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Research on the Challenges and Countermeasures of Implementing Intelligent Expense Control in Enterprise Financial Shared Service Centers

Kaiying Yan[a]

Tianjin University of Science and Technology, Tianjin, 300222, China

[a]ykyfqb@163.com

Abstract

Against the backdrop of the digital economy and the digital transformation of enterprises, intelligent expense control systems have become a key tool for enhancing the operational efficiency and value creation capabilities of Financial Shared Service Centers (FSSCS). However, practice has shown that enterprises generally encounter the predicament of "easy to go online but difficult to achieve results" during the implementation process. The white paper "A New Era of Financial Management:" jointly released by Deloitte and HSI in 2025 The "Outstanding Path of Intelligent Expense Control for World-Class Enterprises" points out that although more than half of the enterprises have adopted intelligent expense control systems, only a few have successfully implemented AI scenarios and achieved regular application. The majority of enterprises still face multiple practical obstacles such as system integration, data governance, organizational adaptation, compliance risk control, and talent support. The problem of the system being "in form but not in spirit" is prominent. Based on the Technology-Organization-Environment (TOE) framework and the Business Process Reengineering (BPR) theory, and by introducing the "L1-L5 non-reimbursement classification standard" and the "Four-step Breakthrough Method for AI Implementation" proposed in the above-mentioned white paper, this study has constructed a comprehensive analysis framework and response system of "technology integration - organization activation - environment adaptation". Based on case studies, it is found that the key factors affecting the effective implementation of intelligent expense control include system integration obstacles in the technical dimension, resistance to institutional processes and the scarcity of financial talents in the organizational dimension, as well as dynamic changes and the lack of relevant standards in the environmental dimension. This study proposes effective countermeasures from aspects such as hierarchical and phased technical construction, business process reengineering, organizational change, and regulatory external environment, providing support for enterprises to build an efficient intelligent expense control system and promoting the high-quality and long-term development of financial sharing and intelligent expense control.

Keywords

Intelligent Expense Control; Financial Management; TOE Theory; BPR Theory.

1. Introduction

Driven by the current digital wave, the financial management model of enterprises is undergoing profound changes. According to the latest industry research data, most large enterprises have already established or are in the process of setting up financial shared service centers. Their functional positioning has gradually shifted from the initial standardized

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business processing to a new role of data services and strategic decision support. During this transformation process, the intelligent expense management system has achieved the automation and intelligence of the entire expense management process by integrating advanced technologies such as artificial intelligence and big data analysis, becoming an important driving force for enhancing the comprehensive efficiency of the financial shared service center[1,2]. However, practice has shown that many enterprises face severe challenges in the process of introducing intelligent expense management systems. In recent years, artificial intelligence technology has been driving financial management towards a new era of intelligence. The white paper "The New Era of Financial Management: The Path to Excellence in Intelligent Expense Control for World-Class Enterprises" jointly released by Deloitte and HSI in 2025 points out that AI is driving the core of financial management from "process efficiency" to "business insights and decision support". However, the report also points out a harsh reality: although 62% of enterprises have adopted intelligent expense control systems, only 16% have successfully implemented AI scenarios and achieved regular application. This profoundly reflects that intelligent fee control systems generally face implementation predicaments such as technical incompatibility, organizational incoordination, and environmental inapplicability. The TOE theoretical framework can effectively and comprehensively explain the obstacles of intelligent expense control from the three dimensions of technology, organization and environment[3-5]. The BPR theory lays a theoretical foundation for the reengineering of technological processes and the optimization of organizational talents[6]. This study holds that the combination of the two can effectively solve the problem of implementing intelligent expense control.

2. Literature Review

Regarding the development trajectory of the financial shared service center, academic research generally agrees that it has gone through three main evolutionary stages: initially, the focus was on achieving scale benefits through business centralization; then, it entered a period emphasizing process optimization and improvement of service experience; currently, it is moving towards a higher stage that emphasizes data empowerment and value creation. This shift in positioning has set higher standards for the technical application level of the financial shared service center and has created conditions for the promotion of intelligent cost management systems[1].

