

Integration of Cross-Departmental Financial Data for Improved Decision Making in Group Enterprises

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Abstract: The present work is devoted to the fundamental connections between cross-departmental financial data integration and the improvement of decision-making capabilities within conglomerates. It initially explains the conceptual framework, features, and principles of implementation and subsequently discusses major issues such as different data standards, poor system compatibility, absence of cooperative mechanisms, and poor quality control of data. The paper suggests implementation mechanisms that can be described as common data standardization, development of compatible technology platforms, cross-departmental coordination systems, and overall quality control during the entire process. The research shows how these initiatives will facilitate strategic decision-making, operational planning, resource allocation, and risk management, and Kingdee AI Xingchen is used as a case study to confirm the efficacy of integration. The study offers useful examples to conglomerates aiming at maximizing decision-making processes by integrating cross-departmental financial data.

Keywords: Group enterprises; Cross-departmental financial data integration; Decision-making capability; Implementation strategies; Business-finance integration

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1. Introduction

In view of an increasingly significant digital transformation and the growing competition in the markets, conglomerate scaling and business diversification have seen financial information becoming fragmented among different departments, subsidiaries, and individual systems. The existence of data silos and inconsistent measures impedes the effectiveness and precision of decision-making. Cross-departmental financial data integration is a vital approach to fill the gap between operational and financial data supply chains and eliminate data silos. By standardizing processes and implementing them systematically, fragmented data may be turned into uniform, high-quality data resources that facilitate strategic planning,

management of operations, allocation of resources, and risk control. Successful implementation of cross-departmental financial data integration has become one of the main concerns of corporate groups to improve core competitiveness and obtain long-term growth, which directly influences the scientific validity of decisions and market response.

2. The connotation of cross-department financial data integration in group enterprises

2.1. Core concepts

Interdepartmental financial data integration in corporate groups is a systemic management project at the level of the group to facilitate strategic decision-making and control over operations. It is a holistic process of collecting, cleansing, consolidating, correlating and governing financial data (i.e., assets, liabilities, revenue, costs, cash flows) and other business-related measures (e.g., procurement, sales, production, and human resources) that are spread out across business units, functional areas, and subsidiaries. The essence of this process is to dismantle information silos, ensure the thorough integration of business and financial information, and enable value transformation. Finally, it ensures the creation of uniform and high-quality data assets that can be used to make decisions in the group.

2.2. Key characteristics

The cross-departmental financial data integration in corporate groups has multidimensional features. It involves a large range of data coverage, including financial and operational correlation data at all organizational levels and business chains, without leaving out any key data. Information processing follows standard procedures, uniform subject codes, accounting principles, definition of metrics, and information formats to guarantee compatibility and reciprocal identification. The circulation of data shows collaborative synergy by creating smooth data flows between finance and operations departments and allowing shared and coordinated real-time data flow. Data applications focus on accuracy since governance-ready data satisfies the need to use the data in multi-scenario decisions, but also provides a basis for reliable decisions. To implement, systematic interventions are needed that involve organizational structure optimization, process improvement, and technical assistance - not isolated measures to address individual elements ^[1].

2.3. Implementation principles

The integration of cross-departmental financial data in corporate groups should be based on four main principles. The first is that integration should be strategically aligned: every integration effort should be aligned with the group strategic decision and the operational management needs so that data integration can be consistent with the strategic goals. The second is maintaining uniformity: create a single group-level system of data standards to remove inconsistencies between data metrics of departments and subsidiaries. The third is to focus on the efficiency of collaboration: enhance the coordination of the finance, IT, and business units to streamline the processes of the flow of data and avoid duplicating the steps. The fourth is to focus on quality assurance: introduce data cleansing, validation, and traceability mechanisms to ensure the accuracy, completeness, and timeliness of integrated data and thus offer credible support to the process of decision-making.

