

Auditing Oracle ERP Using ACL:

An example of the Sales and Collection Cycle

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Abstract

This project focused on the sales and collection cycle, and data from the Oracle database were adopted as the auditing subject. Five audit objects were developed before this project proceeded to the stage of ACL auditing. Related audit procedures were developed according to these objects. The aim of this project was to determine weaknesses in internal control by using ACL auditing software and to provide suggestions for additional improvements.

Keywords: Audit Command Language (ACL), internal control, sales and Collection Cycle

Foreword

Computer-assisted audit tools (CAATs) are designed specifically for system auditing. CAATs are compatible with various file types and data formats. CAATs demonstrate sampling, file compilation, date calculation, and data conversion features, and they assist auditors in enhancing productivity, detecting fraud, continuous monitoring, law and regulation compliance, data security assurance, and joint audit practices. Audit Command Language (ACL) is one of the most prevalent auditing software. For more than two decades, ACL is renowned worldwide for providing auditing, control test, and compliance technology solutions for people with financial and accounting backgrounds.

The ultimate goal for all business activities is to maximize profit, and sale is the principal measure of profit. Sales is the main source of revenue for most companies, and the sales process involves most of the departments in a company, including operations department, production department, accounting department, and sales logistics department. Specifically, sales activity is a complex process. Apart from

sales, cash collection is another routine business activity. With high transaction frequency, fraudulent behaviors such as embezzlement and theft are likely to occur during the process of cash collection and bank deposit. Therefore, the sales and collection cycle is a crucial yet highly risky segment in the daily operations of companies.

This project focused on the sales and collection cycle, and data from the Oracle database were adopted as the auditing subject. The aim of this project was to determine weaknesses in internal control by using ACL auditing software and to provide suggestions for additional improvements.

Introduction to the Sales and Collection Cycle

In a conventional company, the sales and collection cycle involves multiple steps, such as processing orders, managing credit, delivering goods or providing services, issuing sales invoices, recording sales and accounts receivable, providing sales discounts, allowances, and sales returns, and recording cash receipts.

The main purpose of auditing the sales and collection cycle is to examine whether the account balance involved in the cycle is appropriately maintained according to the generally accepted accounting principles. Five transaction types are involved in the sales and collection cycle: sales (cash sales and sales on account), cash receipts, sales returns and allowances, write off uncollectible accounts, and bad debt expense.

The sales and collection cycle involves the process of determining goods and services transfer, a process that begins from the customer's order placement and ends with the transfer of goods and services into cash or accounts receivable. In this process, the company uses documents and records to communicate the transaction process and implement internal control. Table 1 illustrates the business functions and documents of sales and collection cycle. When the functions of such documents are understood, the audit process can be facilitated.

Classes of transactions	Accounts	Business Functions	Documents and Records
Sales transaction	Accounts receivable (debit) Sales (credit)	Processing customer orders, Granting credit, Shipping goods, Billing customers and recording sales.	Purchase order, Sales order, Shipping Document, Sales invoice (bill), Sales journal or listing, Accounts receivable Master file/sub ledger, Monthly statements sent to customers
Cash receipts transaction	Cash in bank or Cash (debit) Accounts receivable (credit)	Processing and recording cash receipts.	Remittance advise, Prelisting of cash receipts, Cash receipts journal of listing.

Sales returns and allowances transaction	Sales returns and allowances (debit) Accounts receivable (credit)	Processing and recording sales returns and allowances	Credit memo, Sales returns and allowances journal.
Write off uncollectible accounts transaction	Allowance for Doubtful Accounts (debit) Accounts receivable (credit)	Charging off uncollectible	Uncollectible account authorization from accounts receivable master files and general ledger
Bad debt expense	Bad debt expense (debit) Allowance for Doubtful Accounts (credit)	Providing for bad debts- Authorization and review	General journal-Adjustment

Table 1 Business Functions and Documents of Sales and Collection Cycle

Using ACL Software to Conduct Audit Procedure Analysis

1. Establishing Audit Objectives and Procedures

ACL can be used to audit computer files according to the following procedures:

- Establish audit goals
- Learn about computer application systems and file structures
- Organize the contents to be audited
- Transfer files from the host computer to a personal computer or disc
- Define file fields and formats in ACL
- Verify whether the data defined are accurate and whether they conform to the account records
- Execute the audit analysis
- Generate reports of the audit results

Five audit objects were developed before this project proceeded to the stage of ACL auditing. Related audit procedures were developed according to these objects.

