

# Research on the Application of Financial Shared Service System in the Context of Big Data--Take AODE Group as an Example

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**Abstract:** In the context of big data, the financial sharing service system has gradually come into the sight of managers and started to be used by major enterprises. In this paper, we take AODE Group as an example, firstly, we explain the realization path and implementation effect of its financial sharing model, then we explain the problems of AODE Group's financial sharing model from three perspectives: low positioning of the financial sharing center, insufficient security of the management system, and different focus of business and financial personnel, and propose relevant countermeasures according to the existing problems.

**Keywords:** Financial Sharing; Big Data; AODE Group

## 1. Introduction

With the rapid development of the big data economy, technologies such as "big intelligence, cloud, and things" are receiving more and more attention, driving the transformation of corporate finance from basic accounting to value creation<sup>[1]</sup>. Financial sharing promotes the standardization of business processes and the refinement of cost management through process reengineering. The concept of financial shared services was first introduced by Robert Gunn in 1993. In the following years, shared services have gradually been defined as an independent organizational entity that can serve all business units of an enterprise by integrating or merging all business operations to achieve a re-centralized configuration. The research on financial shared services in China is relatively late and mainly focuses on theoretical studies, but lacks concrete empirical evidence and case studies. Therefore, this paper conducts an in-depth study on the implementation path, implementation effect, problems and countermeasures of the financial sharing model of AODE Group in the context of big data by adopting a case study approach, with a view to providing reference for the financial transformation and upgrading of enterprises.

## 2. Analysis of the Implementation Path of Finance Shared Services of AODE Group

### 2.1. Overview of AODE Group

Ltd. (hereinafter referred to as "AODE Group") is a comprehensive private enterprise mainly engaged in energy, and its subsidiaries are mainly divided into five business sectors: energy, finance, urban investment, equipment manufacturing and engineering construction. The Group has been ranked as one of the "Top 500 Private Enterprises in China" for many years. Under the traditional financial management model, AODE Group and its subsidiaries adopt decentralized financial accounting and hierarchical management model, which has caused a lot of human capital to the company, and the scattered financial information system lacks integrated planning, which easily causes information silos. By building a standardized, process-oriented and refined financial sharing model greatly promotes the improvement of the efficiency of enterprise accounts processing, realizes the need for flat management of one-to-one use of funds, and provides basic financial data support for its industrial rise and group expansion, etc. In addition, from the beginning of the construction of AODE Financial Shared Service Center in June 2017 to the official online operation in East China Region in May 2018, AODE Financial Shared Service Center won the CGMA's "2018 Best Financial Shared Service Center of the Year" in just less than 2 years, while the direct economic benefit in 2018 was nearly RMB 8 million, which provided a reference value for the financial transformation of related enterprises<sup>[2]</sup>.

## ***2.2. Establishment of Financial Shared Service Center***

The Financial Shared Service Center of AODE Group was rebuilt with the latest "cloud technology" operation and modular design of each function, integrating the original financial information subsystem and building a new financial information subsystem module, and forming an integrated financial shared information system. The overall architecture of AODE Group's financial shared service platform consists of four parts: business operation layer, integration platform layer, application platform layer and financial portal layer, integrating electronic invoicing and accounting electronic file system, and collecting and connecting heterogeneous information systems such as business travel service and direct bank-enterprise connection. The financial sharing service system is an important link connecting the company and its affiliated units. The shared service platform uses information technology as a means to realize the integration of business and finance and make information transmission more timely and accurate. The financial portal layer is directly connected to the internal and external users of the financial shared service center, providing a unified portal for internal and external users; the business operation layer is the operational side of the shared service platform, mainly including online reporting system, image management system, budget management system, tax management system, fund management system, financial accounting system, etc. The platform is connected to the banking system, accounting electronic file system, electronic invoicing system, business travel system, and provides the shared service center with a unified portal. The integration platform layer maps and associates the discrete systems through the interface platform; the application platform layer mainly consists of the standard platform, dynamic modeling, etc., providing workflow management, authority management, knowledge management, security management, and We Chat and mobile services, and the technicians provide maintenance and support for the whole system in the application platform layer. Technical personnel provide maintenance and support for the whole system at the application platform layer.

