INTERNATIONAL JOURNAL OF COMPUTER AUDITING

Commentary

General Ledger Computer Auditing Practice:Implementing a Smart Auditing Approach

Sherry Huang[1,2]

[1]Chair, ICAEA Taiwan Chapter

[2]CEO, Jacksoft Commerce Automation Ltd., Taiwan

Correspondence
Sherry Huang
Email: sherry@jacksoft.com.tw

This paper showcases how JCAATs, an AI audit Software, can facilitate a smart auditing approach using General Ledger data compliant with the Audit Data Standards introduced by the American Institute of Certified Public Accountants (AICPA). We begin with an overview of the Audit Data Standards by the AICPA, followed by an exploration of the necessity for a smart auditing approach. Utilizing JCAATs, we demonstrate a smart auditing process for General Ledger accuracy testing to verify the correctness of amounts in the general ledger accounts, ensuring alignment with description and source documents.

KEYWORDS

General Ledger , JCAATs , Smart Auditing , Audit Data Standard , Text Mining , Outlier

Reference Format: Huang, S, 2023, General Ledger Computer Auditing Practice : Implementing a Smart Auditing Approach, International Journal of Computer Auditing, 5(1), 45-51.
https://doi.org/10.53106/256299802023120501004

1 | INTRODUCTION

Statement of Auditing Standard (SAS) no. 99, Consideration of Fraud in a Financial Statement Audit, stipulates that "the auditor should design procedures to test the appropriateness of journal entries recorded in the general ledger and other adjustments" (PCABO, 2002). SAS no. 99 was succeeded by AICPA Practice Alert 2003-02, which offers auditors additional guidance concerning the design and execution of journal entry audit procedures to meet the responsibilities outlined in SAS no. 99 (Ramos, 2003). Notably, this practice alert suggests specific tests to be conducted and emphasizes the use of computer-assisted audit tools (CAATs) to enhance test effectiveness.

General Ledger Auditing typically encompasses the following procedures (Lanza and Gilbert, 2007):

1. *General ledger record integrity: Confirming the completeness of transactions in general ledger accounts, including identifying any omitted or missed transactions.*
2. *General ledger account accuracy: Ensuring that all transactions are properly recorded in the general ledger accounts and correctly attributed to the corresponding accounts.*
3. *General ledger posting timeliness: Verifying that general ledger account transactions are recorded in the appropriate sequence, detecting any delayed or erroneous transactions.*
4. *General ledger amount accuracy: Validating the accuracy of amounts in general ledger accounts and their alignment with source documents (e.g., invoices, receipts, etc.).*
5. *Accounting transaction record compliance: Assessing the compliant recording of accounting transactions, including adherence to the company's financial policies and relevant laws and regulations.*

General ledger auditing is pivotal for financial reporting and contributes to ensuring the accuracy, reliability, and credibility of a company's financial statements.

2 | AICPA AUDIT DATA STANDARD – GENERAL LEDGER

Let's first introduce the three common accounting books used in General Ledger Audit - the General Ledger, Journal, and Subsidiary Ledger. Here are the differences between them:

1. *General Ledger: The General Ledger is a book that summarizes all accounts. It contains all accounts, such as assets, liabilities, equity, income, and expenses. It is one of the most important books in the accounting system, used to record all financial transactions of a company. It is the core of the entire accounting system.*
2. *Journal: The Journal is a book that records all transactions in chronological order. It records detailed information of each business transaction, including the date, transaction type, transaction amount, and transaction party. It is a primary record-keeping tool and the basis for other books.*
3. *Subsidiary Ledger: The Ledger is a book that records transactions by account classification. It classifies all transactions by account, and each account has an independent account balance. The Ledger can be a sub-ledger or a parent ledger. The sub-ledger records transaction details of a specific account, while the parent ledger summarizes the balances of all sub-ledgers.*

Therefore, the differences between the three books lie in the content and form of the information recorded. The General Ledger is a book summarized by account, the Journal is a book that records transactions in chronological order, and the Ledger is a book that records transactions by account classification (Lee, Casterella and Wray, 2021).

The American Institute of Certified Public Accountants (AICPA) recognized that various companies use different General Ledger information systems, and there are many different types of accounting books. This has led to increased complexity of information and higher manpower and cost requirements for auditors during the audit process. There-

fore, AICPA proposed a framework for Audit Data Standards, allowing each General Ledger information system to export its data in this standardized format (see Figure 1) (AICPA, 2015).

