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Optimization Analysis of Accounts Receivable Management in Financial Shared Service Centers Based on RPA Technology

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Abstract: Against the backdrop of accelerated digital transformation, the financial shared service center, as the core carrier of centralized financial management in enterprises, its efficiency and quality of accounts receivable management directly affects the enterprise's capital turnover, risk prevention and control, and overall operational efficiency. RPA (Robotic Process Automation) technology, with its advantages of process automation, accurate data processing, and cross-system collaboration, provides a new solution for optimizing accounts receivable management. Based on the actual situation of enterprise financial management, this paper elaborates on the practical necessity of optimizing accounts receivable management in financial shared service centers, analyzes the prominent problems existing in current management work, and constructs an optimization strategy for accounts receivable management based on RPA technology from four dimensions: customer credit management, data integration, reconciliation process, and information collection. The aim is to promote the transformation of accounts receivable management in financial shared service centers towards intelligence and efficiency, and enhance the enterprise's financial operational level and market competitiveness.

Keywords: RPA technology; Financial shared service center; Accounts receivable management; Risk prevention and control; Process optimization

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1. Introduction

In the digital age, the scale of enterprise operations continues to expand, and business boundaries are constantly extended. As an important part of an enterprise's current assets, the complexity of accounts receivable management has increased accordingly. Through centralized processing of financial business, financial shared service centers achieve process standardization and resource intensification, and have become the mainstream model of financial management for large enterprises [1]. However, with the increasing uncertainty of the current market environment, enterprises are facing greater credit risks and capital pressure. The traditional accounts receivable management model relies on manual operations, which have drawbacks such as cumbersome processes, low efficiency, high error rates, and lagging risk response, making it difficult to meet the needs of high-quality enterprise development. RPA technology can simulate manual operations and

automatically complete repetitive and rule-based business processes, and its application in the financial field has gradually deepened [2]. Introducing RPA technology into accounts receivable management of financial shared service centers can break data silos, simplify business processes, and improve processing accuracy, providing an effective path to solve the pain points of traditional management [3]. Based on this, this paper focuses on the application value of RPA technology in accounts receivable management of financial shared service centers, systematically analyzes the current status and problems of accounts receivable management, and constructs targeted optimization strategies to provide practical reference for enterprises to improve the efficiency of accounts receivable management and strengthen financial control.

2. Necessity of optimizing accounts receivable management in enterprise financial shared service centers

2.1. Improve the efficiency and accuracy of business processing

The growth of enterprise business volume has significantly increased the workload of accounts receivable management, including invoice issuance, data entry, reconciliation and write-off. Under the traditional model, financial personnel need to switch operations between multiple systems and repeatedly enter a large amount of data, which not only takes a lot of time and energy but also easily leads to data errors due to human negligence [4]. By optimizing the accounts receivable management process and introducing automated technology, manual intervention can be reduced, and standardized and normalized processing of business processes can be achieved. The automated system can quickly capture business data, accurately complete operations such as information entry, invoice generation, and reconciliation matching, and significantly shorten the business processing cycle. Machine operations can avoid human errors, improve the accuracy of data processing, ensure the authenticity and reliability of accounts receivable records, provide accurate data support for enterprise financial decisions, and thereby improve the overall efficiency and quality of business processing.

2.2. Strengthen enterprise capital and risk control

Excessively long recovery cycles of accounts receivable and high bad debt risks will lead to enterprise capital precipitation, affect capital liquidity and use efficiency, and even trigger financial crises [5]. Optimizing accounts receivable management can establish a scientific customer credit evaluation system, accurately classify customer credit levels, and formulate differentiated credit policies and collection strategies for customers of different levels, thereby preventing credit risks from the source. By real-time tracking the aging of accounts receivable, promptly warning of overdue payments, promoting the efficient development of collection work, and accelerating capital recovery. At the same time, a standardized accounts receivable management process can improve the timeliness and accuracy of reconciliation, promptly discover payment differences and handle them properly, avoid capital losses caused by unclear accounts, and strengthen the enterprise's capital control and risk resistance capabilities.

2.3. Reduce operational costs and labor dependence

The traditional accounts receivable management of financial shared service centers has a high demand for labor. Enterprises need to equip a large number of financial personnel to handle basic and repetitive work, resulting in high labor costs. Optimizing the accounts receivable management process and introducing automated technology can replace some manual operations, reduce dependence on front-line financial personnel, reduce labor configuration requirements, and thereby reduce labor costs [6]. At the same time, the automated system can operate 24 hours a day without interruption, breaking the constraints of time and space, improving work processing efficiency, and reducing business fluctuations caused by staff leave and turnover. The standardized management process can also reduce the training cost of new employees, shorten the adaptation cycle, ensure the efficient and stable operation of accounts receivable management, and realize the reasonable control of enterprise operational costs.

