THE ROLE OF DATA ANALYTICS IN ENHANCING RISK ASSESSMENT PROCEDURES IN AUDITS: (CASE STUDY OF GUANGZHOU YICAN TRADING CO.LTD)

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Abstract. This study examines how data analytics enhances risk assessment procedures in audits, The research used case study as method, the data collected at Guangzhou Yican Trading Co. Traditional auditing methods often rely on manual sampling, which increases the risk of undetected anomalies. With the growing complexity of financial data, integrating analytics can improve fraud detection and risk mitigation. A qualitative approach was used, incorporating semi-structured interviews and case study analysis. Findings indicate that data analytics allows for full dataset analysis, real-time risk monitoring, and enhanced fraud detection. However, challenges such as limited technical expertise, resistance to change, and integration issues with legacy systems hinder full adoption. To overcome these challenges, this study recommends structured training programs, investment in analytics tools, and the development of a standardized framework for data-driven auditing. The research contributes to management accounting and auditing by demonstrating how analytics transforms modern risk assessment methodologies.
Keywords: Data Analytics; Risk Assessment; Auditing; Fraud Detection; Guangzhou Yican Trading Co. Ltd.

INTRODUCTION

Traditionally, auditing has relied on judgment-based approaches, sample testing, and manual verification to evaluate the accuracy and reliability of financial statements. However, as financial environments grow increasingly complex and data volumes expand, these conventional methods often fall short in identifying hidden anomalies or emerging risks. To address these limitations, many audit firms including Guangzhou Yican Trading Co. Ltd are beginning to adopt data analytics as a powerful tool to enhance risk assessment procedures.

This research, using a qualitative case study method supported by semi-structured interviews and document analysis, found that data analytics enables a more comprehensive examination of entire datasets, rather than depending on limited samples. It allows auditors to identify potential risks, unusual transactions, and patterns of behavior that may signal fraud or financial misstatement. In the case of Guangzhou Yican Trading Co. Ltd, analytics was particularly effective in tracking inconsistencies across receivables, detecting potential errors in petty cash management, and uncovering irregularities in supplier transactions.

The study revealed that integrating data analytics into the audit framework allowed the company to conduct real-time monitoring, implement predictive risk models, and make more informed audit decisions. However, challenges such as limited technical expertise, resistance to change, and compatibility issues with existing systems were also noted. To overcome these barriers, the research recommends structured auditor training, investment in analytical tools, and the development of a standardized framework for data-driven auditing. These findings

demonstrate that data analytics not only increases audit accuracy and efficiency but also transforms the auditor's role into a more proactive and strategic function.

The most basic definition of data analytics is the use of statistical and computational methods to analyze data and uncover meaningful information (Wright, 2018). Data analytics can also be used in auditing to enable auditors to analyze whole datasets, perform predictive modeling, and use data visualization to understand better the risks and anomalies that may not be as evident through traditional audit procedures. Wang et al. (2016) note that the implementation of data analytics into the procedures of risk assessment enhances the effectiveness of an audit by equipping auditors with more accurate and reliable means of identifying and mitigating risks. The risk assessment process is an integral part of the audit that helps auditors to scrutinise both probability and impact in respect to different risks including material misstatements, fraudulent activities, inefficient operations, and non-compliances.

Data analytics provides a holistic view of the entire data set and hence increases the chances of identifying unusual values and hidden risks. According to Craswell and Francis (2017), data analytics thus enables auditors to change from a reactive position to an anticipatory one through early risk identification during auditing and by providing such insights that can inform the audit strategy. According to RSM International (2023), data analytics tools assist auditors in identifying cases of fraud, errors, and misrepresentations that may not be detected through traditional audit methods, thereby increasing the reliability of financial reporting.

The application of data analytics in the internal audit processes of Guangzhou Yican Trading Co. Ltd can help resolve several issues related to risk assessment. As an internal audit function, it plays a critical role in evaluating and improving the effectiveness of risk management and control systems. Guangzhou Yican Trading Co. Ltd faces various financial risks, including revenue misrepresentation, excessive operational costs, and potential fraudulent activities. Through data analytics, internal auditors can examine the entire dataset of transactions to identify anomalies, such as unusual spending patterns or inconsistencies between departments. Additionally, internal auditors can incorporate external data sources such as economic indicators, industry benchmarks, and regulatory developments to detect emerging risks that may affect the company's financial health. This approach enables the internal audit team to provide more proactive and data-informed insights to management.

Integrating data analytics into the risk assessment processes of Guangzhou Yican Trading Co.Ltd may bring about many benefits, such as increasing audit efficiency, advancing risk detection capabilities, and improving the accuracy of financial reporting. Still, challenges persist with this technology in practice. One of the major challenges is the demand for auditors to possess data analysis skills in addition to knowledge of the diverse tools and software used in the audit process (Agogino & Lee, 2020). Another challenge could be concerns about data security, the integrity of the data, and the cost implications of implementing advanced data analytics tools.

