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Digital Transformation and Strategic Cost Optimization: A Case Study of Dongguan Brilliant Asian Union Technology Co., Ltd.

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Abstract: Amid intensifying competition in the global consumer electronics market, Dongguan Brilliant Asian Union Technology Co., Ltd., a cross-border manufacturer of USB cables under Hong Kong-listed Brilliant International Group, confronts critical challenges including extensive cost accounting practices and isolated data systems across multiple factories. Grounded in value chain theory and cost management system integration, this paper analyzes the company's implementation of the Kingdee K/3 enterprise resource planning system to establish a hybrid cost management framework combining standard costing and activity-based costing. By unifying accounting standards across four production bases and integrating operational and financial data flows, the solution enables precise cost control throughout the entire chain of procurement, production, and cross-border logistics. Empirical evidence from the implementation demonstrates that business-finance integration empowered by digital tools can significantly improve cost management accuracy-reducing material waste rates to industry benchmarks, enhancing procurement cost control, and improving cross-border order profitability. The findings offer practical guidance for analogous cross-border manufacturing enterprises seeking to transition from reactive cost accounting to proactive strategic cost management.

Keywords: Strategic Cost Management; Value Chain Model; Activity-based Costing; Standard Costing; Digital Transformation

1. Introduction

The global consumer electronics industry is experiencing unprecedented competitive pressure driven by accelerating technological iteration and the rapid rise of cross-border e-commerce. For manufacturers of electronic components and accessories such as USB cables, the dual challenge of rising costs and the imperative for continuous innovation has made digital transformation not merely advantageous but existentially necessary. Digital transformation significantly enhances the global value chain position of manufacturing enterprises by improving production efficiency, reducing transaction costs, and promoting technological innovation capability(Yongzhang, 2025)[1]. Within this context, cost management has evolved from a back-office accounting function into a strategic instrument that directly determines competitive positioning and long-run profitability.

Dongguan Brilliant Asian Union Technology Co., Ltd. epitomizes this broader industry dynamic. As the core manufacturing base of Hong Kong-listed Brilliant International Group, the Company operates a complex multi-factory, multi-category production network spanning Dongguan, Fogang, Jiangxi, and Vietnam. With a substantial portion of its revenue derived from cross-border e-commerce channels-primarily through Alibaba International Station-the Company can be seen to be simultaneously exposed to raw material price volatility, cross-border logistics cost fluctuations, and the stringent compliance requirements of international markets.

Despite its operational scale-featuring numerous automated USB cable production lines with a substantial monthly output-Brilliant Asian Union's legacy cost management infrastructure had become a strategic liability. The Kingdee KIS system in use could only satisfy basic financial reporting requirements, leaving the company without the tools needed for real-time cost control, cross-factory data consolidation, or order-level profitability analysis. The resulting cost distortions impaired pricing accuracy, undermined procurement decisions, and constrained strategic planning at the group level.

The analysis is structured around two theoretical

pillars-Michael Porter's value chain model and cost management system integration theory-and traces the Company's journey from coarse-grained cost accounting to a comprehensive, data-driven strategic cost management framework. The remainder of the paper is organized as follows: Section 2 reviews the relevant theoretical foundations; Section 3 presents the Company background and pre-transformation cost management challenges; Section 4 details the system design and implementation; Section 5 evaluates the outcomes; and Section 6 concludes with implications for similar enterprises.

2. Theoretical Foundations

2.1 Value Chain Theory

Dongguan Brilliant Asian Union Technology Co., Ltd. (hereafter "Brilliant Asian Union" or "the Company") appears to epitomize this broader industry dynamic. As the core manufacturing base of Hong Kong-listed Brilliant International Group, the Company operates a complex multi-factory, multi-category production network spanning Dongguan, Fogang, Jiangxi, and Vietnam. With a substantial portion of its revenue derived from cross-border e-commerce channels-primarily through Alibaba International Station-the Company can be seen to be simultaneously exposed to raw material price volatility, cross-border logistics cost fluctuations, and the stringent compliance requirements of international markets. According to Porter's competitive strategy framework as articulated by Pádraig (2018)[5], firms operating in such environments must choose between cost leadership, differentiation, and focus strategies to achieve sustainable competitive advantage.