3. Current status of accounts receivable management in enterprise financial shared service centers

3.1. Lack of credit evaluation and weak pre-event risk control

Customer credit evaluation is a key link in pre-event risk prevention and control of accounts receivable management. Currently, most enterprise financial shared service centers lack a sound credit evaluation system. The credit evaluation indicators are single, mostly focusing on superficial data such as customer registered capital and cooperation years, without in-depth analysis of core factors such as customer operating conditions, financial strength, solvency, and industry reputation [7]. As a result, the credit evaluation results are one-sided and difficult to truly reflect the customer's credit level. The evaluation process lacks standardized norms. Some enterprises rely on the subjective judgment of business personnel or past cooperation experience for credit rating, which has great randomness and is easily affected by human factors. In addition, the update of customer credit information is not timely. Financial shared service centers find it difficult to obtain real-time operating dynamics and credit changes of customers, leading to credit ratings lagging behind the actual credit status of customers, posing hidden dangers for the subsequent recovery of accounts receivable and increasing enterprise financial risks.

3.2. Poor Data Flow And Dependence On Manual Data Transfer

The independence of various business systems within the enterprise, forming data silos, is a prominent problem faced by current accounts receivable management in financial shared service centers. The data standards of sales systems, financial systems, customer management systems, etc., are not unified, and interfaces are incompatible, resulting in accounts receivable management-related data being scattered in different systems and unable to achieve automatic flow and sharing. When handling accounts receivable business, financial personnel need to extract order information from the sales system and manually enter it into the financial system to generate accounts receivable documents; when verifying payments, they need to query data one by one in the bank system and customer management system and manually compare and write off. This model, relying on manual data transfer, is not only inefficient but also prone to inconsistent accounts due to data entry errors and omissions [8]. Poor data flow makes it impossible for financial shared service centers to obtain complete accounts receivable business data in real time, making it difficult to dynamically track and analyze the recovery of payments, and affecting the timeliness and accuracy of management decisions.

3.3. Backward information collection and low efficiency of manual entry

The collection methods of data related to accounts receivable management, such as order information, invoice information, and collection vouchers, are relatively backward, still mainly relying on manual entry. After the occurrence of sales business, business personnel need to sort out paper orders, contracts, and other materials and submit them to the financial shared service center. Financial personnel then enter the relevant information into the financial system one by one; invoice issuance requires manual filling of customer information, commodity details, amounts, etc., which is cumbersome and time-consuming. Moreover, manual entry is easily affected by human factors, resulting in data errors, entry delays, and other problems. In addition, some enterprises still rely on the transmission of paper documents, so information collection is limited by time and space, and cannot quickly respond to business needs [9]. The backward information collection method not only increases the workload of financial personnel but also leads to a lengthy accounts receivable management process and delayed data processing, which is difficult to adapt to the needs of the rapid development of enterprise business and affects the service quality and operational efficiency of the financial shared service center.

4. Optimization strategies for accounts receivable management in financial shared service centers based on RPA technology

4.1. Build customer credit files and realize dynamic risk early warning

Building a comprehensive and dynamic customer credit management system relying on RPA technology is a core measure

to strengthen pre-event risk prevention and control of accounts receivable management. Using the cross-system data crawling capability of RPA robots, integrate customer basic information, historical transaction records, payment performance and other data in the enterprise's internal sales system, customer management system, and financial system [10]. At the same time, through interface docking with third-party platforms such as external credit rating agencies, industrial and commercial departments, and tax departments, collect external data such as customer operating conditions, financial statements, credit records, and administrative penalties, and establish a multi-dimensional customer credit information database.

Based on the database information, construct a scientific credit evaluation index system covering core dimensions such as customer solvency, profitability, operational capacity, credit history, and industry prospects, and set quantitative evaluation standards. Use RPA technology combined with algorithm models to automatically analyze and score customer credit information, divide different credit levels, and formulate differentiated credit policies. RPA robots can monitor changes in customer credit information in real time, regularly crawl the latest data from internal and external systems, and automatically update customer credit files and credit scores. When a customer shows risk signals, the system automatically triggers an early warning mechanism, promptly notifies financial personnel and business personnel through emails, short messages, etc., and activates risk response plans, such as adjusting credit limits, suspending shipments, and increasing collection efforts, to achieve dynamic risk early warning and precise prevention and control, and reduce bad debt risks from the source.