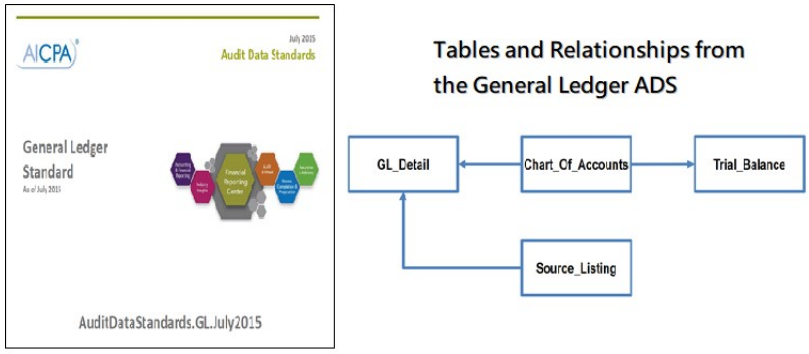

FIGURE 1 AICPA Audit Data Standard for General Ledger (Source: AICPA, 2015)

Table 1: Tables in AICPA Audit Data Standard for General Ledger

Table Name	Description
Chart_of_Accounts	This table is used to store the information about all the GL accounts—including name, description, and mapping to the financial statement captions. If different charts of accounts are needed for different business units, business unit fields should be utilized to distinguish between the local and consolidating sets of accounts.
GL_Detail	This table stores all the journal entry lines and includes all the journal entry header information as well. Each row in this table contains detailed information for transactions on each journal entry—such as the associated journal entry ID, the associated account number, and the debits or credits associated with the journal entry line. The file should be at the journal entry line level, not a more summarized level.
Trial_Balance	This table stores all the ledger account balance information. The table should contain the ending balances at a point in time.
Source_Listing	This table provides additional information about the sources provided in the GL_Detail file. Each source should have a description, which ERP module or subledger it originates in, along with information relating to the business process it is a part of.

This enables auditors to conduct audits using a unified data format, which can improve the accuracy, effectiveness, and efficiency of relevant audits. Whether the general ledger system is SAP ERP, Oracle ERP, or another information system, pertinent data can be retrieved using JCAATs, an AI audit software, and formatted according to the AICPA Audit Data Standards through the audit script. This simplifies the process of conducting audit exercises.

3 | JCAATS - AN AI AUDIT SOFTWARE

Introduced in 2017, JCAATs has gained recognition as a certified CAATs tool for the ICCP (International Certified CAATs Practitioner) Certificate Exam administered by ICAEA (Huang and Huang, 2017). It is extensively utilized by students and auditors globally, serving both examination preparation and daily data analytics and audit forecasting needs. Numerous CPA firms, including Crowe, RSM, CSCPAs, among others, have adopted JCAATs for their operations.

JCAATs is now a python based audit software (Jacksoft, 2024). One of the major advantages of Python-based AI audit software is its ability to leverage Python's strengths. With its robust libraries and powerful data analysis and visualization capabilities, Python is an ideal tool for processing big data efficiently and performing complex numeric computing operations. In addition to the data analysis functions found in traditional CAATs, JCAATs includes various artificial intelligence functions such as text mining, machine learning, and data crawling, making audit analysis smarter and more automated (See Figure 2). Notably, JCAATs is one of the few general audit software options that can run on both Windows and Mac systems.

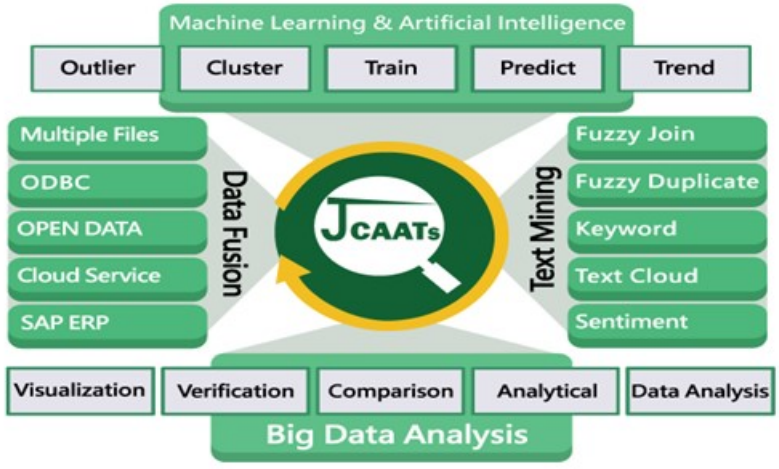

FIGURE 2 The smart auditing functions of JCAATs (source: Jacksoft, 2024)

4 | SMART AUDIT APPROACH

Smart Audit is the use of big data and advanced audit analytics tools embedded with artificial intelligence functions (Vasarhelyi, Cho, Cheong and Zhang, 2020). A JCAATs project represents a smart audit project and is the highest level of organization in the process with several AI audit command. All command operations are recorded in a log file. In this paper, we conduct a General ledger amount accuracy test is to confirm whether the amounts or description are unusual, i.e Entries amount unusual and Entries description unusual.