Despite these challenges, the growing body of research shows that the benefits of using data analytics in audit processes outweigh the costs and potential hurdles. As Zhang et al. (2018) observed, auditors using data analytics can enhance their ability in identifying and assessing risks, as well as raise the quality of audits in order to ultimately provide more assurance to stakeholders about financial statements' reliability. Furthermore, the integration of data analytics corresponds with the worldwide movement towards digital transformation within the auditing sector, which is progressively influenced by developments in artificial intelligence, extensive data management, and blockchain technology (Kokina & Davenport, 2017).

LITERATURE REVIEW

1. The Role of Data Analytics in Auditing

The audit profession serves a crucial function in fostering transparency, accountability, and trust in financial markets. However, as the landscape of business continues to change, auditors encounter an array of challenges, including the management of extensive and intricate datasets, the detection of elaborate fraud schemes, and the need to comply with increasingly stringent regulatory requirements. Although traditional tools and techniques are essential, they are becoming inadequate for addressing these complexities. Data analytics, which is driven by innovations in computational capabilities, has emerged as a transformative force within the auditing field.

2. Benefits of Data Analytics in Audits

The adoption of data analytics in auditing presents substantial advantages that improve both the processes and outcomes of audits. These benefits are especially pertinent in light of the increasing regulatory scrutiny, stakeholder expectations, and organizational complexities. Although the advantages are clear, the implementation process may be met with some resistance from traditionalists. Ultimately, the evolution of auditing practices is essential in meeting contemporary demands.

Traditional approaches, which are usually characterized by issues of sample size and scope and reliance on manual processes, tend to miss important aspects. Data analytics complements this limitation by working on entire datasets, meaning that all the transactions, accounts, and records are reviewed. This comprehensive approach enhances accuracy, providing a clearer picture of financial activities and minimizing the risk of sampling errors. Moreover, big data techniques can uncover patterns and fraudulent schemes that traditional audits may miss. For example, data analytics has helped identify recurring variances in procurement activities and fraudulent invoicing practices that went undetected in earlier audits (Appelbaum, Kogan, & Vasarhelyi, 2017; Zhang et al., 2018).

Fraudulent activities are becoming increasingly sophisticated designed to evade detection. Data analytics is particularly effective in this area, providing tools to: detect anomalies. Algorithms can flag suspicious transactions, such as unusually high payments or repetitive adjustments to accounts. Furthermore, they can identify patterns; machine learning models uncover patterns indicative of fraud. Cross-validating data is also crucial by comparing data across departments and systems, auditors can identify inconsistencies that signal fraudulent activity. According to Zhang et al. (2018), organizations that integrate data analytics into their audit processes achieve a 60% higher detection rate for fraud and irregularities compared to those using traditional methods.

Risk assessment represents a crucial element of auditing, encompassing the identification, evaluation and prioritization of potential risks. Data analytics significantly enhances risk management by enabling auditors to develop risk profiles. By analysing both financial and operational data, auditors can create comprehensive risk profiles that pinpoint areas of vulnerability. Furthermore, predictive models utilize historical data to forecast risks, such as cash flow shortages or regulatory violations. Continuous monitoring of risks is essential; real-time systems offer ongoing assessments, allowing auditors to respond promptly to emerging issues.

Automation serves as a crucial catalyst for enhancing efficiency in the realm of data analytics. By automating repetitive tasks, auditors can save time, focus on strategic activities, and reduce costs, because streamlined processes typically result in lowered audit expenses, benefiting both audit firms and their clients.

3.   Data Analytics in Risk Assessment

Risk assessment plays a critical role in auditing by guiding the auditor's focus to the most significant threats that could undermine an organization's financial reporting, operations, and compliance (Alles, Brennan, Kogan, & Vasarhelyi, 2018; IIA – Institute of Internal Auditors, 2021). The integration of data analytics in auditing introduces a paradigm shift from retrospective, sample-based evaluations to real-time, comprehensive, and predictive assessments (Cao, Chychyla, & Stewart, 2015; Warren, Moffitt, & Byrnes, 2015). Data analytics enables auditors to examine complete datasets rather than relying on samples, thereby increasing the likelihood of identifying anomalies, irregularities, and hidden risk patterns that traditional approaches may overlook. This capability is particularly valuable in environments with high transaction volumes, complex supply chains, and evolving regulatory requirements. According to Alles et al. (2018), the use of analytics allows for continuous auditing and monitoring, offering auditors the ability to identify risk indicators as they emerge rather than after the fact.

One of the fundamental contributions of data analytics is its ability to automate risk identification. Techniques such as clustering, machine learning, and anomaly detection can reveal suspicious patterns that human auditors might miss. For example, clustering may group transactions that occur at unusual hours or just below authorization thresholds, signaling potential circumvention of internal controls. These tools also provide audit teams with risk scores for accounts, vendors, or business units based on historical data and predictive modeling.

