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Research on Treasury Management of Dairy Enterprises under the Background of Intelligent Finance—Take Z Dairy Group as an Example

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Abstract: ***In the context of global economic integration and the development of the Belt and Road Initiative, the flow and integration of high-quality resources in the global dairy industry chain are accelerating. With the rapid internationalization of China's dairy industry, local dairy companies need to accelerate technological progress, reduce operating costs, and expedite brand internationalization. The globalization of fund management for Chinese dairy enterprises has become an unavoidable issue. In recent years, major domestic companies have gradually established financial sharing centers relying on technologies such as big data and cloud computing. Intelligent finance, as a combination of intelligent technology and financial work, is leading financial transformation in this environment, ushering financial work into the intelligent era.***

This paper studies the treasury management of Chinese dairy enterprises, taking Z Dairy Group as an example. It explores the construction and implementation effects of Z Dairy's treasury system under the background of intelligent finance, analyzes the issues in Z Dairy's intelligent treasury management, and provides relevant suggestions. This aims to offer insights and inspiration for fund management of Chinese dairy enterprises in the context of globalization and digitalization, and to promote the scientific development of intelligent treasury management in corporate groups.

Keywords: Treasury Management, Intelligent Finance, Fund Management, Fund Sharing.

1. Introduction

1.1 Background and Implications

1.1.1 Background

The key to corporate financial management lies in fund management. As Chinese enterprises continue to expand their operations overseas, the internationalization of fund management has become an issue that cannot be ignored. Treasury management, a thought of fund management increasingly recognized and valued by domestic enterprises in recent years. During the "13th Five-Year Plan" to the "14th Five-Year Plan" periods, the Chinese government has emphasized the development of the "digital economy" and "Digital China" as key national priorities. The State-owned Assets Supervision and Administration Commission of the State Council explicitly highlighted the importance of accelerating the establishment of a world-class financial management system and a digital treasury management system in a directive issued in early 2022. In the context of rapid advancements in digital information technology, accelerated corporate transformation and innovation, and the need for global resource integration, mastering essential intelligent technologies and capabilities is indispensable for enterprises. Supported by technologies such as big data and cloud computing, financial shared service centers of large Chinese enterprises are gradually establishing. Intelligent finance is leading financial work into the intelligent era. However, at the same time, the treasury management of China's dairy enterprises under globalization and digitalization is worth exploring and solving.

This paper takes Z Dairy Group, a large Chinese dairy supplier, as a case study. As Z Dairy Group accelerates its brand internationalization and enters international markets, it faces higher demands for cross-border fund management, international risk management, and supply chain management. To better advance its internationalization strategy, achieve its strategic goals and improve problems of fund management, Z Dairy Group has embarked on the journey of establishing a global treasury management system. By utilizing digital and intelligent technologies, Z Dairy Group has built a relevant system platform, realizing an intelligent treasury management mode. This has profoundly impacted the efficiency and quality of fund operations and dealing financial risks in Z Dairy Group. This paper aims to analyze the issues encountered by Z Dairy Group in its treasury management process and provide relevant suggestions for improving treasury management under the background of intelligent finance.

1.1.2 Implications for research

Based on the basic functions of enterprise fund management, treasury management provides comprehensive control of funds from the perspective of the overall strategic decision-making of the group. It optimizes the allocation of financial resources and implements risk control in fund management. With the development of intelligent finance, enterprise treasury management includes more advanced features such as unified account management, unified revenue and expenditure management, unified fund utilization, and unified fund risk control. These advancements enable effective use of financial markets and financial instruments, enhance the efficiency of fund operations, and promote continuous innovation. Through in-depth research on treasury management under the background of intelligent finance, we can identify the development potential of treasury management and promote the evolution of fund management modes.

With the development of economic globalization, the "Internet Plus" initiative, and digitalization, the financial

management methods of enterprises have also changed. Resources are gradually shifting towards management and strategy, providing strong support for the business strategies of enterprises. Nowadays, many Chinese dairy enterprises are pursuing international development, engaging in deeper cooperation with top global industry chain partners, and competing directly with foreign products in both domestic and international markets. Establishing their own fund management systems to support financial decision-making and strategic deployment has become increasingly necessary to aid in value creation for the enterprise. By studying the treasury management of dairy enterprises under intelligent globalization and analyzing the treasury management issues of Z Dairy, this paper aims to provide insights and inspiration for other related enterprises in fund management under globalization and digitalization, thereby promoting the development of intelligent treasury management.

1.2 Literature Review at Home and Abroad

1.2.1 Review of foreign research

From the current data analysis, the history of treasury management in Western countries can be traced back to after World War II. It began to take shape in the 1970s and gradually matured by the 1990s. Western countries started researching centralized fund management early and have ample experience, leading to more mature fund and capital management practices.

