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# The Impact of Large Language Models on Financial Shared Service Centers

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**Abstract:**

Using a case study approach, two representative companies, Henkel and Shanghai GFC Consulting, are examined for their application of the large model in their financial shared service centers. By analyzing the impact of two AI applications, Henkel's SMART AR and Shanghai GFC Consulting's G-smart, in the real world, the positive and significant impact of the emergence of large model AI applications on financial shared service centers is further analyzed. The feasibility of large-scale use of AI applications of large models in financial shared service centers can be found, and the rise of large language models has triggered a new round of financial changes in financial shared service centers, realizing the mutual empowerment of financial shared service centers and large language models. It brings many benefits to enterprise groups, such as reducing operating costs, improving operational efficiency, strengthening group control and improving service quality.

**Keywords:** large language models, financial shared service center, application Scenarios, finance transformation

## 1 Introduction

The implementation initiatives set out in the "Highlights of the Digital Economy 2024" issued by the General Office of the National Development and Reform Commission (NDRC) and the Comprehensive Department of the National Data Agency (NDA) clearly state that, "We should deeply promote the digital transformation of industries, vigorously promote the digital transformation of key fields, create a digital transformation ecology, accelerate the promotion of digital technology innovation breakthroughs, deepen the independent innovation of key core technologies, enhance the competitiveness of core industries, vigorously cultivate new forms and new modes of new industries, and create digital industry clusters." Finance Shared Service Centers (FSSCs) are experiencing explosive growth in China, with enterprises expecting to achieve digital transformation of corporate finance and organizational innovation and change through FSSCs. At the same time, the excellent performance of artificial intelligence in speech recognition, text recognition and processing is gradually attracting attention and gradually penetrating into the digital transformation. Large Language Model (LLM) a large-scale pre-training model, its powerful human feedback reinforcement learning ability, artificial intelligence to generate content capabilities in various types of work scenarios, is reshaping the

work mode of many scenarios, and the work related to the financial shared service center is no exception. Therefore, it explores the theories behind various AI applications and examines what specific impacts have been made on the Finance Shared Service Center. This will provide lessons and inspiration for further digital transformation of finance shared service centers.

# 2 Literature overview

## 2.1 Financial Shared Service Center

Financial Shared Service Center (FSSC) is the latest application of enterprise centralized management model in financial management, the enterprise expects to transform the process through the Financial Shared Service Center, some of the repetitive amount of large and relatively independent of the reorganization or merger of business activities, and then through big data, cloud computing, artificial intelligence and other technologies to optimize or automate various types of more monotonous mechanized business work. Technology optimization or automation of various types of single mechanized business work. The ultimate goal is to reduce costs, improve efficiency, create new value and improve service quality.

Wenyi Li [1] pointed out in the review of the construction of financial shared service centers that financial shared service centers can bring many benefits to enterprises such as reducing operating costs, improving operational efficiency, improving service quality and strengthening group control. But at the same time there are many problems such as vague target positioning, large investment costs, site selection deviation, personnel migration and loss, process optimization and other difficulties. Yanfei Huang [2] in the financial digitization and enterprise cost stickiness also pointed out that the financial shared service center is an important investment in the development process of enterprise digital transformation, huge investment can achieve its goal, effectively enhance the company's data management capabilities is the key to digital transformation. The rapid development of artificial intelligence technology and the continuous iteration of products to optimize and make up for the shortcomings of the financial shared service center have brought a new direction of development. The study of the practical application of artificial intelligence has a significant role to play in the overall optimization of financial shared service center business

## 2.2 Large Language Model

Large Language Models (LLMs) are machine learning models that have a large number of parameters (typically between billions and trillions) that are trained to understand and generate human language. These models are constructed through deep learning techniques and are capable of processing and learning complex patterns extracted from large-scale data. With various domestic and international large language modeling products such as OpenAI's GPT series, Meta's LLaMA series, Google's PaLM series and so on. A wave of research and development of large language models in various industries has been set off. With the continuous updating of training methods and the increase of massive training data, the structure of big language models is becoming more and more complex and the applications are becoming more and more segmented.

