen business-finance integration and data-driven decision-making, so as to better support the group's strategic development, realize a profound transformation from traditional finance to value-creating finance, and maintain a leading position in the increasingly fierce market competition.

Disclosure statement

The author declares no conflict of interest.

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