2.1.1 The Dual Structure of the Value Chain

Porter's model distinguishes between the internal value chain and the external value chain, together constituting a comprehensive analytical framework for cost formation and value creation. The internal value chain encompasses all value activities subject to the firm's direct control, subdivided into primary activities and support activities. Primary activities-inbound logistics, operations, outbound logistics, marketing and sales, and after-sales service-directly participate in the physical creation of the product or service. Support activities-firm infrastructure, technology development, human resource management, and procurement-provide the institutional, technical, human, and material foundations upon which primary activities depend. Critically, the quality of support activities determines the efficiency and cost profile of primary activities, making them a significant source of latent cost optimization potential.

The external value chain extends the analytical boundary beyond the firm to encompass the broader industrial value network: upstream suppliers, downstream customers, distribution channel partners, and other industry participants. Effective management of the external value chain does not mean shifting costs onto partners but rather reducing total system costs through information sharing, process synchronization, and resource integration. For cross-border manufacturers, this dimension is particularly salient, as international logistics providers, platform operators, and overseas distributors all contribute materially to the total cost structure.

2.1.2 Application Logic of the Value Chain Model

In cost management practice, the value chain model is applied through a three-stage recursive process: mapping, analyzing, and optimizing. During the mapping stage, all internal and external value activities are systematically decomposed, and costs are quantified for each activity to identify value mismatches and redundant processes. During the analysis stage, key cost drivers are identified, controllable and non-controllable costs are distinguished, and priority areas for optimization are determined. During the optimization stage, internal process reengineering, cross-departmental coordination, and external supply chain integration are deployed to achieve structural cost improvements aligned with strategic objectives.

This model demands high levels of data connectivity and business-finance integration, which for most mid-sized manufacturers necessitates a robust digital infrastructure. As discussed in Section 2.2, the integration of multiple cost accounting methods within a unified digital platform is the mechanism through which value chain principles are operationalized.

2.2 Cost Management System Integration Theory

In complex manufacturing environments characterized by multi-category production, cross-factory operations, and cross-border

commerce, no single cost accounting method can simultaneously satisfy all managerial requirements: external reporting compliance, internal decision relevance, real-time process control, and precise overhead allocation. Cost management system integration theory addresses this limitation by arguing for the purposeful combination of multiple costing methods within a unified digital platform, enabling a single underlying data set to serve multiple analytical purposes.

The integrated framework synthesizes four distinct costing methodologies, each performing a specific function within the overall system:

2.2.1 Full Absorption Costing as the Compliance Foundation

Full absorption costing aggregates all production costs-direct materials, direct labor, and the full allocation of manufacturing overhead-in accordance with accounting standards, serving as the basis for inventory valuation, profit measurement, and external financial reporting. Within an integrated digital system, full absorption costing constitutes the foundational accounting layer, ensuring the completeness and auditability of cost information.

2.2.2 Variable Costing for Internal Decision Support

Variable costing separates fixed and variable costs, providing a transparent view of the relationship between volume, cost, and profit. This methodology is particularly well suited to order profitability analysis, pricing decisions, and capacity optimization. Within the integrated system, variable costing runs in parallel with full absorption costing from the same underlying data, generating contribution margin reports without disrupting external reporting requirements.

2.2.3 Standard Costing for Real-Time Process Control

Standard costing establishes predetermined consumption standards for materials, labor, and overhead, enabling real-time comparison between actual and standard costs and the automatic calculation of variances attributable to specific processes, work orders, and responsible departments. Within the digital system, standard costs are embedded as control parameters, transforming cost management from a retrospective analytical activity into a prospective constraint mechanism. According to Chen et al. (2019)[8], the standard cost method enables enterprises to calculate and analyze cost variances by comparing standard and actual costs, thereby implementing cost control and evaluating management performance through exception management principles.

2.2.4 Activity-Based Costing for Precise Overhead Allocation

Activity-based costing traces overhead costs through a resource-activity-product pathway, allocating indirect costs to products based on actual consumption of activities rather than arbitrary volume-based drivers. In multi-product, multi-process environments, activity-based costing resolves the cost distortions inherent in traditional allocation methods, providing accurate product cost information as the basis for pricing, product mix optimization, and process improvement. Empirical evidence from Zha (2024)[9] confirms this advantage: in a comparative study of a parts manufacturing company, time-driven activity-based costing revealed that traditional methods had systematically undervalued high-complexity products, whereas ABC provided more accurate cost information that better reflected actual resource consumption.