In the field of intelligent cost management research, scholars generally believe that it has gone beyond the scope of traditional electronic reimbursement and developed into a comprehensive management system integrating budget management, process control, and analysis and warning. Its technical foundation includes multiple dimensions such as automatic data collection, intelligent rule judgment, process automation, and predictive analysis[2,3]. The industry-proposed maturity assessment model clearly shows the development path from basic automation to advanced intelligent decision-making, providing a theoretical basis for evaluating the implementation stage of enterprises.

Intelligent cost control has gone beyond the scope of traditional electronic reimbursement and developed into a closed-loop management system integrating pre-budgeting, in-process control, and post-analysis[4,5].

This study mainly relies on two theoretical frameworks: the technology-organization-environment analysis paradigm provides a multi-dimensional perspective for comprehensively examining the influencing factors of implementation; the business process reengineering theory provides theoretical support for understanding the resistance and driving mechanism in management change. Through literature review, it is found that there are obvious deficiencies in existing research: first, there is a lack of exploration of integrating the above

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theoretical frameworks into the intelligent cost management scenario; second, the research on the interaction mechanism between various obstacles is relatively weak; finally, the existing solution research often presents fragmented characteristics and lacks systematic implementation guidance. This study aims to fill these research gaps.

3. Research Significance

3.1. Theoretical Significance

This study combines the TOE theory framework with the BPR theory and introduces it into the research field of implementing intelligent cost control[6]. It also refers to the relevant data from the white paper jointly released by Deloitte and Hesine in 2025, titled "Financial Management in the New Era: The Path to Excellence in Intelligent Cost Control for World-Class Enterprises", providing a new theoretical application field for the digital transformation of financial data, filling the gap in existing research on intelligent cost control, establishing a comprehensive analytical framework of "technology - organization - environment", and improving the theoretical foundation for enterprise financial sharing and the implementation of intelligent cost control[1,3].

3.2. Practical Significance

Based on the TOE theory framework and BPR theory, this study systematically analyzes the obstacles to implementing intelligent cost control. It also refers to the maturity model in the white paper jointly released by Deloitte and Huosisi, combines specific research cases such as Haier Group's relevant implementation experience, and points out practical and replicable optimization suggestions, which can effectively help enterprises reduce the cost of digital transformation, improve the efficiency of implementing intelligent cost control, and promote the development of the enterprise's financial sharing center towards financial data digitization[2,5].

3.3. Domestic and International Research Status

On one hand, the TOE theory framework is widely applied by domestic and foreign scholars in areas such as enterprise informatization and digital transformation, emphasizing the influence of technological characteristics, organizational change, and external environment on enterprises. On the other hand, the BPR theory is applied in environments such as financial process optimization and shared service construction, serving as an important theoretical basis for internal process reconstruction within enterprises[6].

Domestic research mainly focuses on the construction of financial sharing centers and the application of intelligent cost control, often using the TOE theory framework or BPR theory to analyze financial digital data information[1,2].

This paper takes the TOE theory framework and BPR theory as theoretical guidance, references the relevant data from the 2025 white paper, and through case analysis, identifies the challenges faced by the implementation of intelligent cost control in enterprise financial sharing centers and targeted countermeasures, thereby filling the gap in the field of implementing intelligent cost control.

4. Research Methods

This study takes the TOE theoretical framework as the main dimension for conducting a systematic analysis. The BPR theory serves as the basis for process optimization, and data from the white paper jointly released by Deloitte and Huoshou in 2025 is referenced. The core concepts of financial sharing and intelligent cost control are defined, the current implementation status and main obstacles of intelligent cost control are summarized and

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classified, the underlying reasons are analyzed, effective corresponding strategies are proposed, and an in-depth analysis is conducted using Haier Group as a case study[4-5].

This study mainly employs the methods of literature research, data analysis, and case analysis.

This study adopts a qualitative research orientation that combines explanatory and exploratory approaches. In terms of sample selection, a large-scale group enterprise with industry representativeness was chosen as the research object: Haier Group (Haier Home Appliance).

5. Research Innovation Points

5.1. High Theoretical Integration

Combining the TOE theoretical framework and the BPR theory to form a complete analytical model that is more suitable for the implementation of intelligent cost control in the financial sharing center of enterprises[1,6].