3. Issues in cross-department financial data integration for group enterprises

3.1. Lack of uniformity in data standards

The failure to create a uniform group-level data standard system is caused by different business attributes and historical management models among various business departments and subsidiaries in the group enterprise. Differences in financial account setting, customer/supplier code rules, and product classification standards can be seen. The cost allocation methods, revenue recognition principles, and expense grouping logic are inconsistently used. Nonuniformity of the fundamental financial indicators and business-related measurements also makes it more challenging to integrate them. It means that the data interoperability between the departments and subsidiaries is low, and there are semantic obstacles that prevent cross-departmental data consolidation. Consequently, even integrated data cannot be used to make effective decisions.

3.2. Compatibility barriers exist in the system architecture

In corporate groups, financial data is dispersed across many different platforms such as ERP systems, accounting systems, and capital management systems, whereas operating data is found in standalone applications like CRM systems, supply chain management systems, production execution systems, and OA systems. These systems, which are created by various vendors, have different technical architectures, data formats, and interface protocols without a unified standard for exchanging data. This causes problems with automated system integration and real-time data synchronization. Data transmission continues to be based on manual procedures such as manual export, organization, and import, which are not only lengthy in terms of time to circulate data but also more susceptible to data loss and error. The data silos in question cause the so-called chimney-style data isolation, which does not ensure efficient cross-departmental data integration and fails to fulfill the needs of real-time data ^[2].

3.3. Lack of cross-departmental collaboration mechanisms

The group still has no clear cross-departmental financial integration coordination mechanism for data. The finance department does not have permanent communication lines with other business units like sales, purchasing, manufacturing, and personnel. Data collection, verification, and feedback procedures have not been standardized, and data ownership responsibility between departments is also not clear. Business units are not engaged and cooperative in the integration of financial data, causing late or inaccurate reports on the data. There are some departments that are unwilling to disclose core business information because it is driven by self-interest, which makes it hard to provide the finance department with all the necessary operational support information. Also, the lack of a special cross-departmental data governance body to manage the integration process results in unresolvable differences in the course of implementation of the data consolidation efforts, hindering their successful implementation.

3.4. Incomplete data quality control system

The cross-departmental financial data collection procedure has no proper validation processes, and manual data input is vulnerable to duplication, mistakes, and missing data, which affect the level of data accuracy and integrity. There are no standardized methods of data cleansing and data transformation, and this leads to poor treatment of abnormal and redundant information and inconsistency in data. Poor data lifecycle management does not provide clear instructions on updating, archiving and destroying, which leads to uncertainty between

historical and current data and the timely availability of data. The problem is even worsened by inadequate evaluation of data quality and accountability measures since departments do not demonstrate adequate devotion to data quality and they do not have regular control systems. It leads to combined data with various quality threats that do not offer a trustworthy basis for decision-making to the team and can be misleading in terms of strategy.

4. Implementation strategy for cross-department financial data integration in group enterprises

4.1. Establishing a unified data standard system for the group

Planify the professionals who are working in finance, IT, and business departments to create a data standard development team. This team will analyze the main financial and operational data dimensions of the group systematically, creating uniform regulations concerning the financial account coding, common classification principles of customers and suppliers, and product coding requirements. These will include methods of cost allocation, revenue recognition criteria, and expense aggregation logic, the definition of key financial indicators (such as debt-to-asset ratio, gross margin, and expense ratio) and business-related measures (such as capacity utilization rate and inventory turnover rate) and their measurement standards. A financial data dictionary will be developed to consolidate the terminology across the organization. The historical data will be cleaned, converted, and supplemented in batch to meet the new set of standards to provide parity between the old and the new set of data structures. All business and financial systems will incorporate data standards with enforced mechanisms of system validation to guarantee adherence. Compliance audits will be undertaken periodically so that any deviation from the defined standards can be addressed quickly.

4.2. Establishing a compatible and interoperable technical support platform

We created an intermediate level of financial information middleware that acted as the central hub of data integration at the group level. Through the standardization of system interface protocols and the use of other technologies like APIs and ETL tools, we obtained automated information gathering and real-time synchronization and format transformation on various systems, including ERP, financial accounting systems, capital management systems, CRM, supply chain management systems and production execution systems, which practically eliminated data silos between systems. The installed integrated business finance management system includes core modules such as financial accounting, budget management, capital management, and consolidated reporting to meet multi-entity, multi-accounts book, and multi-accounting standards requirements and allow automatic synchronization of business operations and financial processes. With the introduction of BI analytics solutions and data visualization systems, we have developed a group-wide management dashboard, which enables multidimensional data analysis and real-time display. At the same time, we have introduced strong data security measures and access rights by departments and roles using the anonymization of data and storage of it in encrypted form to provide security. The technical platforms were regularly maintained and updated to ensure the stability of the systems.