2. Defining data fields

RA_CUSTOMER_TRX_ALL Table

Name	Type
CUSTOMER_TRX_ID	ASCII
TRX_DATE	DATE
SOLD_TO_CUSTOMER_ID	ASCII

RA_CUSTOMER_TRX_LINES_ALL Table

Name	Type
CUSTOMER_TRX_ID	ASCII
QUANTITY_ORDERED	ASCII
UNIT SELLING PRICE	FLOAT
REVENUE AMOUNT	FLOAT
SALES_ORDERED	ASCII
SALES_ORDERED_DATE	DATE

AR_RECEIVABLE_APPLICATIONS_ALL Table

Name	Type
CASH_RECEIPT_ID	ASCII
AMOUNT APPLIED	FLOAT
APPLY DATE	DATE
APPLICATION TYPE	ASCII
STATUS	ASCII

AR_CASH_RECEIPTS_ALL Table

Name	Type
CASH_RECEIPT_ID	ASCII
AMOUNT	FLOAT
STATUS	ASCII
TYPE	ASCII
RECEIPT DATE	DATE
DEPOSIT_DATE	DATE

3. Carrying out audit procedures

Auditing Objective 1

Audit whether cash basis accounts receivable write-offs matches the amount of cash received from accounts receivable.

Auditing procedures :

Compare the AMOUNT in the AR_CASH_RECEIPTS_ALL Table with the AMOUNT APPLIED in the AR_RECEIVABLE_APPLICATIONS_ALL Table.

Data needs :

AR_CASH_RECEIPTS_ALL Table				
CASH RECEIPT ID	AMOUNT	STATUS	TYPE	RECEIPT DATE

AR_RECEIVABLE_APPLICATIONS_ALL Table				
CASH RECEIPT ID	AMOUNT APPLIED	APPLY DATE	APPLICATION TYPE	STATUS

Used ACL command: Summarize, Join Tables, and Local Filters.

ACL Auditing step :

Step 1. Select Analyze > Summarize. Use the Summarize command to summarize the AMOUNT_ APPLIED in the AR_RECEIVABLE_APPLICATIONS_ALL table by CASH_RECEIPT_ID. This process produced new table and named as SUMVEN_APPLICATIONS_AMOUNT.

Step 2. Select Data>Join Tables. Use the Join command to join SUMVEN_APPLICATIONS_AMOUNT table and AR_CASH_RECEIPTS_ALL table. This process produced new aggregate table, and was saved as MATCHED AMOUNT.

Step 3. Use Local Filters to view whether the amount of AMOUNT _APPLIED and AMOUNT are the same. Select Analyze > count records. In the Expression box enter AMOUNT _APPLIED <>AMOUNT, save as difference amount.

The audit result showed in figure 1. Of the 19,634 entries, the amount in 85 entries of AMOUNT _APPLIED in AR_RECEIVABLE_APPLICATIONS_ALL Table differed with AMOUNT that of AR_CASH_RECEIPTS_ALL Table.