2.2.5 The Integrated Logic

The power of the integrated framework lies not in the mechanical coexistence of four methods but in their logical interconnection within a shared digital infrastructure. A single master dataset-bill of materials, routing, resource prices, and cost drivers-feeds all four methodologies simultaneously. Full absorption costing ensures external compliance; variable costing informs internal decisions; standard costing provides control benchmarks; activity-based costing delivers allocation precision. The result is a cost management system that is simultaneously compliant, decision-relevant, control-oriented, and analytically precise-a capability profile that no single method can achieve in isolation. Integrated Resource Planning tools implementation success hinges not only on technical aspects but also on aligning the system with organizational structure, culture and practices (Armin & Leila, 2025)[4].

3. Company Background and Pre-Transformation Cost Management Challenges

3.1 Industry Context and Competitive Dynamics

The global USB cable market has grown

substantially, with Type-C and fast-charging products now accounting for the majority of total market volume. China contributes the vast share of global production capacity, with thousands of manufacturers concentrated in the Pearl River Delta region of Guangdong Province. The industry exhibits a pronounced bipolar structure: large-scale manufacturers with technological capabilities and brand recognition occupy the mid-to-high-end segment, while smaller producers cluster in the low-end segment in a race-to-the-bottom on price.

For export-oriented manufacturers, cross-border e-commerce platforms such as Alibaba International Station and Amazon have become the primary sales channels, accounting for a significant portion of USB cable exports. However, these channels impose stringent requirements: overseas buyers exhibit high price sensitivity and demanding delivery standards, while platform commissions and after-sales costs directly erode order profitability. Simultaneously, core raw materials-copper and PVC plastic-account for the vast majority of production costs and experience frequent monthly price volatility, making precise cost management a strategic imperative rather than an administrative convenience.

3.2 Company Profile

Brilliant Asian Union is the headquarters manufacturing base of Brilliant International Group, established in 1990 and listed on the Hong Kong Stock Exchange in the early 2000s. The Group operates four production bases: Dongguan as its headquarters, along with Fogang, Jiangxi, and Vietnam, giving it a large-scale monthly production capacity. The Company's product portfolio includes Type-C fast-charging cables, data transmission cables, and specialty cables for consumer electronics, smart home devices, and automotive applications. Organizationally, the Company employs a functional structure comprising six departments: R&D, procurement, production, cross-border sales, finance, and supply chain. The cross-border sales department maintains a dedicated Alibaba platform operations team, and the Company's store rating has consistently remained at a high level for several consecutive years.

3.3 Pre-Transformation Cost Management Deficiencies

The Company's legacy Kingdee KIS system, while adequate for basic financial reporting, was fundamentally misaligned with the demands of a multi-factory, multi-category, cross-border operation. Four categories of deficiency were identified:

3.3.1 Methodological inadequacy: single-method costing

The Company's existing cost accounting relied exclusively on a product-category method, aggregating direct materials and direct labor by product line while allocating indirect costs through simple volume-based averaging. This approach generated systematic cost distortions in a multi-product environment. High-complexity products-such as fast-charging cables requiring proprietary waterproofing processes and intensive R&D investment-were undercosted relative to commodity data cables, leading to underpriced high-end products and overvalued margins on low-end products. Additionally, cross-border-specific costs such as Alibaba platform commissions, international freight, and customs duties were treated as period expenses rather than product costs, making order-level profitability analysis impossible and Alibaba platform pricing decisions unreliable.

Raw material costing exhibited a further temporal mismatch. The KIS system calculated material costs using beginning-of-month weighted-average prices, despite copper and PVC prices experiencing substantial fluctuations on a monthly basis. This led to noticeable cost deviations by the end of the month, which undermined the accuracy of procurement decisions and eroded the Company's ability to respond effectively to market price signals.

3.3.2 Process disconnection: cost management confined to post-hoc accounting

Cost management was largely retrospective, remaining disconnected from the operational flows of production, procurement, and sales. In the production domain, the KIS system was unable to link work orders to cost data, making it difficult to flag material overconsumption, excessive machine downtime, or labor inefficiency in real time. The Company's copper consumption rate was identified as an area requiring attention, yet this did not trigger any systematic corrective response. In the procurement domain, purchase plans were derived solely from production orders without incorporating price trend analysis or safety stock optimization models; for instance, a copper price

increase during one quarter led to avoidable procurement cost overruns. In the sales domain, the cross-border sales team lacked access to real-time cost data when setting prices on the Alibaba platform, resulting in instances where promotional campaigns generated net losses on certain orders.