Moreover, data analytics enhances auditors' ability to visualize risk patterns through dashboards and heatmaps. These tools translate complex datasets into intuitive visuals, enabling auditors and management to grasp risk concentrations and trends quickly. Real-time dashboards can be configured to trigger alerts when key risk indicators deviate from acceptable thresholds, ensuring prompt investigation and mitigation.

Data analytics also facilitates scenario analysis and stress testing in the audit context. By simulating different risk scenarios using historical and external data inputs, auditors can assess the potential impact of various adverse events. For instance, Guangzhou Yican Trading Co. Ltd could use data analytics to simulate the impact of exchange rate fluctuations on its receivables or assess how changes in regulatory policy might affect vendor compliance.

The inclusion of external datasets into the audit risk assessment process marks another advancement enabled by analytics. Market trends, economic indicators, regulatory updates, and even social media sentiment can be incorporated into risk models to provide a more holistic view. This comprehensive approach ensures that internal audit functions do not operate in a vacuum but are aligned with external realities that could materially impact the organization (Appelbaum et al., 2017). The data analytics approach to risk assessment typically follows several stages: Risk Identification, Risk Analysis and Quantification, Risk Evaluation and Prioritization, Continuous Risk Monitoring, and Integration of Internal and External Data.

Data analytics enables auditors to uncover latent risks by analyzing internal data alongside externalTechniques such as outlier detection, neural networks, and association rule mining can reveal relationships or events that are unusual or deviate significantly from expected patterns (Warren et al., 2015).

Once risks are identified, data analytics facilitates their analysis and quantification through predictive modeling. Regression analysis, decision trees, and Monte Carlo simulations can estimate the probability and impact of various risk events. These models can forecast outcomes under different scenarios, enabling management to prepare for multiple contingencies.

After analyzing risks, auditors must evaluate their significance in the context of the

organization's risk appetite and control environment. Risk heatmaps and scoring systems can be generated using analytics tools to rank risks by severity and urgency. This data-driven prioritization ensures that audit resources are focused where they are most needed.

A major benefit of integrating data analytics is the ability to conduct continuous monitoring of risk indicators. Unlike static audit schedules, real-time systems can track changes in KPIs and flag anomalies as they occur. This approach allows for the immediate investigation of irregularities and supports agile risk management.

Data analytics tools can integrate information from multiple sources to provide a holistic view of risk. Internal transactional data, combined with external information such as economic forecasts, currency exchange trends, and changes in regulatory requirements, enhances the reliability of risk assessments.

4. Data Analytics in Fraud Detection

Fraud detection is a critical function of auditing, with data analytics offering powerful tools to address its challenges. Specific applications include identifying suspicious transactions, cross-validating data, detecting patterns, and forecasting fraud scenarios.

METHOD

The principal focus of this research is Guangzhou Yican Trading Co.Ltd (a company that has started to integrate data analytics into its auditing processes). This research employs both quantitative and qualitative research designs to capture all the aspects of integration of data analytics into risk assessment at Guangzhou Yican Trading Co.Ltd. Data is gathered through primary and secondary data collection methods. Primary data is gathered through interviews and observations. Secondary data is gathered through document analysis and audit records.

The collected data will be analysed using both qualitative and quantitative methods to provide a comprehensive view of the research problem. Qualitative analysis was conducted by repeatedly reviewing interview transcripts, generating initial codes, and categorizing them into themes such as benefits, challenges, technical barriers, and adoption strategies, which were further examined to construct a narrative of audit personnel's experiences with data analytics. Quantitative analysis employed descriptive statistics (means, frequencies, percentages) on audit records and internal reports to capture performance changes before and after the adoption of data analytics. Data processing involved cleaning to ensure accuracy, categorization according to relevant themes, and analysis using Microsoft Excel, SPSS, and qualitative data analysis software.

RESULT AND DISCUSSION

1. Working Paper – Patty Cash Fund Analysis

Table 1. Main Working Paper – Patty Cash Fund

Guangzhou Yican Trading Co.Ltd Main Working Paper- Patty Cash Fund 31-Dec-24				
Balance Per books 12/31/2024		¥ 257.300	Vo	
AJE	1. Issue Admin and Sales Fees	-¥ 33.169	√	
	2. Issue temporary receipts	-¥ 70.000	√	-¥ 153.977
Balance Per books 12/31/2010		¥ 154.131	^	-¥ 33.169
				¥ 154
Information				
Vo	Match with cash ledger			-¥ 153.977

√		Match it to proof of cash disbursement
^		Check the accuracy of the addition down (Footing)
		-¥ 120.808

After presenting the Main Working Paper – Patty Cash Fund, we can conclude that the adjustments made to the petty cash balance were both necessary and properly documented. The balance per books on December 31, 2024, initially recorded as ¥257,300, was subject to two adjustments: the deduction of ¥33,169 for administrative and sales fees and the deduction of ¥ 70,000 for temporary receipts. These adjustments brought the revised balance to ¥153,977, as reflected in the company's accounting records.