4.2. Integrate business system data and realize automatic invoice issuance

Using RPA technology to break data silos between systems and realize the automatic flow and sharing of accounts receivable management-related data is the key to improving invoice issuance efficiency and reducing manual intervention. Unify the data standards of various business systems, optimize system interfaces, and establish an automatic data transmission channel between sales systems, financial systems, and customer management systems through RPA robots to achieve real-time synchronization of order information, customer information, commodity information, and other data. After the completion of sales business, RPA robots automatically capture key order data from the sales system, perform data verification and sorting according to preset rules to ensure complete and accurate information [11]. Then the robot automatically transmits the sorted order data to the financial system, and automatically generates special VAT invoices or ordinary invoices according to invoice issuance specifications without manual entry by financial personnel. For businesses that need batch invoice issuance, RPA robots can automatically process a large amount of order data in batches according to the set process, quickly complete invoice issuance, printing, stamping and other operations, and automatically send them to customers' email boxes or mobile phones through the electronic invoice system to realize automatic invoice delivery. In addition, invoice information is automatically synchronized to the accounts receivable management module, generating accounts receivable records, and associating order and invoice data to facilitate subsequent reconciliation and write-off.

4.3. Deploy RPA robots and automate the reconciliation process

Deploying RPA robots to replace manual reconciliation is an effective way to solve the problems of cumbersome and inefficient traditional reconciliation processes. For the reconciliation of accounts receivable between enterprises and customers, RPA robots can automatically extract accounts receivable details from the financial system according to preset rules, including invoice number, amount, payment term, received amount, unpaid amount and other information. At the same time, through interface docking with the customer's financial system or receiving reconciliation letters sent by customers, capture the customer's accounts payable data.

The robot automatically compares the data of both parties and identifies discrepancies. For payments with consistent amounts and matching information, automatic reconciliation and write-off are completed, and a reconciliation balance sheet is generated. For items with discrepancies such as inconsistent amounts and missing payments, the system automatically marks the type and specific content of the discrepancy, generates a discrepancy list, and submits it to financial personnel for manual verification. Financial personnel can quickly locate the root cause of the problem according

to the discrepancy list, communicate and confirm with the customer, and then make account adjustments or payment collections [12].

For the reconciliation between the enterprise's internal financial system and the bank system, RPA robots can regularly automatically log in to the online banking system, download bank statement data, and automatically compare it with the collection records in the financial system. Identify received payments, automatically match the corresponding accounts receivable documents and write them off; mark unpaid payments as overdue payments and trigger collection warnings; generate exception reports for inconsistencies between bank statements and financial records to remind financial personnel to verify and handle them [13].

4.4. Apply intelligent image recognition and realize automatic verification and entry

Introducing intelligent image recognition technology combined with RPA robots to optimize the accounts receivable management information collection process, realize automatic verification and entry, and solve the problems of low efficiency and high error rate of manual entry [14]. For paper orders, contracts, collection vouchers, and other materials, convert them into electronic images through scanners, high-definition cameras, and other devices, and use OCR (Optical Character Recognition) technology to extract key information from the images, including customer name, order number, amount, date, signature, and seal etc. The combination of intelligent image recognition and RPA technology has realized the automation and intelligence of accounts receivable management information collection, greatly reducing the workload of manual entry, lowering the risk of human errors, and improving the accuracy and timeliness of data collection [15]. In addition, electronic image data is automatically filed and stored, establishing a digital file library to facilitate subsequent query, retrieval, and audit, and improving the standardization level of accounts receivable management file management [16]. The improvement of information collection efficiency enables financial shared service centers to quickly respond to business needs, complete account processing promptly, provide timely data support for accounts receivable tracking and risk prevention and control, and promote the efficient operation of the accounts receivable management process.

5. Conclusion

In the wave of digital transformation, RPA technology provides strong technical support for the optimization of accounts receivable management in enterprise financial shared service centers. The current problems existing in accounts receivable management of financial shared service centers, such as a lack of credit evaluation, poor data flow, and backward information collection, seriously restrict the improvement of management efficiency and enterprise financial risk prevention and control. By constructing an optimization strategy based on RPA technology, it can effectively break data silos, simplify business processes, improve processing accuracy, and realize the transformation of accounts receivable management towards intelligence and efficiency. Building customer credit files to achieve dynamic risk early warning, integrating business system data to achieve automatic invoice issuance, deploying RPA robots to achieve automated reconciliation, and applying intelligent image recognition to achieve automatic verification and entry, optimizing the accounts receivable management process from multiple dimensions. This not only improves the efficiency and accuracy of business processing, strengthens capital and risk control, and reduces operational costs, but also provides accurate data support for enterprise financial decisions and enhances enterprise market competitiveness.

Disclosure statement

The author declares no conflict of interest.

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