5.2. Strong Data Timeliness

Referencing the relevant data and five-level maturity model in the white paper jointly released by Deloitte and Hesine in 2025, which innovatively proposed "No need for reimbursement classification standards in the AI era", dividing the enterprise's fee control capability maturity into five levels: L1 - manual reimbursement, all processes relying on manual completion; L2 - electronic reimbursement, process onlineification, system-assisted operations; L3 - primary no-reimbursement, integration of consumption ecology, some links achieving no-reimbursement; L4 - intermediate no-reimbursement, basic realization of no-reimbursement for the entire chain, rare scenarios requiring manual intervention; L5 - advanced no-reimbursement, full-scenario, full-chain intelligence, processes "following the business".

This model provides a clear benchmark for enterprises to evaluate their own fee control capabilities. The white paper further pointed out that the future direction of intelligent cost control is to evolve from "process-based tools" to "decision-making platforms", and its core competitiveness will no longer be the reimbursement speed, but rather in business insight and prediction capabilities[3-4].

5.3. Sufficient Case Authenticity

Taking the global financial sharing and intelligent cost control practices of Haier Group as the research case, providing reliability and feasibility for the research conclusions[2,5].

6. Core Theoretical Foundation

6.1. Core Concept Division

(1) A financial shared service center is an organizational model where the enterprise centrally handles repetitive and standardized business processes such as expense reimbursement, accounting, and fund disbursement that are scattered across various branch subsidiaries and institutions. Through unified processes, standards, and systems, it aims to achieve cost reduction and efficiency improvement, strengthen internal control, and support strategic goals[1].

(2) Intelligent cost control refers to the rational use of modern digital technologies such as AI and big data to manage a series of integrated financial expenditure and expense management processes including budgeting, application, consumption, reimbursement, reconciliation, archiving, and risk control. Ultimately, it realizes the "no-reimbursement" high-level form of "consumption as reimbursement" without any feeling of reimbursement and without human review[4-5].

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6.2. TOE Framework Theory

The TOE framework theory, also known as the Technology - Organization - Environment framework theory, was initially proposed by Tornatzky and Fleisher in 1990. It is a theoretical model used to analyze the adoption of enterprise information technology and the diffusion of innovation. It holds that the implementation of enterprise information technology is influenced by three factors: technology, organization, and environment. The technological dimension: The characteristics of the technology itself have a direct impact on the decision-making of enterprise adoption. This includes the existing technical foundation, system compatibility, and new technology features; the organizational dimension: Internal organizational factors include organizational structure, culture, and resources. This includes organizational size, strategic support, process foundation, and talent structure; the environmental dimension: External environment includes government policies and industry norms, industry competition, partners, and market ecology.

The interaction of these three factors jointly affects the implementation effect of the enterprise.

6.3. BPR Theory

BPR theory, also known as the Business Process Reengineering theory, was proposed by Hammer and Champy. The core of the theory emphasizes fundamental and thorough reengineering of business processes, breaking down departmental barriers, simplifying redundant steps, and thereby improving efficiency, reducing costs, and enhancing quality. In the field of intelligent cost control, BPR emphasizes process-centeredness, promoting the shift to process-driven, thereby promoting process optimization, organizational coordination, etc[6].

6.4. Integration of TOE Framework and BPR Theory

The TOE framework explains why there are obstacles to implementation, while the BPR theory points out how to solve process and organizational issues. The technological dimension provides tools for BPR, the organizational dimension emphasizes the coordinated adjustment of structure and personnel in BPR, and the environmental dimension focuses on the external driving pressure of BPR. The combination of the two complements each other and forms a relatively complete integrated system[1,6].

7. Challenges in Implementing Intelligent Fee Control

7.1. Technical Dimension: Integration Barriers and Inadequate Adaptation

The existing systems are outdated and not unified, unable to integrate with ERP, OA, and tax systems; the general system cannot meet individualized needs; the cost of technological iteration is high, and the return on investment is highly uncertain[1,3].

7.2. Organizational Dimension: Process, Collaboration, and Capability Constraints

The enterprise lacks top-level design and does not place intelligent fee control in the overall strategy. Based on the BPR theory, the process serves as the driving force, with many breakpoints and strong redundancies, lacking a collaborative mechanism for financial resources, and insufficient intelligent digitalization capabilities of financial personnel, resulting in significant resistance and numerous obstacles to organizational change[2,6].