Test 1 – Entries amount unusual

An outlier number, in statistics, refers to a data point that significantly differs from other observations in a dataset. Outliers can occur due to various reasons such as fraud. Identifying outliers is important in data analysis because they can distort statistical analyses and models, leading to inaccurate conclusions. JCAATs features an audit command known as "Outlier" designed to examine entries with unusual amounts. Typically, this command is identified using statistical methods such as standard deviations. Figure 4 depicts the interface of this command in JCAATs. Auditors can utilize this single command to easily identify unusual amounts for further investigation.

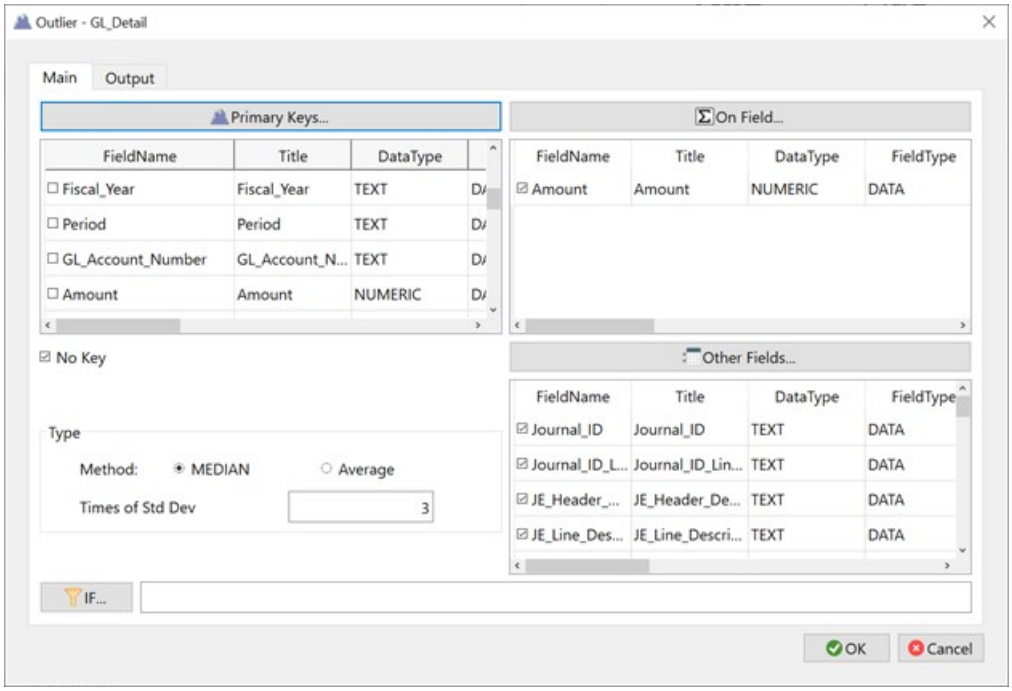

FIGURE 3 Outlier Command Interface of JCAATs

Test 2 – Entries description unusual

Discovering unusual words entails identifying words that occur infrequently or are rare within a specific context or dataset. This text mining process utilizes techniques such as natural language processing (NLP) to automatically identify and extract relevant keywords from the text.

JCAATs support an audit command, called Keyword, which can perform text mining to find unusual words within a text field. Auditor can use the command to examine entries where the JE_Line_Description field has unusual words. Figure 5 depicts the interface of this command in JCAATs. Auditors can utilize this single command to easily identify unusual word entries for further investigation.