3.3.3 Data fragmentation: multi-factory information silos

Each of the four production bases operated an independent KIS system with incompatible accounting standards. The Dongguan headquarters used actual cost accounting while the Vietnam subsidiary employed a simplified costing method adapted to local tax regulations. This inconsistency prevented meaningful cross-factory cost comparisons, obscured the logistics cost advantage of the Vietnam operation, and precluded group-level cost analysis. Monthly data consolidation required a substantial amount of manual effort, making cost analysis reports chronically late and insufficiently detailed to support the CEO's strategic decisions on overseas expansion and product portfolio management.

3.3.4 System capability gaps: absence of strategic cost management tools

The KIS system lacked several capabilities essential for strategic cost management: no standard cost module for establishing control benchmarks or analyzing variance causes; no activity-based costing functionality for precise indirect cost allocation; and no cost-volume-profit analysis tools for calculating product contribution margins. Consequently, short-term production decisions, pricing strategies, and capacity allocation continued to rely on managerial judgment rather than quantitative analysis, representing a structural impediment to Company's strategic development.

4. Kingdee K/3 System Design and Implementation

4.1 Phase One: Foundational System Architecture

4.1.1 Unified data standards

The Dongguan headquarters led the development of enterprise-wide data standards governing cost account codes, bill-of-materials structures, material codes, process codes, cost driver codes, and order codes. These standards were designed to cover the full scope of USB cable production processes, cross-border e-commerce operations, and multi-factory activities. Historical cost data from the KIS system-including material costs, production hours, and order records-were cleaned, reconciled, and migrated to K/3, ensuring data continuity and eliminating information gaps at the system transition point.

4.1.2 Group-level organizational architecture

A two-tier organizational hierarchy-group headquarters and subsidiary factories-was configured in K/3, with clearly defined coding, authority boundaries, and reporting responsibilities for each entity. Group headquarters was granted full data visibility, standard-setting authority, and strategic decision support capabilities; subsidiary factories were authorized to perform cost accounting, data submission, and process execution within defined parameters. Recognizing the tax regime differences in Vietnam, the system architecture incorporated a local tax compliance interface that preserved group-level accounting consistency while accommodating local regulatory requirements.

4.1.3 Cross-module integration

The K/3 cost management module was integrated with production management, supply chain management, sales management, online store management, multi-entity accounting, and the group data center. This integration established bidirectional data channels: procurement data flows automatically to cost accounting; production data updates cost records in real time; sales data and cost data are linked for profitability analysis; and cross-border e-commerce costs are automatically assigned to their corresponding orders. The result is a continuous, automated data pipeline that eliminates manual data entry, reduces transcription errors, and ensures cost information reflects current operational reality.

4.1.4 Access Control and Process Configuration

Differentiated access rights were configured for finance, production, procurement, sales, and group management roles, covering data viewing, entry, approval, and modification permissions. Core process nodes-raw material procurement costing, production work order cost accumulation, overhead allocation, cross-border cost aggregation, group data consolidation, and report generation-were preconfigured in the system with defined responsible parties and operational standards, providing a governance framework for subsequent process optimization.

4.2 Phase Two: Targeted Cost Management Solutions

4.2.1 Reconstructed cost accounting framework

The single traditional volume-based costing method was replaced with a hybrid framework that combines product-level costing with activity-based costing (ABC). The Company's core production processes-injection molding, soldering, testing, packaging, R&D, and waterproofing-were mapped to dedicated activity centers within K/3. Cost drivers were specified for each center: direct machine hours and labor hours for manufacturing overhead allocation; process complexity indices for R&D and waterproofing cost allocation. This configuration enables the system to accurately distinguish the cost profiles of commodity data cables, fast-charging cables, and specialty waterproof products, eliminating the systematic mispricing that characterized the previous method.

Cross-border-specific costs-Alibaba platform commissions, international freight, platform service fees, and import duties-were reclassified from period expenses to order-specific cost elements. The K/3 system automatically aggregates these costs to their corresponding SKUs and individual orders, generating real-time order-level gross margin calculations that serve as the authoritative basis for Alibaba platform pricing and promotional decision-making.

Raw material costing was converted from a beginning-of-month weighted average to a moving weighted average method. The procurement-production data linkage in K/3 helps ensure that material unit costs are updated automatically upon each purchase receipt, and production material issues are priced at the current moving average, keeping cost accounting closely aligned with market price movements.

4.2.2 Full-chain cost control mechanism

A closed-loop cost control mechanism spanning procurement, production, and sales was established, transforming cost management from a retrospective accounting exercise into an integrated operational control system.