Patrycja Barbara BÄ k (2016) explored the operation of centralized fund management modes in mining enterprises. She emphasized that when optimizing these modes, attention should be paid to the company's financial status and a comprehensive analysis of the impact of changes in the capitalist market environment on various development stages. She concluded that such an approach can achieve comprehensive management of the fund pool and improve the efficiency of capital operations.

Ioan Petrisor and Diana Cozmiuc (2016) proposed that fund shared services could be managed as a series of activities, such as simple iterative processes like invoicing, end-to-end accounting processes, or as integrated solutions encompassing other functions like credit management and procurement.

Consigli, Moriggia, and Benincasa (2018), based on case studies of treasury management in energy and oil group enterprises, suggested that combining financial company and settlement center models can compensate for the shortcomings of a single model and further enhance the overall fund management effectiveness of the group.

Baily M., Campbell J., and Cochrane J. (2011) found that after implementing the centralized fund management, companies had more abundant cash flow and significantly improved profit levels. Consequently, enterprises could access numerous opportunities in the external market when financing. As enterprises continue to develop and expand in scale, the cost of separate financing also decreases.

Foreign scholars combine theory and practice to explore and verify their findings, thereby proposing corresponding optimization strategies. Supported by theoretical research, enterprises place importance on concerning organizational structure, corporate governance, and fund risk response. They focus on the operation and management of funds in every aspect, which has led to significant cost reductions and increased profitability.

1.2.2 Review of domestic research

Domestically, the implementation of corporate treasury management started relatively late. However, with the developing of reform and opening-up policy, continuous improvement of market mechanisms, support from national policies, and ongoing technological development, research in the field of fund management has been increasing.

Fu Jing (2019) believes that modern corporate treasury management involves unified management of assets, liquidity, financial risk, and relationships with banks. It provides strong support for the group's development in areas such as cash flow forecasting, interest rate and exchange rate risk management, cost management, and fund level optimization.

Liu Liang (2019) suggests that corporate treasury management has adopted digital and intelligent technologies. Internally, this includes enterprise treasury systems and financial shared service centers, while externally, it achieves management of corporate, financial, and banking relationships. This promotes the transformation of treasury management functions, creating more value for the enterprise and making treasury management more strategic, thereby enhancing the overall value of the enterprise.

Zhang Qinglong (2022) asserts that facing various treasury management models, group enterprises should determine a suitable treasury management model based on the characteristics of the industry's funds, their corporate governance structure, financial control model, and the actual needs of company fund settlement, bills, and asset management. They should build a system platform to support the treasury management model.

Chinese scholars' research indicates that the construction of corporate treasury management is necessary. Based on strategic management, utilizing digital and intelligent technologies to establish fund management system platforms helps achieve the overall value of enterprises.

1.3 Research Content and Methodology

1.3.1 Research content

The first part, the introduction, elaborates on the research background, significance, review of domestic and foreign literature, research content and methods, and the innovations of this paper. The second part introduces the theoretical foundations such as intelligent finance and treasury management, providing a theoretical basis for the study of treasury management in dairy enterprises under intelligent finance. The third part presents an overview of the treasury management construction of Z Dairy Group, discussing the problems and causes encountered during the implementation of the intelligent treasury management model. The fourth part

provides suggestions for the intelligent treasury management of Z Dairy Group and offers prospects for the construction of intelligent treasury management. Finally, the paper summarizes the role of treasury management models under intelligent finance in improving group fund management levels and offers research outlooks for future aspects.

1.3.2 Research Methodology

(1) Literature Research Method: By collecting relevant literature on treasury management under intelligent finance, categorizing and reviewing the materials, and summarizing the history and current research of intelligent finance and treasury management. This method provides a basis for analyzing and studying the construction of intelligent treasury management in Z Dairy Group and solving treasury management problems under intelligent finance.

(2) Case Analysis Method: By delving into the intelligent treasury management platform of Z Dairy Group, understanding the organizational structure and operational processes of Z Dairy's treasury management, and analyzing the impact of intelligent finance on the treasury management of Z Dairy Group.

(3) Normative Analysis Method: This paper conducts normative analysis mainly from several aspects including the introduction, definition of related concepts, and theoretical foundations.

1.4 Main Innovations

In the context of intelligent finance, explore solutions to the issues arising in the treasury management of Z Dairy Group, a dairy enterprise. Demonstrate the feasibility of these solutions in the application within dairy enterprises.

2. Theoretical Basis

2.1 Intelligent Financial Overview

2.1.1 Basic concepts of intelligent finance

Intelligent finance is a new management model based on advanced management theories, tools, and methods, utilizing a human-machine collaborative intelligent management system composed of intelligent machines and human financial experts. Through the organic collaboration between humans and machines, it engages in complex financial management tasks, continuously expanding, extending, and partially replacing the activities of human financial professionals in the process. It is a fully functional, end-to-end intelligent business activity, financial accounting activity, and management accounting activity.