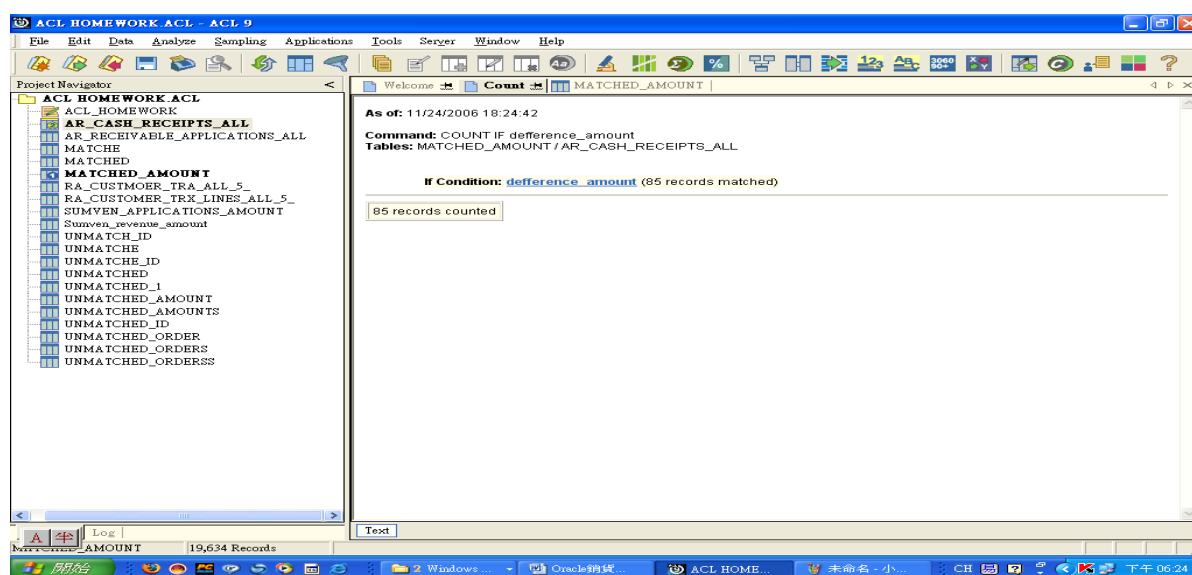


Figure 1

Auditing Objective 2

Audit whether the date of collection matches the date of deposit.

Auditing procedures :

Compare the date of RECEIPT_DATE with the date of DEPOSIT_DATE in the AR_CASH_RECEIPTS_ALL table.

Data needs :

AR_CASH_RECEIPTS_ALL Table				
CASH_RECEIPT_ID	AMOUNT	TYPE	RECEIPT DATE	DEPOSIT DATE

Used ACL command: Local Filters

Auditing step use ACL :

Step 1. Select Analyze > count records.

Step 2. In the Expression box enter RECEIPT_DATE<>DEPOSIT_DATE, save as difference date. Click OK.

The audit result showed that of the 19,682 transaction entries, 60 entries had dates where the data of collection did not match the date of deposit.

Auditing Objective 3

Audit whether the calculation of the sales revenue is accurate and normal.

Auditing procedures :

Examine whether the sales revenue contains any negative number; review the sales revenue number by multiplying the ordered quantity by the per unit sales price in the transaction detail file.

Data needs :

RA_CUSTOMER_TRX_LINES_ALL Table			
CUSTOMER_TRX_ID	QUANTITY_ORDERED	UNIT_SELLING_PRICE	REVENUE AMOUNT

Used ACL command: Local Filters

ACL Audit step :

Step 1. Select Analyze > count records. In the Expression box enter UNIT_SELLING_PRICE<0, save as Negprice. Click OK.

The audit result showed that of the 298,074 transaction entries, 17 entries had negative numbers in per unit sales price.

Step 3. Select Analyze > count records.

Step 4. In the Expression box enter UNIT_SELLING_PRICE*QUANTITY_ORDERED<> REVENUE_AMOUNT, save as difference revenue amounts.

The audit result showed that of the 298,074 transaction entries, 1,946 entries showed disparate numbers in the result obtained by multiplying the per unit sales price by the ordered quantity and the collected revenue.

Auditing Objective 4

Audit whether goods sold to clients without sales order.

Auditing procedures :

Compare the sales order with the identification of selling to customer.

Data needs :

RA_CUSTOMER_TRX_ALL Table		
CUSTOMER_TRX_ID	TRX_DATE	SOLD_TO_CUSTOMER_ID

RA_CUSTOMER_TRX_LINES_ALL Table	
CUSTOMER_TRX_ID	SALE_ORDER

Used ACL command: Join Tables, Local Filters.