4.3. Establishing a cross-departmental collaborative operation mechanism

The Data Governance Committee will be set up to involve senior executives who are heads of finance, IT, sales, procurement, production and human resources departments. It will ensure the coordination of data

integration activities and address conflicts between departments when implementing them. Responsibility for clear data ownership: Finance will take charge of data consolidation, define the standards in accounting, and implement quality validation, IT will take care of the technical platform development and maintenance, and business units will be responsible with data collection, reporting, and preliminary validation, and use standardized processes on data collection, validation, and feedback with given deadlines, format requirements, and responsibility. An effective cross-departmental communication system will be developed in the form of periodic integration meetings that will enable reporting progress, discussing issues, and providing optimization suggestions. Emergent data issues could be resolved at once through online collaboration software. Interdepartmental performance assessment will also incorporate the evaluation of data integration performance as one of the indicators, such as data timeliness, completeness, and accuracy, to enhance the understanding of the significance of interdepartmental collaboration.

4.4. Improve the end-to-end data quality control system

As part of the data collection stage, a set of data entry validation rules is applied to both business systems and financial systems to ensure that mandatory checks are imposed on the required fields, formats of data, and relationships between them, thus minimizing manual typing mistakes. An accountability system of data sources is introduced, where the data entry people are assigned as the main responsible persons who are responsible for ensuring the accuracy of the data. Standardized processes of cleaning, transforming and consolidating data are created in the process of data processing. Duplicates, anomalies, and missing values are detected by automated data validation algorithms, which are addressed through a combination of system automation and human review. A quality audit system is put in place whereby sampled inspections and overall audits of aggregated data are done at regular intervals, assessing their accuracy, completeness, consistency, and timeliness^[3]. The quality feedback system in the data application stages motivates users to communicate data problems, which can be traced to sources and corrected in time. Data quality metrics are integrated into performance evaluation systems in order to hold departments and individuals responsible in case of noncompliance and to ensure inclusion of quality metrics in performance evaluations.

5. The role of cross-departmental financial data integration in group decision-making

5.1. Supported the scientization of strategic decision-making

Inter-departmental financial data integration makes it possible to have a smooth interaction among the group-wide financial and operational information that helps in ensuring holistic and accurate data support in making strategic decisions. Consolidated multidimensional data can enable the group to precisely evaluate input-output ratio, profitability, and growth opportunities of the business lines, subsidiaries, and regional markets. It is possible to clearly identify the core competitive segments and the inefficient business units with quantitative bases for strategic planning, such as mergers and acquisitions, market expansion, divestitures of businesses, and industrial chain deployment. Using the benchmarking analysis of the industry based on unified data standards, the group will be able to define its competitive position and gaps in the industry situation.

5.2. Improved timeliness of business decision-making

The unified real-time data flow system allows group leadership to actively observe such important operational parameters as revenue, gross margin, expense ratio, net cash flow, and inventory turnover rate and to detect unusual deviations in business processes quickly. With data traceability, it will quickly find significant factors that impact performance indicators, including anomalous costs in particular functional areas or market-determined earnings declines. It offers data-driven justification of quick changes in strategy, reduces the time to make decisions, and helps move away from the situation of post-event analysis to in-process control. The system also makes operational decision-making more flexible and effective when it guarantees that business processes match predetermined goals at all times.