Intelligent finance centers around new technologies such as cloud computing, big data, and artificial intelligence. It uses big data technology to model and analyze financial activities and employs artificial intelligence to provide intelligent services. This approach empowers enterprise transformation, helps build efficient and standardized financial management processes, improves efficiency, reduces costs, and controls risks, thereby effectively promoting financial transformation in enterprises.

2.1.2 Key technologies in intelligent finance

(1) Data Mining: Data mining technology refers to the analysis of large volumes of data to discover new associations, trends, and patterns. It can automatically induct and analyze data, discovering intrinsic patterns to reduce potential risks, adjust market strategies, and make informed decisions.

(2) Robotic Process Automation (RPA): RPA is a program designed to handle repetitive tasks and simulate human operations. It has five main functions: data retrieval and recording, image recognition and processing, platform uploading and downloading, data processing and analysis, and information monitoring and output. Its main features include 24-hour machine processing and the simulation of user operations and interactions.

(3) Mobile Internet: Mobile internet is the integration of mobile communication terminals and the internet. It drives the informatization of enterprise management accounting, effectively breaking the limitations of time and space, and significantly improving financial management efficiency.

(4) Cloud Computing: Enterprises use cloud technology and financial shared service centers to build a new financial platform. This involves restructuring financial processes and integrating functions such as financial reporting, data sharing, and fund management, thereby reducing overall operational costs, improving the level of financial services, integrating enterprise resources, and supporting strategic development.

(5) Blockchain: Blockchain technology extends to various fields including digital finance and supply chain management. Its concept of autonomous accounting and distributed ledger features promote the transformation of financial and accounting management.

2.1.3 Management objectives under intelligent finance

In the context of the era of intelligent finance, financial and business operations are highly integrated, and financial work is gradually shifting from primarily accounting to management accounting and strategic finance. Financial organizations are highly shared, and enterprises adopt new shared management models to optimize organizational structures and standardize processes to better create corporate value. With the emergence of human-machine collaborative systems, the demand for multi-skilled financial personnel in enterprises will increase. Financial systems will also transcend corporate boundaries, extending to upstream and downstream enterprises to form a robust financial ecosystem.

Financial intelligence will significantly improve work efficiency, reduce operational costs, enhance internal control and compliance capabilities, strengthen risk management, boost value creation, support talent transformation, assist enterprises in decision-making, and improve the quality of information.

2.2 Overview of Treasury Management

2.2.1 Treasury Management Concept and Model Characteristics

Treasury management is based on internal financial management institutions, with centralized fund management and fund liquidity management at its core. Its goals are to improve fund operation efficiency, reduce fund costs, and control fund risks. The means to achieve these goals include standardized and professional operations, using an information system as a platform to coordinate and effectively allocate the financial resources held and controlled by the enterprise, thereby helping the enterprise comprehensively enhance its strategic financial management level.

Enterprise treasury management models are divided into centralized management and decentralized management, with the current common model being centralized management. Centralized management models include settlement centers, cash pool management, payment factories, shared service centers, global treasury centers, and financial holding groups.

2.2.2 Treasury management system business application

(1) Fund Liquidity Management: This includes fund settlement management, fund expenditure budget management, centralized bill management, centralized group fund management, unified bank account management, and comprehensive management of overseas funds.

(2) Financial Resource Management: This includes debt financing management, standardized management of financial derivative businesses, supply chain financial service management, and management of loans and guarantees.

(3) Fund Risk Management: This includes financial market risk management, liquidity risk management, fraud risk prevention management, and internal control risk prevention management.

2.2.3 The driving factors for the intelligent development of treasury management

(1) Advances in information technology promote the intelligent development of treasury management.

(2) The expansion of enterprise operational scale faces increased financial risks.

(3) The development of economic globalization requires improved utilization of funds, assets, and capital.

2.2.4 The impact of intelligent finance on treasury management

With the development of technologies such as big data, artificial intelligence, cloud computing, the Internet of Things, and mobile internet, the intelligent mode of treasury management has gradually become a trend, significantly impacting corporate treasury management. For enterprises, intelligence has achieved a higher level of fund management, closer bank-enterprise cooperation, and more multi-dimensional and comprehensive risk management. Under the influence of intelligent finance, higher requirements are placed on the quality of financial personnel and corporate managers. The transformation of treasury management under intelligent finance will also bring changes to the business models of enterprises.

3. An Analysis of the Treasury Management of Z Dairy Group

3.1 The Current Situation of Treasury Management of Dairy Enterprises in China

Compared to the dairy industry in developed countries, China's dairy industry still faces issues such as low raw milk production efficiency, weak profit linkage mechanisms, and an unreasonable product structure of dairy products. Currently, China's dairy industry is moving towards increasing production quality, diversifying product categories, and internationalization. The treasury management of Chinese dairy enterprises is in a developmental stage, with varying levels of fund management across companies. Most enterprises manage funds independently and in a decentralized manner without standardized management. The quality of financial information is low, and there is a lack of regulatory mechanisms. While the corporate headquarters can monitor the accounts of each subsidiary, they cannot track the real-time dynamics or determine the usage of each fund. Due to low fund utilization efficiency, the information systems are not well-suited to the management systems and organizational structures of enterprises, resulting in inefficient information processing. With the globalization expansion of enterprises, there is an urgent need for further centralized fund management to meet operational demands, support corporate strategies, and address risk challenges.