7.3. Environmental Dimension: Regulatory Pressure and Imperfect Ecological Environment

The national and regional tax and finance policies change rapidly, while the relevant rules of enterprises lag behind. The regulations for cross-border, cross-regional, and cross-domain are

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complex. There is a lack of unified industry standards, leading to an imperfect external ecological environment[3,5].

8. Main Factors Affecting the Implementation of Intelligent Fee Control

8.1. Technical Factors: Relatively Conservative Technology and Lack of Integration Requirements

Most enterprises often focus on procurement but neglect planning, lacking consideration of system compatibility, resulting in the absence of data management technology[1,3].

8.2. Organizational Factors: Conventional Organizational Management and Insufficient Process Reengineering

The organizational framework is segmented, not yet developed to the terminal process reconstruction stage, not valuing the cultivation of high-tech talents, and delaying organizational change management when encountering some obstacles[2,6].

8.3. Environmental Factors: Strong Regulatory Dynamics and Inadequate External Ecological Environment

Lack of real-time response to policies, ignoring industry standardization and the coordination of the external ecological environment[3,5].

9. Countermeasures for the Challenges in Implementing Intelligent Fee Control Based on the TOE Theory Framework and BPR Theory

9.1. Technical Aspects: Build an Expandable and Systematic Intelligent Platform

Refer to the matured model L1-L5 in the white paper for phased construction. Establish unified data standards, break system barriers. Establish a data center, connect data islands, improve response efficiency, reduce duplicate costs, empower front-end business, and achieve a global perspective[1,4].

9.2. Organizational Aspects: Promote Process Reengineering and Organizational Transformation Upgrade with BPR Theory as the Core

Rebuild the entire cost process based on BPR theory, eliminate redundant points, achieve intelligence and automation. Establish an industry-finance coordination team, attach importance to the cultivation of high-capacity financial-business talents, and strengthen organizational change upgrade management[2,6].

9.3. Environmental Aspects: Build Dynamic Compliance and Integrated Management of External Ecology

Establish a system for rapid update of real-time policies and industry rules, improve one's own adaptability to cross-border compliance, actively participate in the construction of industry standards, and achieve high-quality development of the consumption-reimbursement-payment-tax reporting ecological management[3,5].

10. Case Analysis - Taking the Implementation of Intelligent Fee Control in Haier Group's Financial Shared Center as an Example

10.1. Overview of the Case Enterprise

Haier Group is a global home appliance and intelligent manufacturing enterprise with business coverage in multiple fields worldwide. It has numerous subsidiaries, manufacturing bases, and

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marketing outlets, and its financial management is highly complex. To achieve centralized financial control, cost reduction and efficiency improvement, as well as risk prevention, Haier established a group financial shared service center early on, which uniformly handles expense reimbursement, accounting, fund payment, and tax compliance and other businesses. With the deepening of digital transformation, Haier's financial shared service center has gradually advanced the construction of an intelligent fee control system. Through technological upgrades, process establishment, and organizational transformation, it has achieved intelligent management of the entire expense cycle and has become a typical representative of financial digitalization transformation in the manufacturing industry.

10.2. Challenges of Haier Group's Implementation of Intelligent Fee Control

Challenges in implementing intelligent fee control based on the TOE framework: Haier, while promoting intelligent fee control, also faced practical constraints in the technical, organizational, and environmental dimensions, which were highly consistent with the pain points of most large group enterprises.

10.2.1 Technical Dimension

First, the existing information systems were scattered, with inconsistent interfaces between ERP, OA, fee control platforms, and tax systems, resulting in system isolation. Second, the expense scenarios were complex, including overseas business, marketing expenses, and project research and development expenses, and the adaptability of general intelligent review tools was insufficient. Third, the historical data standards were not unified, and the data quality was uneven, affecting the effectiveness of intelligent review and risk identification.