The verification process, which included matching the balance with the cash ledger, ensured that the recorded figures were accurate and in line with the company's financial records. The verification with the proof of cash disbursement confirmed that all petty cash expenditures were legitimate and properly accounted for. Additionally, the footing check revealed a minor discrepancy of ¥120,808, which was addressed through further verification and adjustments to ensure consistency and accuracy in the financial reporting.

Table 2. Main Working Paper – Patty Cash Fund (Continued)

Cash	Unit	Amount
PAPER MONEY		
¥10,00	8 Sheets	¥80,00
¥5,00	7 Sheets	¥35,00
¥1,00	9 Sheets	¥9,00
¥500	5 Sheets	¥2,50
COIN		
¥100	95 Sheets	¥9,50
¥50	70 Sheets	¥3,50
¥25	140 Sheets	¥3,50
Total Cash Amount		¥143,00
Other Adjustments		
Administrative and Sales Fees		¥34,30
Temporary Bonuses		¥70,00
Other Amounts		¥104,30
Total Cash and Other Amounts		¥247,30
Amount According to Book		¥257,30
Difference Over/Under		NIL
Undeposited Checks		¥ 2,505,450
Check Back		¥ 20,151,000

The total cash amount from these denominations is calculated to be ¥ 143,000. Further adjustments include Administrative and Sales Fees, these expenses amount to ¥ 34,300 and have been deducted from the total balance,Temporary Bonuses, amounting to ¥ 70,000, these represent bonuses given to employees, and Other Amounts, totalling ¥ 104,300, these are other miscellaneous adjustments made during the period.

The total of these cash and other adjustments amounts to ¥ 247,300, which is verified against the Amount According to Book, which stands at ¥ 257,300. The discrepancy between the two values is found to be NIL, confirming that there are no errors in the cash balance.

Table 3. Working Paper – Administration and Sales Costs

Date	No. Petty Cash Voucher	Description	Total (¥)
30-Dec-23	PVC 121	Stationery	¥9,500
30-Dec-23	PVC 122	Office supplies	¥1,250
31-Dec-23	PVC 123	Telephone charges	¥15,410
01-Jan-24	PVC 124	Employee banquet	¥4,390
02-Jan-24	PVC 125	Transportation and Parking Fees	¥3000
03-Jan-24	PVC 126	Stationery costs	¥7500
	Amount not reimbursed		**¥34,300**

The total amount of petty cash expenditures that have not been reimbursed is ¥ 34,300, as shown in the last row of the table. This represents the sum of the various petty cash expenditures for which the company has not yet received reimbursement. These unreimbursed amounts are critical for maintaining accurate financial records and ensuring proper cash flow management within the company.

The table includes a check footing to ensure that all amounts are correctly calculated, and it is verified that the expenditures align with the provided petty cash vouchers. This process is an essential part of the reconciliation of petty cash, as it guarantees the accuracy and integrity of financial reporting.

Table 4. Working Paper – Administration and Sales Costs

Date	Information	Amount (¥)
30-Dec-24	A debt receipt from the administrative staff, Miss ezsie	¥22,5
31-Dec-24	List of donations of staff employees to the organization	¥47,5
	Amount of petty cash expenditures that have not been reimbursed	**¥70**

The total amount of ¥70,000 represents petty cash expenditures that have not yet been reimbursed, as listed at the bottom of the table. These unreimbursed expenditures need to be tracked to ensure that the reimbursements are made and the petty cash fund is properly managed.

As indicated in the table, both transactions were verified through the footing check, ensuring that all figures are accurate. The petty cash voucher check is also indicated, which ensures that the corresponding documentation for these expenditures has been properly reviewed.

Table 5. Working Paper – Administration and Sales Costs (Checks Outstanding)

Date	No. Check	Bank	Payer	Amount (¥)
30/12/2024	XZ 300981	中国银行 - Zhōngguó Yínháng	Zhang Yong	¥275
30/12/2024	XX 430018	中国工商银行 - Zhōngguó Gōngshāng	Chen Mei	¥300
30/12/2024	AB 555568	中国农业银行 - Zhōngguó Nóngyè	Li Na	¥412,5
30/12/2024	AA 860002	交通银行 - Jiāotōng Yínháng	Liu Hao	¥1,517,500

Date	No. Check	Bank	Payer	Amount (¥)
Total			**Outstanding Checks**	**¥2,505,000**

The total value of the outstanding checks is ¥ 2,505,000. This represents the amount that has been issued but not yet cleared or deposited into the bank account. The verification process includes a footing check to ensure that all amounts have been accurately calculated. Furthermore, a petty cash voucher check is conducted to confirm that these checks match the related vouchers, ensuring all expenditures are appropriately documented and reconciled.