3.2 Analysis of the Background of the Construction of Treasury Management of Z Dairy Group

As a major dairy enterprise in China, Z Dairy Group has its own complete industrial chain, from the source of dairy products to product research and development, and then to production and sales. It offers a wide range of product series, including liquid milk, cheese products, and milk powder. In the international market, Z Dairy Group is also recognized and praised for its product quality, which has received high international acclaim. The company has established strategic partnerships with international brands, built multiple bases domestically and overseas, and carried out global research and development initiatives with partners in overseas research centers. The construction of treasury management in Z Dairy Group is driven by the following factors:

(1) The need to improve fund management efficiency: In previous fund management processes, Z Dairy required a high level of management for its operations and revenues, along with the need to improve management efficiency. The company must continuously strengthen its financial capabilities, gradually turning them into new profit centers, reducing idle funds, and seeking to maximize its own interests. Besides reallocating surplus funds across organizations as needed, Z Dairy Group aims to reasonably forecast future cash flow and direction to enhance overall fund control.

(2) The widespread application of emerging technologies

between banks and enterprises: With the application of today's bank-enterprise interconnection technologies, the timeliness of monitoring fund usage has greatly improved, and the standardization of settlement operations has increased. Z Dairy is considering how to enhance business efficiency and reduce operating costs through services to meet the demands of rapid business development.

(3) The need to improve fund management for international development: As Z Dairy Group expands into international markets with production bases around the globe, the difficulty of headquarters supervision has increased. This necessitates higher requirements for cross-border RMB settlement and global foreign exchange management.

(4) The need for higher risk control for fund security: For Z Dairy Group's international development, fund security is extremely important. Fund security faces various unpredictable risks such as changes in international situations, global economic instability, and significant devaluation of foreign exchange funds. Z Dairy Group needs to ensure the overall security of the group's funds, unify the allocation of foreign exchange funds, facilitate currency exchange within the group, and avoid fund risks.

3.3 Overview of the Construction of Intelligent Treasury Management of Z Dairy Group

Z Dairy Group's treasury management has evolved from decentralized self-management to unified standardized management, continuously optimizing the fund management model in line with the company's development. The enterprise aims to establish an advanced management model that serves the group's global development and a win-win service ecosystem as its strategic direction. The goals are to achieve integrated processes and information systems, internationalize the bank-enterprise platform, and provide globalized services.

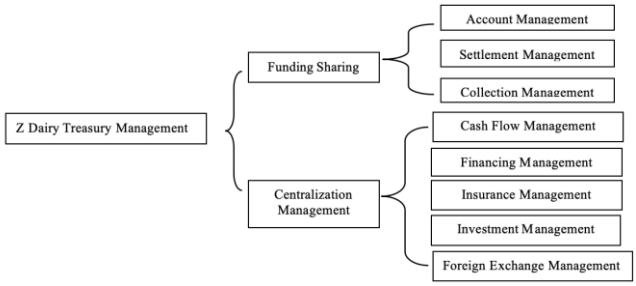

Figure 1: The management structure of the treasury of Z Dairy

3.3.1 Organizational structure of treasury management of Z Dairy Group

The treasury management of Z Dairy Group is divided into two main parts: fund sharing and fund centralization management. Fund sharing includes collection management, account management, and settlement management. Fund centralization management encompasses cash flow management, investment and financing management, foreign exchange management, and insurance management.

The Fund Sharing Center is a critical department within Z Dairy Group's treasury management. It primarily implements centralized fund management and control through a fund sharing platform. Its main responsibilities include fund settlement, processing electronic receipts, report management, security assurance, and online fund management services.

3.3.2 Z Dairy Group Treasury Management System Platform

Through an operational model that combines the settlement center with the finance company, the enterprise has established a fund sharing platform. Z Dairy Group has built domestic and international cash pools to centrally manage the group's funds, handling the management of the group's bank accounts and establishing direct connections with multiple domestic and international banks. This enables Z Dairy Group to serve as the core of a settlement sharing system for upstream and downstream enterprises, allowing for synchronized business and fund systems, closed-loop electronic receipt management, and financial-grade security mechanisms to mitigate risks.

The fund sharing platform of Z Dairy Group has achieved centralized management and control of the enterprise's funds. It also facilitates internal settlements between enterprises through internal accounts, thereby reducing transaction costs. By effectively integrating domestic and international financial resources, the platform not only minimizes idle funds but also reduces capital costs and increases returns on funds.