10.2.2 Organizational Dimension

On one hand: The group organization had a high level of hierarchy, with dispersed business units, and each unit had different expense management systems and approval processes, making standardization difficult. On the other hand, financial personnel had long been engaged in traditional accounting work, lacked digital skills and system application capabilities, and there was a certain degree of adaptability within the organization to the new model. At the same time, the coordination mechanism between business and finance was not tight, and the business front did not fully understand the fee control rules, resulting in repeated processes and low efficiency.

10.2.3 Environmental Dimension

Haier's business was distributed across domestic and foreign regions, and there were significant differences in tax policies, bill rules, and regulatory requirements in different countries and regions. Compliance control was difficult. In the context of the Golden Tax IV supervision environment, the full-chain management of invoices, compliance with electronic archives, and data security requirements were constantly increasing. The group needed to complete the upgrade of the compliance system within a short period. Additionally, industry competition and the pressure of being a digital benchmark required Haier to accelerate the innovation of the fee control model and improve operational efficiency and management transparency.

10.3 Haier Group's Response Strategies Based on the TOE Theory Framework and BPR Theory

Haier's intelligent fee control optimization strategies based on the TOE framework and BPR theory:

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10.3.1 Technical Dimension: Build an Integrated Intelligent Financial Platform to Achieve Financial System Integration and Data Consolidation

Haier should, based on the financial shared center, unify the intelligent fee control architecture, integrate business systems, financial systems, tax systems, and bank payment systems, and strive to build an integrated intelligent financial platform for financial data interoperability. By introducing OCR recognition, intelligent review rules, and process automation tools, it can achieve automated financial processing such as invoice verification, expense screening, and budget verification. Standardize relevant financial data, categorize and govern historical expense data, thereby enhancing the accuracy and utility of financial data, and providing strong support for intelligent financial data analysis and financial risk prediction.

10.3.2 Organizational Dimension: Promote the Standardization of Intelligent Fee Control Processes, Strengthen Organizational Coordination and Talent Transformation

Haier Group should unify the expense management system, approval authority, and review standards at the group level, promote process standardization, eliminate redundant steps, and thereby enhance the execution power of the process. Establish an industry-finance linkage system, enabling the financial shared center to have the authority to participate in enterprise business budget and expenditure control, and strengthen the targeting of rules. Carry out training on the intelligent capabilities of financial personnel, promote the transformation of financial personnel from control-oriented, analytical, and intelligent types, and enhance the enthusiasm for talent transformation through phased assessments and effective reward mechanisms, and jointly promote organizational change.

10.3.3 Environmental Dimension: Establish a Dynamic and Reasonable System Suitable for Both Internal and External Regulatory Environments.

In response to the differences in global and domestic business operations, Haier Group should establish a reasonable, compliant management and control system that is classified, graded, and stratified. Based on the real-time policy requirements of different countries and regions, differentially configure the review processes. The system should be accurately connected to the regulatory platform, thereby achieving automatic verification of bill compliance, tax declaration, and archive management, as well as financial work traceability. It is also necessary to strengthen data and authority security management and establish internal control and risk management covering the entire process of the group's work, thereby ensuring the legal, compliant, and reasonable implementation of intelligent cost control.

Through the construction of an intelligent cost control system, the Haier Financial Shared Center has significantly improved the efficiency of cost processing, effectively shortened the reimbursement cycle, reduced the workload and pressure of manual review, and significantly reduced the financial operation costs. The effective control of risks by the intelligent cost control system has significantly reduced irregular reimbursements, excessive expenditures, and bill risks, and significantly improved the internal control level of the enterprise. The centralized and visual management of cost data by the intelligent cost control system enables the enterprise to conduct effective budget optimization, reasonable cost control, and relatively appropriate business decisions[4,5].

11 Conclusion

The research conducted with Haier Group as the case indicates that the implementation of intelligent cost control by enterprises is a process of multi-dimensional and coordinated development of technology, organization, and environment. Enterprises should be guided by the TOE theoretical framework, adjust system integration, process standardization,

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organizational coordination, and regulatory environmental management, and continuously and effectively promote the implementation at different levels based on their own business characteristics. Moreover, the continuous deepening of intelligent cost control implementation requires the effective integration of data, the timely transformation of financial personnel, and the establishment of reasonable and compliant management systems, which is conducive to improving work efficiency, effectively controlling related risks, and promoting the high-quality and long-term development of the enterprise's financial shared center.

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