## ***2.3. Organizational Structure of AODE Financial Shared Service Center***

The Finance Shared Service Center of AODE Group is divided into 5 business groups with a total of 28 people. The functions of each business group are positioned as follows: The revenue accounting group is mainly responsible for the collection business and the AODE it business of revenue confirmation, involving documents such as revenue confirmation forms, financial collection forms and gas recharge forms. The general ledger accounting group mainly deals with the problems of general ledger documents in business, and AODE its the general ledger business of the group's subsidiaries, including tax accrual, salary accrual, tax payment, transfer of funds with the same account name and current payment adjustment orders, etc. It is also responsible for the generation of statements and the adjustment and summary of consolidated statements of the group's companies at all levels. The accounts payable group is responsible for answering the daily business questions raised by each on-line company and reviewing payment documents through various communication tools in a timely manner. The expense accounting group is mainly responsible for supervising the approval of expense documents in the shared center. The team leader of the expense accounting group, because of the high level of financial informationization, also works part-time to open the shared center service for new companies, maintain the basic files of the shared center, and adjust the expense forms of the shared center according to the actual situation. The reason why the above functions were not transferred to the system operation and maintenance group was because of the personal ability and division of labor of AODE Group employees, which was more suitable for the group's own management needs. The system operation and maintenance group is mainly responsible for daily maintenance of the financial sharing service platform, product upgrade, heterogeneous system interface, data backup and recovery, and other business processing as well as file data collection, program verification and knowledge transfer. The system operation and maintenance group is a new departmental function after financial sharing. Within the group, the co-location of technical staff and financial staff makes system engineering and technical staff understand the accounting business better, which is conducive to the implementation of the program on the ground and greatly improves the work efficiency and provides a guarantee for the automated processing of accounting business.

## **3. Analysis of the implementation effect of finance shared services of AODE Group**

### ***3.1. Reducing operating costs and creating corporate value***

As a large enterprise, AODE Group has frequent internal transactions and complicated and diverse

financial work, so it is necessary to establish more departments and hire a large number of accounting staff to maintain the normal operation of the company's daily finance, which raises various costs when dealing with financial work. At the same time, the traditional financial decentralized accounting and hierarchical management model of AODE Group affected information transfer and easily created information silos. Since the launch of the financial shared service center model, AODE Group has greatly simplified the financial staff setup, saving the financial cost of the enterprise. At the same time, by sorting out and reengineering the processes and standards, the enterprise's previous target management focusing on results has been shifted to focus on process supervision, and the complex and tedious financial work has been split into more operable and simple steps, so that financial workers can focus more on the specific business aspects in financial management. In addition, it is also possible to improve the overall efficiency of the financial payroll and save the operating costs of the enterprise by synchronizing the consolidated statements into the financial results. In addition, it also carries out real-time information transfer through the simultaneous entry mode of consolidated statements and realizes resource sharing, which not only effectively avoids the outstanding accounts caused by financial accounting, but also has important significance for financial data to reflect the group performance more truly.

### ***3.2. Unified platform to improve operational efficiency***

Since the establishment of the financial shared service center, the number of accounting personnel engaged in transactional financial work in the group has decreased from 260 to 180, a 30.77% decrease. However, the large reduction in personnel not only did not reduce the efficiency of financial accounting, but also made up for the shortage of more than 50 accounting personnel under the traditional financial model, increasing the annual direct economic benefits by nearly 8 million yuan. Since the launch of the financial shared service platform, the expense reimbursement cycle has been shortened from 8 days to 4.5 days, the financial reimbursement cycle has been advanced by 1 week, and the cycle from the generation of documents to the preparation of financial statements has been shortened to 7 days, which has significantly improved the efficiency of financial operations. In addition, in 2021, AODE Group's operating revenue was 23.116 billion yuan, an increase of 16.68% year-on-year; net profit was 2.61 billion yuan, an increase of 7.8% year-on-year, and the growth rate of net profit was 46.76% of the growth rate of operating revenue. The compound growth rate of Haier's operating revenue in the past five years reached 17.6%, and the compound growth rate of net profit reached 8.47%. All these show that AODE's financial sharing services have a positive effect on the improvement of the group's profitability.