5.3. Improved precision in resource allocation decision-making

Inter-departmental financial information integration allows accurate cost and revenue reporting in several dimensions, namely, products, projects, departments, and customers. It is highly visible how the resources are allocated and used efficiently. Based on the combined information, the organization may determine the regions with effective allocation of resources and inefficient processes, shifting the focus of central resources (capital, human capital, and materials) to the activities with high margins, high growth, and high value, and decreasing the use of resources in the low-efficiency processes. The system makes it possible to dynamically modify allocation strategies through real-time tracking of resource performance data and thus attain an optimal resource distribution. This strategy will be efficient in improving the effectiveness of utilizing resources and profitability in general, which aligns well with the deployment of strategic resource decisions and the goals of the group operations.

5.4. Enhanced effectiveness of risk management decision-making

The end-to-end integrated data traceability system allows the group to track financial risk points effectively. It will automatically detect possible risks such as tax compliance, liquidity risks, risks of related party transactions, and audit risks with its built-in compliance rules and data validation models and give warnings on time to provide accurate information to prevent risk. The system uses collective information to build the risk assessment model to measure the level of probability and impact of risks and provides data-based assistance to formulate strategies.

6. Case study on cross-department financial data integration in group enterprises

6.1. Kingdee AI Xingchen cross-department data integration implementation architecture

Kingdee AI Xingchen is established as a cloud-based SaaS implementation to develop a unified industry-finance-tax data framework. It has standardized financial and operational data with the help of unified data standards, definition of account codes, accounting rules and business metrics. All cross-departmental modules such as sales, procurement, inventory, finance, taxation, and fund management are linked to form an automatic data channel. The generated business documents are automatically synchronized to the financial system and are automatically transformed into financial vouchers without manual data input. Combined with AI technology, it can intelligently perform real-time scenario recognition and accounting rule generation, and supports various accounting standards and multi-dimensional report creation. The tax module integrates

with national tax systems directly and synchronizes policy updates in real time to automate invoice verification, tax form creation, and one-click tax filing. The fund management module integrates with more than 1,000 banking systems through direct bank-enterprise integration and provides automated fund flow synchronization, reconciliation and cash flow prediction. Internal AI assistants allow communicating with each other using natural language, which eliminates cross-departmental data query barriers and helps to establish a closed-loop ecosystem of data collection-processing-application.

6.2. Implementation of core scenarios for cross-department data integration

When using business-finance integration, the system will automatically synchronize the sales, procurement, and financial documents to guarantee that real-time data is consistent and remove manual reconciliation. It supports multi-dimensional cost accounting, inter-departmental data integration, and accurate cost-profit analysis to enable proper cost control. Tax compliance is automatic calculation of VAT, validation of tax logic and minimization of data errors to achieve regulatory compliance. To manage capital, it consolidates financial information, tracks cash flow in real time, and assists with decisions on allocating funds. The mobile functions also improve cross-departmental cooperation via electronic approvals and real-time data exchange.

6.3. Integration outcomes and comparison with similar products

The performance of Kingdee AI Star on cross-departmental data integration has been impressive. A trading company reached real-time inventory synchronization with automated financial aggregation, which increased inventory turnover by 20 percent and reduced monthly closing time to a single day. One other company enhanced end-to-end integration in production, supply, and sales, whereby order cycles were reduced by 30 percent, and reconciliation was improved by 70 percent. IDC claims that it has dominated the small and micro enterprise market over 20 years and that it has good scores in technology, scalability, and industry coverage. In comparison with the other options, ChangjieTong T+Cloud is not as deeply integrated and does not have artificial intelligence capabilities or international support, whereas Guanjia Po is more user-friendly but lacks stringent financial accounting and industry flexibility, and QuickBooks is less localized with diminished compliance and usability in the national setting.

7. Conclusion

The financial data integration between departments is the base of the digital transformation of conglomerates. The idea behind it is to eliminate the data silos and inefficiencies with the help of standardization of protocols, technological power, cooperative coordination, and quality control systems. This process will not only convert data into strategic resources but also improve the effectiveness of decision-making in various aspects such as strategy formulation, operational implementation, resource deployment, and risk assessment. In practice, systematic application of cross-departmental financial data integration allows conglomerates to build data-driven decision-making models, enhance market flexibility and key competitiveness, and create the basis of sustainable development.

Disclosure statement

The author declares no conflict of interest.

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