Table 1: The scope of services of the Z Dairy Group platform

Fund-sharing platform	Supply chain financing platform
Product Manufacturing Company Offshore companies Holding and associated sales companies Holding terminal sales stores	Ranch dairy farmers Raw material suppliers Subsidiary Non-affiliated sales companies

Currently, Z Dairy is gradually establishing a supply chain financing platform. By integrating the EAS system with banks, upstream and downstream enterprises can directly log in to the financing platform to access efficient financing, enhancing efficiency and reducing costs. The company has developed a credit risk rating model to create a scientific system for evaluating customer risks, which is integrated into banks' online financing products and lending services.

Centered around Z Dairy Group, the platform provides core cloud services based on an ecosystem approach, breaking through traditional financial models and establishing financial big data. Through the supply chain financing platform, the company connects suppliers, farms, logistics providers, retailers, and partners, enabling online payments, financing, and wealth management.

3.3.3 The treasurer of Z Dairy Group manages the business process

In the comprehensive management process of Z Dairy Group, the Fund Sharing Center interacts with the business operations of each member enterprise. All units within the group uniformly adhere to a rolling cycle management mechanism that includes pre-transaction fund planning, in-process settlement control, and post-transaction cash flow analysis.

Z Dairy Group employs a hierarchical fund plan control system. Each unit's finance department submits its fund plan, which is then reviewed and consolidated into a monthly master plan by the fund department's specialists. The system automatically groups and merges plans based on a set of priority rules. The fund department manager verifies and approves the available funds for the monthly master plan, after which the fund specialists break down the master plan into weekly plans.

The group has established a unified connection standard with foreign banking systems, enabling standardized and automated processes for various types of international transactions, including internal transfers, express transfers, wire transfers, and multi-currency payments. The automation of collections allows for the instant automatic generation of collection slips based on bank information and collection rules, as well as automatic auditing and collection, with real-time updates to the ERP system for voucher creation, thereby achieving closed-loop management from the bank to collection to voucher creation. The payment process achieves closed-loop management from application approval to payment slip creation to the bank's final voucher generation. The platform confirms the payment date and amount individually, generates a payment schedule based on the payment progress, periodically creates payment slips, and finally, the cashier executes the payment process.

The platform automates the generation of fund vouchers, categorizes collection and payment transaction types, and automatically consolidates and offsets cash flow in the daily cash flow report. It also sets up risk control indicators such as profit-to-cash ratios and cost of funds. By collecting and analyzing historical data, the platform forecasts the impact of factors such as milk volume and milk prices on future cash flow within quarterly and annual periods.

Additionally, the group's international business requires the use of letters of credit for international settlements. The platform enables online issuance and amendment of letters of credit, online downloading of document arrival notifications, document processing, acceptance, and payment functions, thereby facilitating online processing of international letters of credit, installment settlements, and record-keeping, which improves operational efficiency.

The platform effectively mitigates foreign exchange and interest rate risks. Sales personnel can monitor foreign exchange trends and central bank reference rates in real-time through the global foreign exchange management dashboard, and perform foreign exchange settlements, inquiries, and other operations on the platform. To address foreign exchange risks, the platform employs natural hedging strategies and reasonably utilizes foreign exchange financial derivatives.

Funds are centralized in a cash pool to ensure security. By monitoring central bank policies, capital market forecasts, and market price trends, the platform analyzes the distribution of fund structures. Through financial institutions, it provides financial products to generate returns. The platform supports the automatic generation of payment slips for transfers to specialized investment accounts, automatic interest calculation, voucher generation, and the preparation of investment and wealth management statistical analysis reports.

3.3.4 Effectiveness of treasury management of Z Dairy Group

The implementation of intelligent treasury management has enhanced Z Dairy's efficiency, leading to improvements in revenue and profitability. As shown in Table 2, the year-on-year growth rate of operating revenue from 2017 to 2021 has generally shown a steady upward trend, except for 2020. This indicates that despite the impact of the pandemic and other factors, the company's sales capabilities have continued to strengthen, and its market share has increased. The year-on-year growth rate of gross profit has also risen annually, except for 2020. In terms of total asset growth rate, there has been a fluctuating increase from 2017 to 2021, suggesting that the efficiency of capital utilization is gradually improving, and the operational performance is developing positively.