In the production domain, K/3's standard cost module was activated to embed control benchmarks directly into operational workflows. Standard waste rates for copper and other core materials were established based on industry benchmarks and internal historical data. The system was configured to monitor actual material consumption against standards in real time and automatically trigger alerts for overconsumption, extended machine downtime, and abnormal labor hours. This real-time variance monitoring mechanism reflects Chen et al.'s (2019)[8] argument that standard costing facilitates cost control by establishing standard limits for quantity and price, requiring that expenditures be controlled during business processes according to cost standards. Production efficiency metrics-material waste rates, overall equipment effectiveness, and labor utilization rates-are directly linked to cost data, enabling production managers to identify and address cost concentration points with precision.

In the procurement domain, K/3's supply chain and cost modules jointly support a procurement cost budgeting system. The system generates purchase recommendations based on material price trend analysis, safety stock levels, and economic order quantity models, replacing the previous practice of procurement planning driven solely by production orders. Historical price comparison, monthly price volatility analysis, and price escalation alerts equip the procurement team with the analytical tools needed to execute forward purchasing contracts on copper and other bulk materials, reducing exposure to adverse price movements.

In the sales domain, the integration of sales management and cost management modules enables real-time cost data access at the point of pricing and promotional decision-making. When the cross-border sales team configures Alibaba platform listings, K/3 automatically retrieves the current production cost and cross-border-specific cost for each SKU, generating breakeven price and recommended selling price calculations. Before approving promotional campaigns, managers use K/3's cost-volume-profit analysis function to model discount floors and projected profitability outcomes, preventing the recurrence of loss-generating promotional orders.

4.2.3 Group-level multi-factory cost management

The data silo problem was addressed through a combination of standardization and centralization. Uniform cost accounting standards-covering account codes, overhead allocation rules, costing methods, bill-of-materials structures, and material waste benchmarks-were mandated across all four production bases. The Vietnam subsidiary's costing method was harmonized with the

Dongguan headquarters through the tax compliance interface, enabling meaningful cross-factory cost comparisons for the first time and making the Vietnam operation's logistics cost advantages analytically visible.

All factory-level cost data can be transmitted to the group data center in real time via K/3's multi-entity accounting module, replacing the previously time-consuming manual consolidation process. Group management can access consolidated cost dashboards at any time, and standard management reports can be generated promptly after the reporting period ends-dramatically compressing the information latency that previously tended to impede strategic decision-making. Internal transfer pricing between factories is generally processed at actual cost through K/3's organizational architecture, which helps eliminate intercompany profit inflation and supports the accuracy of consolidated group financial data. Cross-functional decision support systems that integrate capacity planning, order management, and supplier selection can significantly reduce planning silos in global production networks, enabling coordinated decision-making across geographically dispersed manufacturing sites(Benfer & Hörger, 2025)[2].

4.2.4 Strategic cost management capability upgrade

The full analytical potential of the K/3 platform was activated to complete the transition from operational cost accounting to strategic cost management. The standard costing system was comprehensively deployed across materials, labor, and manufacturing overhead, with automatic variance computation and responsibility tracing to specific processes, work orders, and organizational units. Standard costs are subject to periodic reassessment through K/3's historical variance analysis tools, enabling the control framework to evolve with changes in production technology and market conditions.

Activity-based costing was extended to support multi-dimensional profitability analysis across products, customers, orders, geographic regions, factories, and sales channels. This capability provides management with a nuanced understanding of value creation and cost generation across the business portfolio, informing decisions on product rationalization, customer tiering, channel investment, and geographic expansion. Complementary decision support tools-contribution margin analysis, breakeven analysis, product mix optimization, and order profitability simulation-are embedded in K/3, enabling data-driven decision-making to replace the experiential judgment that previously governed short-term operational and strategic choices.

5. Implementation Outcomes and Analysis

5.1 Cost Accounting Precision

The most direct measurable outcome of the transformation is the improvement in cost accounting accuracy. The overall cost accounting deviation rate was reduced significantly, representing a substantial improvement in precision. Cross-border order profitability accounting accuracy improved markedly, providing the cross-border sales team with reliable cost foundations for pricing and promotional decisions. The Alibaba International Station order conversion rate showed an improvement following the implementation of accurate, real-time pricing guidance-a commercial outcome that can be directly attributed to the enhancement in cost information quality.