Table 6. Working Paper – Administration and Sales Costs (Postdated Check Details)

Date	No. Check	Bank	Payer	Amount (¥)
03-Jan-24	XY 332451	中国银行 - Zhōngguó Bank	China National Petroleum Corporation	¥2,500,150
07-Jan-24	BC 213232	中国工商银行 - Zhōngguó Gōngshāng	CRRC Corporation Limited	¥4,000,000
12-Jan-24	BB 332456	中国农业银行 - Zhōngguó Nóngyè	Haier Group Corporation	¥1,400,750
20-Feb-24	CC 222222	交通银行 - Jiāotōng Bank	Industrial and Commercial Bank of China	¥5,125,100
28-Feb-24	DD 232323	China Merchants Bank	Xpeng Inc.	¥5,850,000
29-Mar-24	EE 323232	Shenzhen City Commercial Bank	NIO Inc.	¥1,275,500
Total			**Postdated checks amount**	**¥20,151,500**

The Checked Footing indicates that the amounts have been confirmed for accuracy. The physical verification of the checks was also conducted to ensure that all amounts correspond to the checks issued. These postdated checks play a significant role in the company's liquidity and cash management. Since they are scheduled for future deposit, they do not immediately impact the available cash, but they will need to be tracked until they clear. This table helps ensure that the company's financial position remains clear, and the management is properly monitored.

2.   **Account Receivables Analysis**

Table 7. Main Working Paper – Accountable

Balance Per books 12/31/2024	¥ 184,682,911	Æ
AJE		
1. Issuing Other Receivables	¥ 212,65	√
Balance Per books 12/31/2024	**¥ 184,470,261**	**Ç**

Initially, the balance recorded in the books stood at ¥ 184,682,911. The following adjustment was made, Adjustment 1: Issuing Other Receivables An amount of ¥ 212,650 was issued for other receivables, which is reflected as an increase in the receivables account. After this adjustment, the revised Balance Per books 12/31/2024 stands at ¥184,470,261. This balance now accurately reflects the total amount of receivables outstanding as of the specified date.

The verification process involved three key checks: 1) Æ (Match with cash ledger), The balance was compared with the cash ledger to ensure that the receivables were properly recorded

and aligned with the company's internal records, 2) √ (Match to proof of cash disbursement), The adjustment was also verified against the proof of cash disbursement, ensuring that the receivables issued were properly backed by documented transactions, and 3) Ç (Footing check, A footing check was conducted to verify the accuracy of the addition and subtraction, ensuring that all adjustments were correctly calculated.

Tabel 8. Simplified Aging Schedule of Trade Receivables

Customer Name	Amount (¥)	Not Due Yet (¥)	(1-30) Days (¥)	(31-60) Days (¥)	>90 Days (¥)	Cash Receipts (¥)
Haier Group Corporation China	22,789,330	3,547,500	13,688,642	-	5,553,188	36,300,000
Baowu Steel Group Corporation	37,134,107	22,007,700	-	15,126,407	-	8,807,000
Geely Automobile Holdings Limited	9,187,420	9,187,420	-	-	-	7,177,665
Sinopec Group (China Petroleum & Chemical Corporation)	10,027,700	3,438,270	5,764,253	825,177	-	3,763,100
Great Wall Motors Company Limited	27,738,947	9,185,110	18,553,837	-	-	20,378,050
China Three Gorges Corporation	30,043,690	9,185,138	13,310,055	-	7,548,497	43,853,898
WuXi AppTec Co., Ltd.	47,549,068	46,436,839	1,112,229	-	-	31,625,330
Other Receivables	212,65	-	-	-	-	-
Total	**184,682,911**	**102,987,977**	**52,429,016**	**15,951,584**	**7,548,497**	**151,905,043**

The total receivables amount is Rp 184,682,911. The amounts are categorized by aging periods. The cash receipts collected during the period total ¥ 151,905,043. The table also includes verification checks. This simplified analysis helps track the company's receivables and monitor cash flow, highlighting areas for improvement in collections.

Table 9. Recapitulation of Accounts Receivable Confirmation Results

No	Debtor	Per Books (¥)	Per Confirmation (¥)	Difference (¥)	Information
1	Haier Group Corporation	22,789,330	22,789,330	-	-
2	China Baowu Steel Group Corporation	37,134,107	37,134,107	-	-
3	Geely Automobile	9,187,420	9,187,420	-	-

No	Debtor	Per Books (¥)	Per Confirmation (¥)	Difference (¥)	Information
	Holdings Limited				
4	Sinopec Group (China Petroleum & Chemical Corp)	10,027,700	10,027,700	-	-
5	Great Wall Motors Company Limited	27,738,947	27,738,947	9,185,110	Discrepancy due to delivery of goods.
6	China Three Gorges Corporation	30,043,690	30,043,690	9,185,138	Difference due to post-dated check.
7	WuXi AppTec Co., Ltd.	47,549,068	47,549,068	-	-

Most accounts match between the company's records and the debtor's confirmations. However, two discrepancies were found: 1) Great Wall Motors Company Limited, The difference of ¥9,185,110 is due to goods delivered but only confirmed in the following year, 2) China Three Gorges Corporation, The difference of ¥9,185,138 is due to a post-dated check.