### ***3.3. Financial Transformation and Enhancement of Corporate Decision-making Capability***

By establishing the Finance Shared Service Center, AODE Group has transformed its finance staff from an accounting type to a value-creating type, and has invested greater efforts in operational finance and strategic finance, leading the functional transformation of finance staff. At the same time, on the basis of unified caliber of basic data, accounting processing methods, and system intelligent accounting, we ensure timely accounting of financial data, accurately and completely promote comprehensive financial accounting of enterprises, and provide stronger financial decision support for business operations. In terms of financial budget management, by building a unified financial budget management system, AODE Group realizes the whole process of fine control from financial management to production control, scientifically decomposes budget indicators, forms a planning system with interconnection and synergistic development between specific business activities of each department, enables the effective use and optimal allocation of resources of the whole enterprise, improves the efficiency of capital use, and provides strategic decision making for the enterprise Financial support. In addition, AODE Group makes the business and finance of the enterprise deeply integrated by setting unified standards, simplifies the financial approval process of the enterprise, and compares the collection analysis reports of each region horizontally and vertically to reflect the front-end business data in a timely manner and facilitate group control and analysis.

## **4. Analysis of the problems in the implementation of financial sharing in AODE Group**

### ***4.1. Low positioning of the financial sharing center***

The finance sharing center of AODE Group is a department under the finance and internal control

center of the group headquarters. Under the rapid development of China's economy and the intensified competition among enterprises, the financial sharing model has gradually become the most widely used management model in major enterprises<sup>[3]</sup>. The status of the financial sharing center is theoretically higher than that of the first-line companies, but in reality, the financial sharing center is not owned by the group headquarters, but is a financial management function unit under each branch, subsidiary and office, which causes the financial sharing center to remain in a relatively independent and loose state within the enterprise, and plays a supplementary and coordinating role for the overall development strategy and internal accounting control of the enterprise. This has resulted in a relatively independent and loose status of the financial sharing center within the enterprise. At the same time, because the financial sharing center of an enterprise is still in the exploration stage, frontline companies still retain their finance departments and dominate the practice while supervising the sharing center. And the main role of the shared center is to control the cost of subsidiaries and improve management efficiency by unifying the financial management of subsidiaries. Therefore, in essence, the status of the sharing center in the group is relatively low and cannot meet the financial management needs of the group companies, which is mainly reflected in the unscientific mode of the financial sharing center and the waste of funds; secondly, the financial sharing center also has the characteristics of low management level, small scale, insufficient investment and inaccurate function positioning, and fails to give full play to its value; thirdly, although the sharing center is a relatively independent Third, although the sharing center is a relatively independent system, the organizational structure is not reasonably planned and cannot meet the requirements of interconnection and collaborative management among functional departments, which makes it difficult to take advantage of its financial resource sharing and is not conducive to information sharing with other departments; fourth, the management concept and model are not scientific and standardized enough and do not meet the requirements of the modern enterprise system; fifth, the training of personnel in the sharing center is inadequate, the talent allocation is uneven and the business process is rigid, resulting in Fourth, the management concept and model are not scientific and standardized enough to meet the requirements of modern enterprise system.

#### ***4.2. Inadequate security of management system***

With the rapid development of digital economy and technologies such as "big intelligence, cloud, and things", the financial sharing center has been able to provide a powerful information and data system, which has led to the development of the financial system.

With powerful information and data systems, information and data have grown exponentially. As the scale of the company continues to expand and business continues to increase, higher requirements for information technology are put forward, and how to use information technology to achieve financial transformation has become a problem faced by the company. After a period of construction, AODE Group has initially established a relatively complete financial sharing system with its specific sharing business processes and operation specifications. However, due to the lack of relevant information technology, the information system faces great security risks, such as data security and information security risks, which restrict the development of the enterprise. Therefore, enterprises should not neglect the prevention of such risks and should strengthen the security management of financial sharing centers to ensure that they can operate normally and provide efficient services to customers. At the same time, enterprises should also pay attention to the prevention of network virus invasion that leads to the paralysis of the financial sharing center system, the loss of corporate data and the leakage of corporate secrets. In this context, this paper proposes a security strategy for an enterprise financial sharing platform based on the B/S model. The method can be solved by adopting cloud computing technology and building a network environment, and it can also be applied to other aspects within the enterprise so as to reduce security. Therefore, AODE Group needs to take into account its actual situation and establish a set of security management solutions from the perspective of business security as soon as possible to suit its own development and future business needs, so as to better protect its core assets and lay a good foundation for future development; secondly, analyze and clarify the scope of monitoring the financial sharing center system, and also strengthen the security protection awareness and ability of the enterprise and employees to Then, we use cloud computing and big data analysis technology to realize relevant functions to provide technical support and services for financial sharing; finally, we improve the construction of the management system of the financial sharing center and establish a complete data security system to guarantee the smooth operation of the financial sharing center.