Table 2: Year-on-year growth rate of major financial indicators from 2017 to 2021 Data source: Sina Finance

Index	2017	2018	2019	2020	2021
Year-over-year growth rate of operating income	11.86%	14.66%	14.57%	-3.79%	15.92%
Year-over-year growth rate in gross profit	20.11%	21.72%	15.11%	-3.54%	13.14%
Year-over-year growth rate of total assets	18.35%	14.31%	18.18%	2.05%	22.40%

3.4 Problems in the Treasury Management Process of Z Dairy Group

3.4.1 The enterprise's risk control ability is not strong

Facing a vast market, Z Dairy encounters various uncertainties that may bring certain risks. The centralized treasury management model, where funds are managed uniformly by the headquarters, can also lead to the concentration of risks. Currently, the company lacks an effective system to address the risks associated with different business operations. There is a need to utilize intelligent methods and technology for risk monitoring, identification, assessment, and early warning. If a risk arises without a well-prepared response plan, it could impact the member enterprises. It is crucial to intercept risks as early as possible; otherwise, taking action after the risk has occurred will put the company in a passive position. In contrast, the fund sharing platform of Mengniu Group provides early warnings on similar risk events that have occurred in the past. Relevant personnel oversee the entire process, monitoring the status of funds to ensure the fastest possible response when risks arise.

3.4.2 The informatization level of centralized fund management needs to be improved

Z Company lacks the utilization of business intelligence, data mining, and other technologies for deeper data analysis. The data is not presented in a highly intuitive manner, there is no corresponding platform to consolidate and feedback data and

various types of information, predict future trends, and make decisions. As a result, managers in various departments are unable to rely on real-time data to make comprehensive decisions, which limits the company's level of fund management. In contrast, industry leader Mengniu processes large volumes of data centrally, integrates data from multiple systems, and generates different reports based on the needs of various management levels. These reports can also be delivered to mobile devices, aiding decision-makers in their analysis.

3.4.3 Financing channels need to be broadened

The services provided by Z Dairy's finance company mostly consist of traditional business services, with financial service functions being somewhat limited. This restricts the effective allocation of financial resources and the support of decision-making, which falls short of ensuring the group's strategic development. The dairy industry has a long supply chain, and it's essential to leverage this advantage. The company should fully utilize the financing needs of upstream and downstream enterprises in production, distribution, and transactions to offer high-quality financial products and services to small and medium-sized enterprises within the supply chain, thereby achieving the integration of industry and finance and promoting the joint development of the entire supply chain.

3.4.4 Lack of quality control of fund management

The management system supporting Z Dairy's treasury management needs improvement. There is a lack of detailed fund management guidelines and performance evaluation systems. It's essential to enhance the management of domestic and international funds, effectively supervise the implementation of treasury management across the group's member enterprises and evaluate the effectiveness of treasury management from the perspective of employees. A comprehensive operational management system is required to ensure the efficient operation of Z Dairy's treasury management.

3.4.5 Lack of support from a multidisciplinary talent team

Z Dairy Group's treasury management lacks a multidisciplinary team and managerial talent. To avoid inefficiencies due to redundant investments in treasury development, it's crucial to recognize that talent is the foundation of effective treasury management. Personnel should possess knowledge in various fields such as accounting, financial management, finance, and information management, and they need to engage in continuous learning while performing their duties. Currently, Z Dairy's treasury management talent is mainly allocated from the finance department, with notable deficiencies in finance and information management expertise.

3.5 Analysis of the Causes of the Problems in the Treasury Management of Z Dairy Group

3.5.1 Changes in the international situation require higher risk management

Currently, the ever-changing international situation, domestic and international financial markets, and foreign exchange rates pose challenges to the development of dairy enterprises, including foreign exchange and credit risks. Although Z Dairy manages key risk control points during the centralized fund management process, it has not established a complete risk prevention management system. The risk control measures do not align with the company's development strategy and have not fully considered the factors and capacity for risk tolerance.

The development of Z Dairy Group has been impacted by the COVID-19 pandemic and de-globalization, leading to various risks related to fund safety. The changing international situation, global economic instability, and significant devaluation of foreign exchange funds are all concerns. In terms of risk warning, the group mainly focuses on business process monitoring and cash flow forecasting. However, there is no specialized risk warning system supported by intelligent technology, nor is there comprehensive use of intelligent techniques for data extraction, detection, and analysis. Additionally, there is a lack of corresponding security indicators. Regarding fund supervision and approval systems, there are no rules or regulations to ensure the rationality of daily financial activities such as investment and financing.

3.5.2 Information-based decision-making resources need to be further optimized

Z Dairy needs to further improve and upgrade its smart technology infrastructure to manage various platform systems effectively and integrate information systems. This includes not only real-time monitoring of fund flows for each member and providing timely and effective information but also analyzing the market environment by processing vast amounts of data with intelligent technologies. By integrating data resources and simulating future trends, the company can provide reference points for future development and support management in making informed decisions.

Key technologies under intelligent finance should assist treasury management, such as using data mining techniques to calculate important financial indicators from financial statements and analyze the company's profitability. Based on these results, evaluations should be made in conjunction with the company's future development plans to identify areas for improvement. RPA (Robotic Process Automation) technology can replace repetitive manual operations in financial work, saving valuable time. Strengthening information technology infrastructure and advancing the integration of business and financial operations will achieve the consolidation of internal and external information systems, providing timely and accurate references for decision-makers.