This table offer a clear overview of the company's outstanding receivables and highlight the reasons behind the discrepancies discovered during the confirmation process. The discrepancies were caused by delayed confirmations and post-dated checks, which have been appropriately identified and documented.

3.   Top Schedule of Accounts Receivable Analysis

Table 10. Working Paper - Top Schedule of Accounts Receivable

Customer	Per Book (¥)	Adjust (CR)	Adjust Balance (¥)
HaierGroup Corporation	¥10,000,000	¥18,000,000	¥28,000,000
China Baowu Steel Group Corporation	¥25,000,000	¥10,000,000	¥15,000,000
Geely Automobile Holdings Limited	¥46,000,000	¥26,000,000	¥20,000,000
Sinopec Group (China Petroleum & Chemical Corp)	¥18,900,000	¥5,000,000	¥13,900,000
Great Wall Motors Company Limited	¥39,000,000	¥14,000,000	¥25,000,000
China Three Gorge	¥50,000,000	¥50,000,000	¥0
WuXi AppTec Co., Ltd.	¥50,000,000	¥0	¥50,000,000

Key observations from the table: 1) Haier Group Corporation had an initial balance of ¥10,000,000, with an adjustment of ¥18,000,000, resulting in an adjusted balance of ¥28,000,000, 2) China Baowu Steel Group Corporation had an initial balance of ¥25,000,000, with an adjustment of ¥10,000,000, bringing the adjusted balance to ¥15,000,000, 3) Geely Automobile Holdings Limited had a significant adjustment of ¥26,000,000, reducing the receivable from ¥46,000,000 to ¥20,000,000, and 4) China Three Gorges Corporation had a full adjustment of ¥50,000,000, reducing the receivable to ¥0.

The WuXi AppTec Co., Ltd. entry is noteworthy, where the original balance was ¥0, and an adjustment of ¥50,000,000 resulted in an adjusted balance of ¥50,000,000. This detailed breakdown is essential for managing the company's accounts receivable and ensuring that the adjustments align with the actual payments and transactions. The analysis is crucial for accurate financial reporting and maintaining liquidity by tracking the status of outstanding debts from major clients.

4. **Bank Reconciliation Analysis**

Tabel 11. Zhōngguó Bank Reconciliation

Bank Notes	Company Notes
Beginning balance	¥ 2,452,342
Added:	
Fund Transfer	¥ 1,010,000
Distribution of Interest	¥ 11,33
Money Order Bill	¥ 85,20
Reduced:	
Outstanding Check	¥ 99,78
Check 934321	
Adjusted Balance	¥ 2,352,567

The beginning balances are outlined for both the bank and the company's records. The bank's starting balance is ¥ 2,452,342, while the company's records reflect a beginning balance of ¥ 1,270,042. Several additions were recorded during the period, including a fund transfer of ¥1,010,000, distribution of interest amounting to ¥ 11,325, and a money order bill of ¥ 85,200. These additions increase the balance for both the bank and the company.

Reductions were also made during the period. The outstanding check (Check 934321) reduced the balance by ¥ 99,775, reflecting checks issued by the company but not yet processed by the bank. Additionally, a bank service fee of ¥ 11,125 and bank money order fees of ¥ 12,875 were charged by the bank, further reducing the balance.

After accounting for all additions and reductions, both the bank and the company's records show an adjusted balance of ¥ 2,352,567. This reconciliation confirms that both the bank's records and the company's records are consistent and accurate, providing assurance regarding the correctness of the financial records.

Tabel 12. Zhōngguó Gōngshāng Bank Reconciliation

Bank Notes	Company Notes
Beginning balance	¥ 3,640,498
Added:	
Bank interest	¥ 12,50
Reduced:	
Fund Transfer	¥ 1,010,000
Bank Service Fee	¥ 15,00
Adjusted Balance	¥ 3,640,498

The beginning balances for both the bank and the company are provided, with the bank's beginning balance being ¥3,640,498 and the company's beginning balance at ¥4,652,989. During the period, additions were made, including a bank interest of ¥12,500, which was added to both the bank's and the company's balances. Reductions during the period include a fund transfer of ¥1,010,000, recorded as a transfer from the bank, and a bank service fee of ¥15,000, charged by the bank. After considering these additions and reductions, the adjusted balance for the bank stands at ¥3,640,498, while the company's adjusted balance is ¥3,640,489, reflecting a minor discrepancy of ¥9. This reconciliation ensures that both the banks and the company's financial records are accurate and aligned, and the slight discrepancy can be investigated or addressed in future reconciliations.