The rapid development of large language modeling has also brought a brand new opportunity to the construction of financial shared service center. Big Language Model has excellent performance in many financial application scenarios such as automating financial statements [3], building structured data [4], collecting and reviewing financial documents [5], internal process optimization [6], financial compliance [7] and so on. Major enterprises are also keen to capture this opportunity, and quickly set up their own development teams to develop AI products that meet their needs by combining the pain points of their own enterprises in the financial shared service center with large language modeling technology.

# 3 Case Study

## 3.1 Case 1 Henkel SMART AR

The Henkel Group is an internationally recognized multinational company with a wide range of businesses covering a wide range of industries. There are fast moving consumer goods industry, industrial chemical industry and construction chemical industry and so on. The multi-industry business has led to a series of complex problems in the management of accounts receivable. Henkel quickly formed a development team to develop an AI-based machine learning system, SMART AR.

The working logic of SMART AR can be divided into four parts: Validation, Analysis, Dunning and Feedback

l *Validation*: AI model is introduced to evaluate the customer payment behaviors and make the prediction.

l *Analysis*: AI model to analyze data in last N years in SAP.

l *Dunning*: Different dunning procedures for late payers and early payers in different customer segments, so that to guide daily dunning activities.

l *Feedback*: No matter whether overdue items are late paid, or earlier paid, even not paid, the feedback will be

the database for next round cycle (it can be regarded as iteration), which has impact on future analysis, prediction and dunning methods.

The SMART AR was designed with three main goals. 1. Improve the dunning and collection process with AI. The objective is to make fewer, but more effective calls and customer contacts. The original collection process and dunning is relatively single and solidified, the staff of the financial shared service center is fixed assigned to serve a certain number of customers, regularly check whether these customers need to collect the accounts, regardless of the customer's previous payback situation is to use a single strategy for collection. A single strategy is ineffective in collecting from different customers. 2. Critical customers who only pay after several reminders should be identified and more closely managed. The original collection work, the customer's collection results rely entirely on human repeated inquiries in the system and the staff and the customer's past experience in dealing with the staff to determine whether it is necessary to use other methods to collect. Human operation and human experience often lead to collection omissions and collection delays. 3. Development team provided the AI model and managed the data sourcing from SAP data. Raw data from pre-development ERP and CRM systems are difficult to utilize for actual collections work. Collection efforts often only get partial data to support collection.

SMART AR achieve the final impact, first of all, the financial management personnel of the enterprise group can pay more timely and clear attention to the customer's delayed payment behavior, the financial management personnel can be combined with the visual application interface to understand which amounts of receivables have been delayed, the receivables of the daily changes in the situation, the prediction of the time of payment of each payment, forecasting the amount of money whether the payment will be completed within 10 days after the due date. What specific collection strategies have been initiated and feedback on their effectiveness, etc. Secondly, from the point of view of the Financial Shared Service Centre, staff members avoid human collection omissions and delays, and the dynamic collection strategy reduces the number of collection attempts but effectively improves the success rate of collection (as shown in Fig.1) .

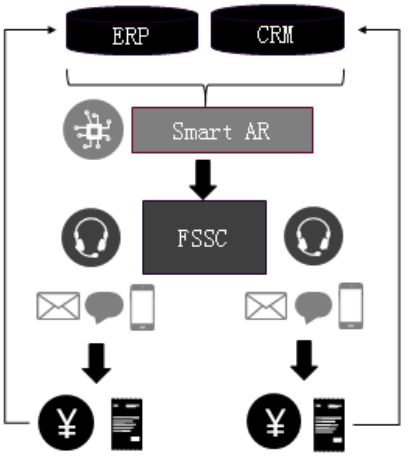


**Figure 1 SMART AR Implementation Flowchart**

SMART AR's practical application effect, Henkel Group put SMART AR into the financial shared service center in Europe at the end of 2020 in the actual accounts payable collection work, and compared the actual collection workload before using SMART AR in 2020, as well as after using SMART AR in 2021 and 2022 in four countries, Germany, Spain, France and Italy, and found that The overall contact volume has been reduced from nearly 10,000 to 1,000 contacts, resulting in significant savings in staff resources (as shown in Fig.2).