3.5.3 The common development of the dairy industry chain requires high-quality financial resources

The development of a business inherently requires support from financial resources. The dairy industry has a long supply chain, extending from farms and dairy cow husbandry to dairy product processing and production, and finally to end consumers. Financial support is crucial throughout this chain. Upstream and downstream farmers and small to medium-sized enterprises may face financing difficulties,

such as long accounts receivable periods, overdue payments, and weak creditworthiness, which can affect their cash flow and production. Z Dairy Group needs to leverage its core position in the supply chain to provide comprehensive financial services across the entire industry chain and promote the long-term development of both the enterprise and the industry.

Currently, Z Dairy primarily relies on bank financing channels. For sustainable development, it should optimize its financing management and financial business by collaborating with more financial institutions, expanding financing channels, and enhancing bargaining power. By obtaining information on the financing needs of upstream and downstream enterprises, ensuring credit assessments, and establishing a comprehensive credit system, Z Dairy Group can improve industry chain financial services under effective risk control. It should introduce financing products tailored to the conditions of each enterprise, helping upstream and downstream companies achieve efficient, low-cost financing and promoting the sustainable development of the entire supply chain.

3.5.4 The refined management of funds needs to be improved

Z Dairy is transitioning from decentralized self-management of funds to centralized management. During the gradual implementation of this plan, there may not have been a unified standard or guidelines established. With numerous member enterprises under Z Dairy, the management scope is extensive. To ensure the effective implementation of treasury management across domestic and international member enterprises, refined fund management needs to be strengthened. Initially, strict institutional management is required to ensure the efficient operation of centralized fund management. Utilizing key technologies such as robotic process automation, corresponding performance indicators should be established, with strict adherence to management guidelines, regular comprehensive evaluations, and using evaluation results as a basis for rewards and penalties. For example, Bright Dairy, during its digital fund management process, used performance assessment scores as a basis for evaluation, dividing them into three levels and incorporating them into the group's performance management system. Lastly, it is crucial to enhance internal control and internal audit of each member enterprise’s business, with continuous tracking and monitoring to minimize potential operational risks.

3.5.5 Lack of compound talents

The advancement of treasury management through intelligent technology remains crucial, but human involvement is also indispensable. While the reduction in the volume of basic work demands more strategic decision-making from treasury personnel, Z Dairy's treasury management talent primarily focuses on financial processing, with limited expertise in control analysis, risk identification, and financial market analysis. As Z Dairy's treasury management is still in its development stage, it requires personnel with strategic decision-making capabilities and skills in communication with internal and external stakeholders. Therefore, treasury management needs support from a diverse, multidisciplinary team.

4. Suggestions and Prospects for Intelligent Treasury Management of Z Dairy Group

4.1 Suggestions on the Intelligent Treasury Management of Z Dairy Group

4.1.1 Strengthen the risk management mechanism

Z Dairy should provide comprehensive intelligent risk monitoring, identification, assessment, early warning, and interception functions. To address operational risks, the system should be improved, and a closed-loop control mechanism should be implemented at key stages such as approval and execution. Additionally, regular special audits should be conducted. To manage risks related to account settlement, interest rates, and exchange rates, real-time monitoring of indicator changes should be established, along with a reporting mechanism to reduce losses caused by risks.

To prevent fraud, a corresponding audit system and quality management should be established. For risks related to the liquidity of business transactions and fund flow, increased management of centralized funds is necessary to control cash flow and address risks associated with debt repayment. In terms of financial markets, external investment and financing should be managed prudently, financial tools should be used appropriately, and a credit evaluation system should be established. A comprehensive risk prevention system tailored to the company’s needs should be developed.

A risk management department should be set up to measure and assess risks, analyze future fund liquidity and market risk conditions. Risk management processes should be institutionalized to create a systematic risk management framework, addressing domestic and international financial market risks, foreign exchange management, and customer credit risks. A risk warning platform and risk management system should be established, with operational management information transmitted to the platform, processed, and reported to department managers. This will enhance control over corporate accounts, monitor fund movements in real-time, and promptly address any identified risks. Management systems should strictly regulate investment and financing contracts and periodic fund plans. Regular maintenance and evaluation of all platform systems should be carried out, with strengthened system access management to ensure information security.

4.1.2 Build a decision support platform

By utilizing technologies such as data mining, a decision support platform can be constructed. Data interfaces connected with ERP, fund platforms, and other systems enable information integration, allowing for the aggregation and analysis of funds, accounts, and financing for member units. Detailed operational analyses for various branches and departments are provided to assist managers in decision-making. For example, during comprehensive budgeting, it is crucial to ensure the efficient use of funds, with real-time insights into fund usage and timing, enabling effective preemptive and ongoing control.