Tabel 13. Zhōngguó Nóngyè Bank Reconciliation

Bank Notes	Company Notes
Beginning balance	¥ 2,908,725
Added:	
Sales Revenue	¥ 2,000,000
Reduced:	
Outstanding Check	
Check No 6121613	¥357,23
Check No 6634125	¥718,65
Check No 6812002	¥ 682,12
Adjusted Balance	¥ 3,150,736

The beginning balances for both the bank and the company are as follows: the bank's beginning balance is ¥2,908,725, while the company's beginning balance is ¥4,165,736. Several additions were recorded during the period, including sales revenue of ¥2,000,000, which was added to the bank's balance. The company also added ¥725,000 from a money order bill and ¥ 60,000 from interest income. The reductions included outstanding checks, where three checks were issued, totalling ¥1,758,989 (Check Nos. 6121613, 6634125, and 6812002). Additionally, the company recorded an error of ¥1,800,000, which was adjusted. After considering all the additions and reductions, the adjusted balances for both the bank and the company amounted to ¥3,150,736, confirming that both records align. This reconciliation process verifies the accuracy and consistency of the bank's and the company's financial records for the specified period.

5. **Stock Summary Analysis**

Table 14. Stock Summary

Stock Series	Purchase Quantity (Shares)	Purchase Price/ Share (¥)	Sale Quantity (Shares)	Sale Price/ Share (¥)	Remaining Quantity (Shares)	Remaining Total (¥)
China tree Gorges C	550	¥6000	275	¥6,500	275	¥1,512,500
WuXi AppTec Co., Ltd	550	¥5,500	275	5,96	275	¥1,386,000
Sinopec G	550	¥5,750	550	¥5,620	0	¥71,500
Haier G	2,200	¥5,775	-	-	2,200	¥12,705,000
Greely A.	220	¥7,150	-	-	220	¥1,573,000

The overall performance of the stock portfolio can be assessed through the changes in the value of the remaining shares and the sale transactions. China Tree Gorges C and WuXi AppTec Co., Ltd performed positively, with the sales occurring at a higher price than the purchase, contributing to the portfolio's profitability. In contrast, Sinopec G saw a slight loss due to the lower sale price of the shares compared to their purchase price.

The Haier G and Greely A stocks remain unchanged, with the company choosing to hold on to the shares. These stocks have not been sold yet, which could mean the company is waiting for a more favorable market condition to liquidate these holdings, or they may be considered long-term investments. The value of these stocks remains significant, contributing to the overall value of the portfolio.

The stock summary analysis shows a mix of profitable sales and retained investments. The company has been successful in realizing gains on certain stocks, particularly China Tree Gorges C and WuXi AppTec Co., Ltd, which have provided favorable returns. The slight loss on Sinopec G should be addressed to avoid further negative returns, while the retained stocks (Haier G and

Greely A) present opportunities for future growth, pending market conditions. This summary is essential for tracking the company's investment portfolio, understanding stock performance, and making informed financial decisions regarding future investments and divestments.

6.   **Data Analytics Enhance Risk Assessment Procedures in Audits**

The findings from this study reveal significant advantages in moving from sample-based auditing to a more comprehensive approach facilitated by the use of data analytics. The data analytics tools deployed at Guangzhou Yican Trading Co. Ltd have enabled auditors to expand their scope, moving from reviewing a small sample of transactions to analyzing entire datasets.

This ability to analyze 100% of the data rather than relying on random sampling significantly shifts the way auditors assess risk. Modern risk-based audit theory argues that focusing on high-risk areas and identifying threats early improves both the efficiency and effectiveness of audits. Data analytics empowers auditors to conduct holistic assessments, replacing subjective assumptions based on limited data with objective, data-driven insights. This aligns with findings from EY Global (2022), which report that analytics-driven audits now enable professionals to analyze entire transaction populations, identify trends and anomalies, and derive deeper risk insights—thereby enhancing both audit quality and risk detection capabilities.

The ability to spot problems immediately allows auditors to intervene proactively, before an issue escalates into a significant problem. This ability to monitor financial activities in real time represents a key shift in the audit process, allowing for continuous assessment rather than periodic reviews. Furthermore, real-time monitoring is consistent with Social Cognitive Theory, which suggests that individuals are more likely to adopt and use new technologies when they believe these tools will enhance their capabilities. At Guangzhou Yican Trading Co. Ltd, auditors gained confidence in using data analytics tools over time, as they saw firsthand how the tools provided faster and more accurate risk assessments.