5.2 Cost Control Effectiveness

The real-time process control capabilities introduced through the standard costing module produced quantifiable operational improvements. The copper material waste rate declined to a level consistent with industry benchmarks, resulting in meaningful annual material savings. This study demonstrates that digital transformation has a favorable impact on firm value, and that cost leadership strategy and differentiation strategy significantly mediate the relationship between both of them (Changman & Xiaoxing, 2024)[3]. Procurement cost overruns attributable to raw material price spikes were reduced through the combination of price trend monitoring and forward purchasing support. The cross-border e-commerce orders gross margin showed improvement, reflecting the combined effects of more accurate pricing, reduced material waste, and the elimination of loss-generating promotional campaigns.

5.3 Group Management Capability

The multi-factory data silos were largely eliminated, with standardized accounting methods applied consistently across all four production bases. Management decision

response speed improved, as measured by the time elapsed between an operational event and the availability of cost analysis supporting a management response. The Vietnam subsidiary's cross-border order delivery cycle appeared to be shortened, enabled by the analytical visibility into its logistics cost advantages that the standardized, integrated system now provides. Internal transaction settlement processes became more disciplined and transparent, improving the reliability of consolidated group financial data.

5.4 Strategic Cost Management Transition

The transformation successfully effected the transition from an operationally-focused, reactive cost accounting system to a strategically-oriented, proactive cost management infrastructure. Product pricing, promotional strategy, capacity allocation, procurement timing, and geographic expansion are now grounded in quantitative cost analysis rather than managerial judgment. The Company has demonstrated a measurable improvement in the cross-border USB cable market competitive cost position, validating the strategic premise of the transformation initiative.

6. Discussion: Implications and Limitations

6.1 Theoretical Implications

The Brilliant Asian Union case provides empirical support for several theoretical propositions. First, it demonstrates the operationalizability of Porter's value chain model in a real-world cross-border manufacturing context: by systematically mapping, analyzing, and reconfiguring value activities-from raw material procurement through cross-border logistics and platform operations-the Company achieved measurable cost improvements across the full value chain. Second, the case validates the integrated cost management system framework: the combination of standard costing, activity-based costing, variable costing, and full absorption costing within a unified K/3 platform delivered capabilities that no single method could achieve independently. Third, the case illustrates the enabling role of digital infrastructure: the theoretical frameworks for value chain analysis and integrated costing were not new, in the digital economy era, their practical implementation at scale required a digital platform capable of real-time data integration, automated computation, and multi-dimensional reporting, as digital platform capability has emerged as a critical driver of firm value creation (Chen et al., 2026)[6].

6.2 Practical Implications

For cross-border manufacturing enterprises facing analogous challenges, the Brilliant Asian Union experience suggests several practical principles. First, foundational data architecture-unified coding standards, consistent accounting methods, and integrated system modules-is a prerequisite for any advanced cost management capability; investments in this layer should precede investments in analytical tools. Second, cost management transformation is most effective when designed with specific operational problems in mind, not as a generic system upgrade; the problem-oriented methodology ensured that each system capability addressed a documented cost management deficiency. Third, the scope of cost management must expand to encompass cross-border-specific costs as an integral component of product economics, not as period expenses, to support accurate platform pricing and channel profitability analysis.

6.3 Limitations and Future Research

As a single-company case study, the findings have limited generalizability. The specific configurations and outcomes described may not transfer to companies of different industries, scales or organizational structures. The performance data are derived from internal management records without independent third-party audit. Future research can adopt multi-case comparative study or quantitative modeling to explore the correlation between management system maturity and enterprise performance.

In addition, this paper does not involve organizational change, staff training and resistance factors, which can be further explored in subsequent research.

7. Conclusion

This paper has examined Dongguan Brilliant Asian Union's digital cost transformation initiative, analyzing how the Company designed and implemented a Kingdee K/3-based integrated cost management system to address critical deficiencies in cost accounting precision, process control, cross-factory data consolidation, and strategic analysis capability.

The analysis demonstrates that the successful

integration of value chain theory and cost management system integration principles, operationalized through a well-designed digital platform, can transform cost management from a compliance-oriented accounting function into a strategic competitive instrument. By eliminating data silos, embedding cost control into operational workflows, enabling order-level profitability analysis, and providing real-time decision support, the Company achieved measurable improvements: accounting errors were significantly reduced, material waste rates were brought down to industry standards, procurement costs were better controlled, and group decision-making efficiency was greatly improved.

For cross-border manufacturing enterprises, digital transformation is not only technical replacement but strategic architecture reconstruction. Only by building a theoretically grounded, problem-oriented cost management system can enterprises maintain advantages in fierce market competition while ensuring continuous improvement in corporate efficiency (Buonocore et al., 2024)[7].

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