### ***4.3. Different work focus of business and financial personnel***

Although AODE Group has successfully implemented the integration of business and finance, there are huge differences between business personnel and finance personnel in terms of their focus and objectives. For example, business personnel focus on the collection and processing of business data and are mainly responsible for the daily management of product production and sales and after-sales service, focusing on the source of income, while financial personnel are mainly responsible for the preparation, summary and subsequent data analysis of financial statements, mainly responsible for the assessment and forecast of the benefits generated by the project investment and financial management and other post-event reflective work, focusing on profit contribution<sup>[4]</sup>. This results in unclear division of responsibilities between the two positions, different focus of work and uneven quality of personnel, resulting in work efficiency being affected. In this case, both sides must share the corresponding responsibilities, which to a certain extent increases the cost of information communication and improves the quality of work. In the integration of business and finance, the business department needs to feed the financial data to the finance department in a timely manner, and also needs to strengthen internal management to ensure the safety of funds. The finance department, on the other hand, should adjust business processes according to business needs, establish an effective management system, guarantee the efficiency of capital use, and at the same time promote business process reengineering, reduce the intermediate links of information transfer between departments through business integration, reduce cost expenditures, improve operational efficiency, and promote optimal allocation of resources. At the same time, all departments of the enterprise should strengthen the cooperative relationship and extend the finance function to other business areas. In addition, both business and financial personnel need to have good professionalism, rich business experience and strong organizational management skills, which requires the relevant personnel to strengthen their own capacity building in an all-round way to meet the needs of enterprise development.

## **5. Suggestions for countermeasures**

### ***5.1. Create a perfect financial sharing service platform***

A perfect information system is the basis for financial sharing and information control, and it is also a prerequisite for the orderly development of financial management work. AODE Group adopts ERP system as the carrier of its information system, and the ERP system itself has strong flexibility and expandability, so it needs to upgrade the ERP system to realize more perfect functions. The financial shared service information system should provide a unified standardized information integration platform for different roles inside and outside the enterprise, and at the same time organically combine various application modules to form a complete integrated management information system, providing a comprehensive and efficient collaborative office environment for various organization members. From the perspective of financial information process, the financial sharing information system is divided into three sub-modules, including financial management sub-system (mainly including financial budget management), fund settlement management sub-system and functional management sub-system, etc. These parts are interpenetrated and integrated to provide technical support for enterprises to realize financial accounting, control and decision-making. In addition, enterprises need to create a financial sharing service platform suitable for their development according to the actual business operation and establish business financial data connection points or interfaces, so the financial sharing information system can effectively centralize and manage the existing business of the enterprise, reduce unnecessary and repetitive work, and improve work efficiency. It also uses Internet technology to conduct data mining, obtain massive information resources, optimize business processes and management modes, and realize the improvement of the overall effectiveness of financial management information system.

### ***5.2. Set up an exclusive department for risk prevention and control***

With the current big data informatization technology and the continuous expansion of enterprise business fields, it is necessary to establish an assessment mechanism for enterprise risks and establish an early warning mechanism accordingly if the financial shared service center is to be operated safely and continuously. AODE Group can set up a special department for risk control to work on its own risks. It can set up a professional team within the company to provide comprehensive, timely and accurate technical support and services to the company's financial shared center from a business