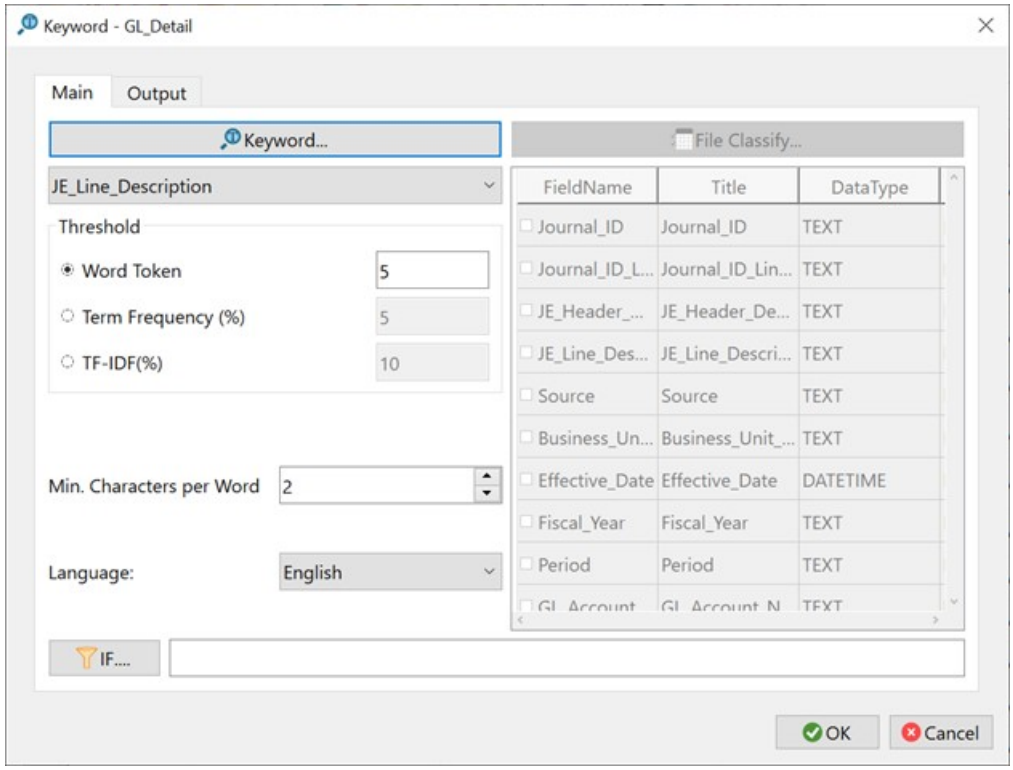

FIGURE 4 Keyword Command Interface of JCAATs

5 | CONCLUSION

In conclusion, this paper has presented a comprehensive overview of implementing a smart auditing approach using JCAATs, an AI audit software, in conjunction with General Ledger data compliant with the Audit Data Standards established by the AICPA. By leveraging JCAATs, auditors can conduct thorough and efficient audits that ensure accuracy, reliability, and compliance with financial reporting standards.

The discussion highlighted the importance of smart auditing in today's financial landscape, emphasizing the need to adapt to evolving audit methodologies and technological advancements. Through the demonstration of smart auditing procedures, such as General Ledger accuracy testing, the paper illustrated how auditors can effectively utilize JCAATs to verify the correctness of ledger entries and detect anomalies that may indicate potential fraud or errors.

Furthermore, the integration of AI capabilities, such as text mining and outlier detection, into JCAATs enhances audit effectiveness by automating processes and uncovering insights that traditional audit methods may overlook. This innovative approach not only improves audit efficiency but also enhances the overall quality and reliability of audit findings.

In essence, the adoption of smart auditing practices facilitated by JCAATs represents a significant advancement in the

field of auditing, empowering auditors to navigate complex financial landscapes with greater precision, insight, and confidence. As technology continues to evolve, the integration of AI-driven audit solutions like JCAATs will play an increasingly pivotal role in shaping the future of audit practices worldwide.

References

1. PCABO. (2002). AU Section 316 Consideration of Fraud in a Financial Statement Audit. Source: SAS No. 99 & SAS No. 113. https://pcaobus.org/oversight/standards/archived-standards/pre-reorganized-auditing-standards-interpretations/details/AU316
2. Ramos, M. (2003). *Fraud Detection in a GAAS Audit: SAS No. 99 Implementation Guide*. AICPA Audit and Accounting Practice Aid Series. https://core.ac.uk/download/pdf/288061006.pdf
3. LANZA, R. B., & GILBERT, S. (2007). A Risk-Based Approach to Journal Entry Testing. *Journal of Accountancy*.
4. Lee, L. S., Casterella, G., & Wray, B. (2021). Preparing for Audit Data Analytics with the AICPA General Ledger Audit Data Standards. *Journal of Emerging Technologies in Accounting*, *18(1)*, 131–157. https://doi.org/10.2308/JETA-2020-022
5. AICPA. (2015). AICPA General Ledger Audit Data Standards. https://us.aicpa.org/content/dam/aicpa/interestareas/frc/assuranceadvisoryservices/downloadabledocuments/auditdatastandards/auditdatastandards.gl.july2015.pdf
6. Huang, S., & Huang, S. M. (2017). *J-CAATs: a Cloud Data Analytic Platform for Auditors*. 2017 International Conference on Computer Auditing- ICAEA, UK, London.
7. Vasarhelyi, M. A., Cho, S., Cheong, A., & Zhang, C. A. (2020). *Smart Audit: the digital transformation of audit*. Rutgers University. https://medium.com/ecajournal/smart-audit-the-digital-transformation-of-audit-b283e1653bd4
8. Jacksoft. (2024). Introduction to JCAATs- AI Audit Software. https://www.jacksoft.com.tw/english/product/product-JCAATS.php