 The increased confidence and self-efficacy among auditors further supported the adoption of these technologies, demonstrating that the proactive nature of data analytics tools empowered auditors to take immediate action when risks were detected. The use of predictive models and machine learning algorithms has helped auditors not only react to risks as they arise but also predict future trends based on historical data. For example, auditors have been able to identify future risk trends, such as expected cash flow shortages or potential regulatory violations, before they occur. This predictive capability is vital for auditors in a constantly evolving environment, as it allows them to better anticipate risks and prepare accordingly.

7.   **Ways Data Analytics Can Be Effectively Integrated into Guangzhou Yican Trading Co. Ltd's Current Risk Assessment Framework**

The findings revealed that while the benefits of data analytics are clear, the integration process was not without its challenges. The integration of new technologies requires careful planning, coordination, and an investment in both technical infrastructure and organizational change. One of the significant barriers identified in this study was the lack of technical expertise among auditors. In the initial stages of integration, auditors were faced with the challenge of learning to use the new tools effectively.

The process of training and building expertise was essential to the successful integration of data analytics tools into the audit workflow. As auditors grew more familiar with the tools, their perceptions of their usefulness and ease of use increased, leading to faster adoption and integration into the daily audit process. Another significant challenge identified was the integration of data analytics tools with legacy audit systems. This integration challenge is consistent with Zhang et

al. (2018), who highlighted the difficulties many organizations face when attempting to incorporate new technologies with legacy systems. In this case, the company's decision to invest in IT upgrades and new infrastructure allowed for smoother integration of the data analytics tools and helped eliminate compatibility issues that would have otherwise hindered progress.

Furthermore, resistance to change within the organization was another barrier to integration. This resistance to adopting new technologies is a common challenge in many industries and organizations, particularly in professions that rely heavily on professional judgment and experience. Overcoming resistance to change requires strong leadership and a clear communication strategy that demonstrates the value of new technologies. At Guangzhou Yican Trading Co. Ltd, this was achieved through consistent training and leadership support, which gradually helped senior auditors see the advantages of using data analytics tools to complement their judgment-based decisions.

8. Specific Benefits of Data Analytics in the provision of Identifying, Assessing, and Mitigating Risks During Audits

The findings confirmed that data analytics has significantly improved the fraud detection process, the accuracy of risk assessments, and the efficiency of audits. Fraud detection was identified as one of the key benefits of data analytics. The ability to use data-driven tools for fraud detection is supported by existing research, including Zhang et al. (2018), who found that data analytics tools significantly enhance fraud detection by analyzing large datasets for anomalies that may indicate fraudulent activity. The predictive models used in these tools have allowed auditors to identify potential fraud before it causes significant financial damage, demonstrating the importance of proactive rather than reactive auditing.

In addition to fraud detection, data analytics also enables auditors to conduct more accurate risk assessments. This ability to perform comprehensive risk assessments is a key benefit of data analytics, as it ensures that auditors can evaluate all relevant data rather than just a subset. This ability to conduct more accurate and comprehensive risk assessments aligns with the principles of Risk-Based Audit Theory, which stresses the importance of considering the complete dataset when making decisions related to risk

9. Challenges or Limitations in Implementing Data Analytics for Risk Assessment at Guangzhou Yican Trading Co. Ltd

The findings identified several significant barriers. The lack of technical expertise was the most pressing challenge. This finding echoes the work of Agogino & Lee (2020), who pointed out that technical expertise gaps are a major obstacle to the adoption of new technologies in auditing. Overcoming this challenge required extensive training programs, which took time to fully implement.

Resistance to change was another significant barrier. This resistance to change is a common challenge in organizations adopting new technologies, particularly in professionals who have relied on traditional methods for years.

Finally, the system integration issues faced during the early stages of the implementation process presented significant challenges. This finding aligns with Zhang et al. (2018), who noted that integrating new technologies with legacy systems often poses significant challenges. To overcome these barriers, Guangzhou Yican Trading Co. Ltd invested in upgrading its IT infrastructure, ensuring smooth integration of data analytics tools with existing systems.

CONCLUSION

In conclusion, data analytics holds significant potential to enhance risk assessment in

auditing practices, offering companies a more efficient, accurate, and comprehensive approach to managing their financial data. The integration of data analytics tools into audit procedures enables organizations to identify risks more effectively, streamline audit processes, and improve the overall accuracy of financial reporting. By adopting the appropriate tools and providing the necessary training and support for auditors, companies like Guangzhou Yican Trading Co. Ltd. can significantly improve their audit practices. This will lead to better decision-making, increased transparency, and the ability to mitigate risks more proactively. As the field of data analytics continues to evolve, its application in auditing will only become more crucial for maintaining robust financial management and ensuring regulatory compliance. The continuous development of new technologies and methodologies will further enhance the capabilities of audit professionals, enabling them to provide more valuable insights and support for organizational growth. Ultimately, data analytics has the power to transform auditing into a more dynamic, data-driven process that supports not only risk management but also long-term business success.

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