perspective to ensure that the financial shared center can meet customer needs, or hire personnel with professional knowledge, experience and responsibility from external professional organizations or professionals to join the risk management team. The risk management team can assist the company in formulating financial management strategies. The establishment of an exclusive department for risk prevention and control facilitates real-time monitoring of network data, identifying and intercepting viruses, finding problems and solving them in the quickest way; at the same time, it helps improve the data security protection system, strengthen data encryption measures, conduct better screening, analysis and prevention and control of data, guarantee information security, establish a comprehensive and timely risk warning mechanism for the enterprise, and deliver risk information to relevant functional departments in a timely manner. functional departments, so that the management can react at the first time and take corresponding countermeasures. In addition, the department also needs to help the enterprise choose a suitable risk management information system according to its actual situation and reasonably plan the construction of the information system, while sorting out the possible risk hazards of each business link through the system and providing corresponding suggestions. Therefore, this risk information system should have the following basic functions: (1) collecting information on risk sources: including the comprehensive arrangement and classification of all relevant information; (2) identifying risk factors: that is, for determining which are predictable risk factors; (3) preparing and writing risk analysis reports: including how to evaluate whether risk indicators meet the expected objectives; and (4) formulating risk management policies and measures. It can be seen that the role of the risk prevention and control system is to first achieve the purpose of prevention beforehand, and then to manage and maximize the security of enterprise data afterwards.

### ***5.3. Cultivate high quality composite talents for the integration of business and finance***

Looking at the financial transformation practice of AODE Group, we can easily find that what is lacking in the financial transformation, especially in the integration of business and finance, are composite talents with both digital and business and financial backgrounds. In order to cultivate composite talents, enterprises can strengthen the ability of relevant staff to implement financial business through specific practical operation and training. Secondly, it can also start from changing the way of thinking, business staff and financial staff should have the way of thinking of integrating both sides, financial staff should have both agile and flexible thinking and good logical thinking ability, but also must have strong analytical ability and risk control awareness, while business staff should focus on teamwork spirit, need to master modern accounting concepts and methods, and at the same time must have solid professional knowledge. The business personnel should focus on teamwork spirit, need to master modern accounting concepts and methods, and must have solid professional knowledge, be able to accurately grasp the economic situation and policy changes, as well as good use of network technology and data analysis capabilities. In addition, the integration of business and finance departments should also consider the cooperative relationship between business and finance departments, so that effective synergy can be formed between various functional departments, and enterprises can also make full use of information technology to realize the business and financial process combing, optimize the mutual constraints between various links in the business and financial process, and realize the change of management innovation mode with the help of ERP system to improve operational efficiency. In addition, employees in the business and finance departments should be given greater autonomy. The financial sharing center can expand different types of customers and businesses so that employees can treat business with less inertia, avoid falling into stereotypes of thinking, reduce special limitations, and improve the flexibility needed by employees when facing different customers.

## **6. Conclusions**

With the popular application of technologies such as cloud computing and Internet of Things (IoT) and the rapid rise of mobile Internet devices, the traditional financial management model can no longer meet the requirements of modern society, and how to build an efficient, convenient, secure and stable financial department with improved efficiency is an important issue in front of every enterprise's financial personnel. Against this backdrop, financial sharing centers have emerged and are gradually gaining recognition from more and more corporate managers, especially from large multinational groups, which have adopted this approach for management and business innovation. However, due to the limitation of financial strength and industry status, most SMEs find it difficult to accept this new management model, and generally improve their financial management processes and operational

efficiency in the form of social financial sharing outsourcing services, so the financial sharing center provides a good start for enterprises to realize digital transformation.

In this article, we select AODE Group as a case study to investigate how enterprises can establish a financial shared service center to realize financial transformation under the background of financial integration, including organizational structure construction and information platform application, and to discuss the opportunities and challenges faced in the process of financial transformation. The article first introduces the implementation path of the financial shared center of AODE Group, then analyzes the problems of financial shared services, discusses the ideas of building a new stage of financial management model, and finally proposes relevant countermeasures. The conclusion of this article not only enriches the relevant literature on industry-financial integration and financial transformation, but also gives enterprises a useful perspective to learn from, and provides important reference values for their daily operation and financial decision making. Looking ahead, financial shared service centers are expected to become a normal behavior and an important part of the strategic layout of future enterprises in the next few years. This trend will, on the one hand, make more enterprises adopt this new type of business for their operation activities, and on the other hand, it will promote the concentration of information resources to small and medium-sized enterprises, which is a good opportunity to promote the development of small and medium-sized enterprises in China. Therefore, the new business model generated by the combination of new technology and the Internet is an emerging and highly promising innovative practice, which has a positive role in promoting the digitalization process of Chinese enterprises.

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