Auditing step use ACL :

Step 1. Select Data >Join Tables. Use the Join command to join RA_CUSTOMER_TRX_ALL table and RA_CUSTOMER_TRX_LINES_ALL table. This process produced new aggregate table, and save as MATCH_ID.

Step 2. Select Analyze > count records. In the Expression box enter SALES_ORDER="'", save as UNEXIST. Click OK.

The audit result showed that of the 43,394 entries, 14,073 entries represented goods sold to clients without sales order.

Auditing Objective 5

Audit if the system involves any transaction whose date of transaction precedes the date of sale order.

Auditing procedures :

Compare the date of transaction with the date of sale order.

Data needs :

RA_CUSTOMER_TRX_ALL Table		
CUSTOMER_TRX_ID	TRX_DATE	SOLD_TO_CUSTOMER_ID

RA_CUSTOMER_TRX_LINES_ALL Table	
CUSTOMER_TRX_ID	SALE_ORDER_DATE

Used ACL command: Relate Table, Local Filters

ACL Audit step :

Step 1. Open the RA_CUSTOMER_TRX_ALL (primary table) and select Data > Relate Tables. In the Relations dialog box, click Add Table and select RA_CUSTOMER_TRX_LINES_ALL table (secondary tables).

Step 2. Drag the CUSTOMER_TRX_ID (key field) from the RA_CUSTOMER_TRX_ALL table to the CUSTOMER_TRX_ID in the

RA_CUSTOMER_TRX_LINES_ALL Table. Click Finish to exit the Relations dialog box and save as RELATION. Then these two tables are related.

Step 3. Add SALES_ORDER_DATE and TRX_DATE fields to the RELATION table, do the following: Right-click the RELATION table view and select Add Columns.

Select RA_CUSTOMER_TRX_ALL Table and

RA_CUSTOMER_TRX_LINES_ALL Table from the From Table drop-down list and select SALES_ORDER_DATE and TRX_DATE fields to add to the RELATION table view. Click **OK**. The SALES_ORDER_DATE and TRX_DATE fields are added to the RELATION table view.

Step 4. Select Analyze > count records. In the Expression box enter SALES_ORDRE_DATE>TRX_DATE, save as Negdate. Click OK.

The audit result showed that of the 47,161 transaction entries, 214 entries had a transaction date that precedes the order placement date.

Analysis of Audit Results and Suggestions for improvement

In this project, the audit process was conducted according to five objectives. The auditors adopted auditing programs specifically designed for these objectives, compiled the results by using ACL auditing software, and proposed suggestions of improvement regarding the results.

- (1) The company should determine if cash had been embezzled because some account funds were collected but not deposited.
- (2) If the collected funds were not deposited immediately, then the risks are that the funds could be embezzled, stolen, or lost. Therefore, the auditors suggest that the company should deposit cash into the bank on the same day of collection to lower the risk of missing cash.
- (3) The company should investigate why certain sales prices were of negative values to clarify if those were key-in mistakes or were associated with other causes. In addition, a recalculation also indicated instances of mismatched sales records. Therefore, the company should ask related staff to recalculate and verify the data to ensure the quality of the data.
- (4) The company should confirm if false sales transactions existed. If confirmed, the company may have flaws in its internal control system, indicating that goods could be sold to clients without bill of sales. The company should review the flaws in its internal control and require its employees to follow related regulations.

In an ordinary transaction process, the clients would have to order goods first before the company delivered the goods them. Thus, the scenario in which the date of

transaction preceded the date of order placement could have happened because of flaws in the internal control of the company or because the employees did not follow the internal control policies of the company. Therefore, the auditors propose that the company should review its flaws in internal control and require its employees to follow related regulations.

Reference

- [1]ACL, 2015, ACL Analytics User Manual, <http://docs.acl.com/acl/11/index.jsp>
- [2]Shi-Ming Huang, 2015, ACL Data Analysis and Computer Audit, Open Tech Pub., ISBN 978-957-21-9680-9.
- [3]Deloitte Touche Tohmatsu Research Team and Isaca, Security, 2010, Audit and Control Features Oracle E-Business Suite, 3rd Edition, ISBN 978-1604201062