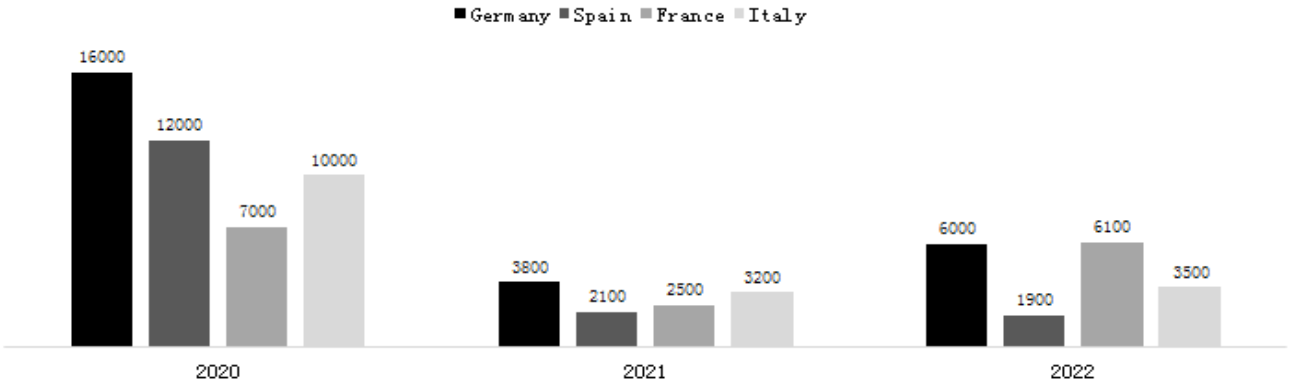


**Figure 2 Amount of contact between the FSSC and customers**

### 3.2 Case 2 GFC Consulting's G-smart

Shanghai GFC consulting is a professional organization providing financial intelligence solutions, tax and business consulting, corporate compliance solutions, big data solutions, financial business process outsourcing, and professional talent outsourcing services. In the course of serving globally companies, they have accumulated a lot of experience in the operation of financial shared service centers, and at the same time, we have also keenly grasped the difficulties and pain points in the process of enterprise financial operations, and quickly set up a development team to combine the technical characteristics of the large language model to develop G-smart, an AI product based on the needs of enterprise reimbursement.

As global corporations typically have large global operations, frequent cross-border travel creates complex and large reimbursement needs. How to ensure the speed and accuracy of claims review while standardizing data for subsequent integration and analysis has become a major challenge for financial shared service centers. Traditional reimbursement auditing relies on manual operations, often leading to data matching errors, lengthy auditing processes and data isolation, which seriously affects the operational efficiency and financial compliance of enterprises. In order to solve these problems, G-smart combined with the large model technology to develop intelligent audit, auto-fill and smart Intelligent Assignment three modules significantly improve the efficiency of the reimbursement, reduce the cost of communication, and to do with SAP Concur Expense data interaction, to open up the data flow within the enterprise.

G-smart Intelligent Audit Module first uses the self-learning capability of the large model to allow the model to automatically interpret the company's reimbursement policy documents, and then the model automatically generates various types of business rules based on different predefined expense scenarios (as shown in Fig.3). When an employee submits a reimbursement document online, the Intelligent Audit Module matches business rules based on different expense scenarios, audits the document based on the complex logic within the business rules, and quickly flags problematic documents and violations of regulations and returns them to the submitter. In the end, what comes to the auditor is a reimbursement document that complies with the company's reimbursement guidelines, and the auditor does not need to review whether the document complies with the company's guidelines but only needs to review whether the use of expenses is reasonable and whether the approving officer is complete. The Intelligent Audit module alleviates the difficulty of claims auditing and the large number of repetitive processes involved in the auditing process.