With the support of technologies like data warehouses and web scraping, a BI global fund management dashboard can be employed to monitor domestic and international fund conditions in real time. This includes monitoring fund balances, cash flows, annual funding gaps, annual financing scales, financial expense expenditures, and more. Through a mobile app, relevant fund data can be accessed in real time, aiding managers in making appropriate funding decisions. Additionally, market information such as securities indices, bill discount rates, and benchmark deposit and loan rates should be displayed. By comprehensively grasping relevant information, statistical analysis and forecasting can be performed to provide decision support for managers.

4.1.3 Strengthen cooperation and expand financial innovation business

Building on existing banking partnerships, Z Dairy should strengthen collaborations with other financial institutions to increase liquidity and returns while ensuring fund security. In line with relevant regulations in China, new approaches to support supply chain finance should be actively explored, such as providing accounts receivable financing services to selling enterprises and supply chain bill services to upstream suppliers.

Improving the supply chain platform system with blockchain technology can offer tailored financing plans and personalized information to different enterprises, while real-time data on logistics, cash flow, and production and sales can facilitate management of upstream and downstream enterprise information.

A credit management system should be established to enhance credit evaluations for upstream and downstream enterprises and control related risks. Expanding overseas financing channels to meet strategic development needs for both domestic and international operations, and also serving overseas upstream and downstream enterprises. Additionally, creating an insurance service platform can help transfer risks for upstream and downstream enterprises, leveraging the company's credit advantages and sharing insurance resources effectively.

4.1.4 Strengthen operation management

To ensure the efficient operation of treasury management, an operational management platform should be established, incorporating both performance management and quality management. This platform should gradually enable the automatic assignment of various tasks and provide real-time analysis dashboards for performance.

Utilizing RPA technology, the organizational structure and business processes of the enterprise should be identified to design appropriate performance indicators. Implementing performance management, which should include KPI assessments covering efficiency, service quality, service attitude, and service capability. The results of these assessments, based on task execution records and supervisor evaluations, should determine rewards for achieving the targets.

Quality management should be executed by assessing the timeliness, accuracy, quality, and budget performance of tasks completed by the shared services center. Quality inspectors should perform random checks to monitor the overall process quality. Additionally, regular internal audits should be conducted to strengthen internal controls. Regular collection of feedback from managers and treasury staff on the usage and opinions regarding the treasury management process is necessary to continuously improve and upgrade the platform.

4.1.5 Cultivating compound talents

The development of treasury management drives the transformation of financial personnel. Z Dairy should provide relevant business training to enhance employees' understanding of business operations and practical skills. Additionally, training in data technology should be strengthened to ensure that staff can effectively operate the systems in their daily work.

Improving communication and collaboration skills among different departments is also essential. Treasury personnel should deepen their knowledge of finance and risk management concepts, enhancing their ability to analyze and forecast. By improving employees' overall quality, cultivating diverse professional talents, and raising compliance awareness, the company should establish a well-rounded team of treasury professionals with a comprehensive skill set. This includes developing and implementing appropriate incentive mechanisms to support the growth of a versatile treasury talent pool throughout the treasury management development process.

4.2 Prospects for the Intelligent Treasury Management of Z Dairy Group

Z Dairy Group adopts an operational model of "Settlement Center + Financial Company" for its treasury management. The company has established a highly integrated, automated, and intelligent fund-sharing platform that serves both domestic and international entities. This platform reduces human intervention, enhances fund security, and effectively prevents fraud. By applying security technologies and business management controls, the system prevents unauthorized data access and tampering, ensuring secure fund system usage and payments. A supply chain financing platform has been established to serve upstream and downstream enterprises, leveraging the scale advantages of the group’s overall funds, enhancing control, and reducing costs.

In the future, Z Dairy Group will continue to improve its treasury management system, providing high-quality and efficient fund management services to support the achievement of the group's strategic goals and ensure the security of funds.

5. Conclusions

This paper analyzes the issues and causes related to the intelligent treasury management construction at Z Dairy Group based on theories of intelligent finance and treasury management and proposes relevant improvement suggestions.

In the context of intelligent finance, leveraging digital and intelligent technologies such as RPA robots, electronic invoices, and direct bank-enterprise connections, Z Dairy has comprehensively enhanced the automation level of its fund operations, achieving centralized management and control of funds. In terms of fund management models, processes such as financial-to-business-to-bank traceability, online approval, and cloud-based approval have not only automated business processing, improving efficiency and quality in fund operations, but also reduced risks caused by human factors. The supply chain financing platform has broken through traditional financial models, providing financing support to small and medium-sized customers along the value chain and gradually realizing the integration of production and finance in the dairy industry.

Z Dairy is able to utilize intelligent technologies to support the company's treasury management. By examining the current application of intelligent treasury management, further exploration of optimization in areas such as risk system construction, decision-making information levels, expanding financing channels, strengthening operations, and cultivating multi-skilled talent can provide support for the company's strategic development goals.

The study of treasury management in dairy enterprises and the analysis of Z Dairy Group's treasury management construction offer insights and inspiration for other companies in managing funds under globalization and digitalization, advancing the development of intelligent treasury management.

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