**Figure 3 Automatically interpret policy documents to generate business rules**

G-Smart Auto-fill Module, Optical Character Recognition (OCR) is mainly used to convert printed or handwritten text on paper documents or scanned documents into machine-encoded text. OCR technology was rapidly developed in the early 21st century in the Finance Shared Service Centre and has gradually become the main supporting software tool for daily work. From relying on fixed template matching and being limited to reading in-

dustry-specific standard formats such as bank documents, the technology has evolved to easily recognize multi-font, multi-language and even handwritten text. The auto-fill module of G-Smart is based on OCR technology and combined with the natural language processing (NLP) of the large language model to develop a reimbursement filling and checking system. Finance daily reimbursement work will face a variety of invoices, receipts, bank slip and handwritten documents, etc., global groups will be faced with multi-language documents. G-Smart auto-fill module can easily identify the text content of all kinds of format documents and then combined with the specific requirements put forward by the operator to automatically fill in the identified content into the corresponding columns of the system. G-Smart also added certain algorithms to the Auto-fill Module to enable it to do some preliminary verification of the authenticity of invoices (as shown in Fig.4). The Auto-fill Module improves the speed and accuracy of document entry and validation, reducing errors and omissions, while freeing up human resources to focus on higher-value work tasks.

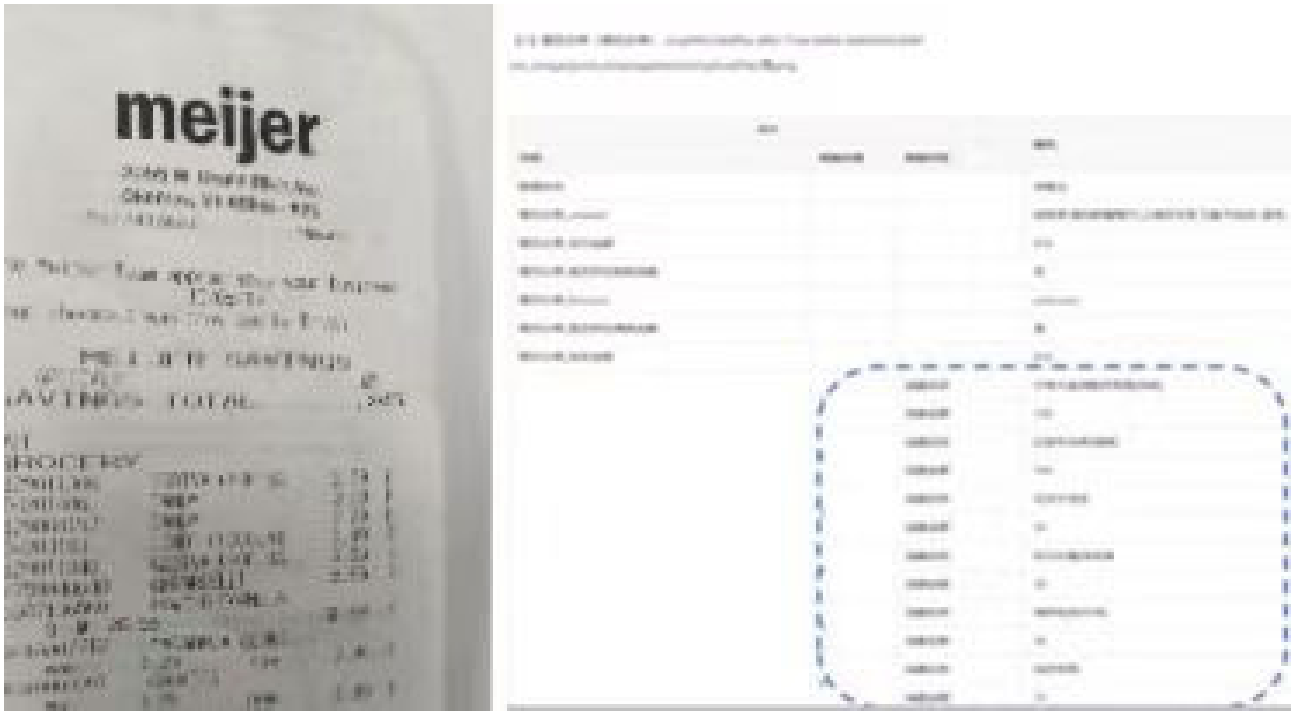


**Figure 4 Automatically extracts consumption details and populates the system as required**

G-smart Intelligent Assignment Module, the Financial Shared Service Centre receives a large number of reimbursements request every day. G-smart reads and verifies the invoice information, automatically checks the reasonableness of the expenses, the compliance of the bills, etc., and then assigns the reimbursements that meet the requirements to the appropriate auditor for final confirmation through auto-filling and auto auditing. The Smart Intelligent Assignment module uses large language models machine learning technology to classify, label and profile each reimbursement task based on historical data, as well as to profile the existing workload and familiarity with the processing of different documents, error rate and processing efficiency of each auditor. The final result of the assignment is given in combination with the comprehensive analysis of the tasks (as shown in Figure 5). The application of the Intelligent Assignment module ensures that finance tasks are allocated according to priority and specialization.

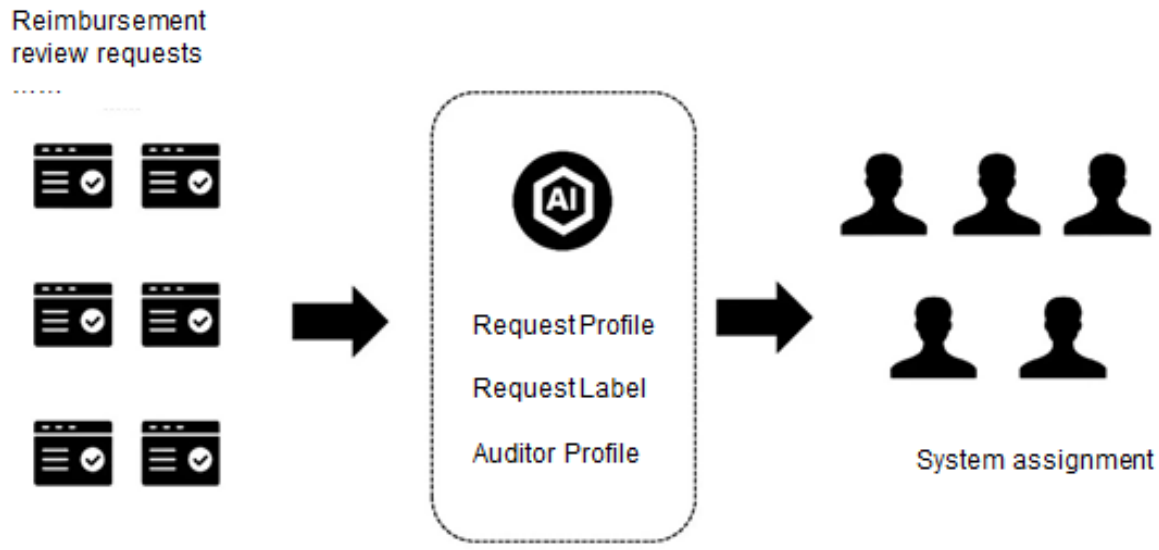


**Figure 5 Intelligent Assignment**

## 4 Conclusion

Through the case study of the large language model application in financial shared service center, Henkel SMART AR and GFC Consulting G-smart, the following conclusions can be obtained.

The rise of large language models has indeed changed several industries operate, especially in the areas of finance and asset management. These models are able to process large amounts of textual data, analyze huge amounts of historical data to extract useful information, predict non-occurring events, optimize response strategies, and automatically identify and validate key information on financial documents, thus speeding up financial processing and reducing human error.

The application of the large language model in the Financial Shared Service Centre has brought many benefits to the enterprise, Whatever Henkel's SMART AR or GFC Consulting's G-smart, at the initial stage of development, they all start from the pain point in the daily operation of the financial shared service center, find out the key points for solving the problems, and then according to the characteristics of the various types of advanced technology in the large language model to find out the matching technology points, so as to develop effective models or applications, which will ultimately bring many benefits to the enterprise such as reducing operation costs, improving operation efficiency, strengthening group control and improving service quality.

Although AI products bring many benefits to enterprises, the launch of new models or applications also brings challenges to employees working on the front line, who need to adjust their work content, learn how to work with AI, monitor operation process of AI models, and realize the mutual empowerment of the Financial Shared Service Centre and large language models.

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