Detecting Electronic Suppression of Sales: A Data Analytics Approach

Sunder Gee
Data Analytic Specialist
ZAP Consulting Ltd.

2013 FTA Technology Conference
July 30, 2013

OECD – 2013

ELECTRONIC SALES SUPPRESSION: A THREAT TO TAX REVENUES

This report describes the functions of POS systems and the specific risk areas. It sets out in detail the electronic sales suppression techniques that have been uncovered by experts, in particular "Phantomware" and "Zappers", and shows how such methods can be detected by tax auditors and investigators.

Tax administrations are losing billions of dollars/ euros through unreported sales and income hidden by the use of these techniques. A Canadian restaurant association estimates sales suppression in Canadian restaurants at some CAD 2.4 billion in one year.

OECD's 5 Recommendations

• Tax administrations should review whether their **legal powers** are adequate for the audit and forensic examination of POS systems.

• Tax administrations should consider recommending **legislation criminalising** the supply, possession and use of electronic sales suppression software.

• Tax administrations should invest in **acquiring the skills and tools to audit and investigate POS systems** including developing the role of specialist e-auditors and recruiting digital forensic specialists where appropriate.

OECD Report

ECAS are auditors that receive specialised training in using CAATTs. Given the emergence of EPOS systems in many cash businesses, the ECAS are relied upon to analyse and understand complex systems and obtain key relevant information to be tested using audit software such as IDEA, ACL or SESAM. The selection of data files is not a straight-forward procedure, particularly where a business uses an ECR or Hybrid system, as opposed to a PC-based POS system. Furthermore, the ECAS has the necessary training to thoroughly analyse the large and complex EPOS datasets for indicators of electronic sales suppression and other non-compliance issues.

Kent Spencer, The Province
Published: Thursday, December 11, 2008

- RCMP undercover officers with hidden video cameras have busted five restaurateurs who police say were using a tax cheating software program.

- *The Salesman* told him on videotape that the software could be used for *"deleting cash sales"* and the cash *"could be used to pay kitchen staff."*

- *"There would be no problem with the government checking this if [it was done] carefully," the Salesman* said, according to the transcript.

Events Timeline

R. v. The Salesman 2011 - Supreme Court of British Columbia: Sentenced to jail term **of two years and six months**

Richmond Review – July 23, 2012 reported "*The Company*, was convicted in connection with the sale of electronic sales suppression software, otherwise known as the zapper" - **$100,000 fine**

Canadian Federal Budget – March 21, 2013
- Administrative Penalties: Use or possession $50,000 & Manufacture or sale $100,000
- Criminal by Summary $500,000/2 years or by Indictment $1,000,000/5 years

Events Timeline

British Columbia Court of Appeal
Date: 20130717

Selling tax-evasion software is legal, B.C. Court of Appeal rules

The Canadian Press Published Thursday, Jul. 18 2013, 9:11 AM EDT

But Justice Frankel said the zapper software is not illegal, noting he wasn't sure if reasonable people would even consider its sale to be dishonest.

Georgia – 1st State to Ban/Criminalize Zappers May 3, 2011

Excerpt from: Georgia 2011 H.B. 415, related to fraud and related offenses ('Automated sales suppression devices' or 'zappers').
PART II, SECTION 2-1

(b) It shall be unlawful to willfully and knowingly sell, purchase, install, transfer, or possess in this state any automated sales suppression device or zapper or phantom-ware.

(c) Any person convicted of a violation of subsection (b) of this Code section shall be guilty of a felony and shall be punished by imprisonment of not less than one nor more than five years, a fine not to exceed $100,000.00, or both.

US States – Anti-Zapper Legislation

- **May 2011:**   **Georgia – H.B. 415**
- **March 2012:**   **Utah – H.B. 96**
- **April 2012:**   **Maine – L.D. 1764**
- **April 2012:**   **West Virginia – S.B. 411**
- **April 2012:**   **Tennessee – H.B. 2226**
- **May 2012:**   **Connecticut – H.B. 5421**
- **May 2012:**   **Michigan – S.B. 768-9**
- **June 2012:**   **Louisiana – S.B. 616**
- **April 2013:**   **Arkansas – S.B. 718**
- **May 2013:**   **Washington – S.B. 5715**

Pending
- **New York (S.B. 2852)**
- **Florida (S.B. 1304)**
- **Indiana (H.B. 1337)**
- **Oklahoma (H.B. 2576)**

Manitoba – Suppression Software Legislation 2010

Suppression software

18.1   No person shall possess, use, sell or offer to sell, update, upgrade or maintain software that is designed for, or is capable of,

(a) suppressing the creation of electronic records of sale transactions that a taxpayer is required to keep under this Act; or

(b) modifying, hiding, or deleting such records without keeping the original data and providing a ready means of access to them.
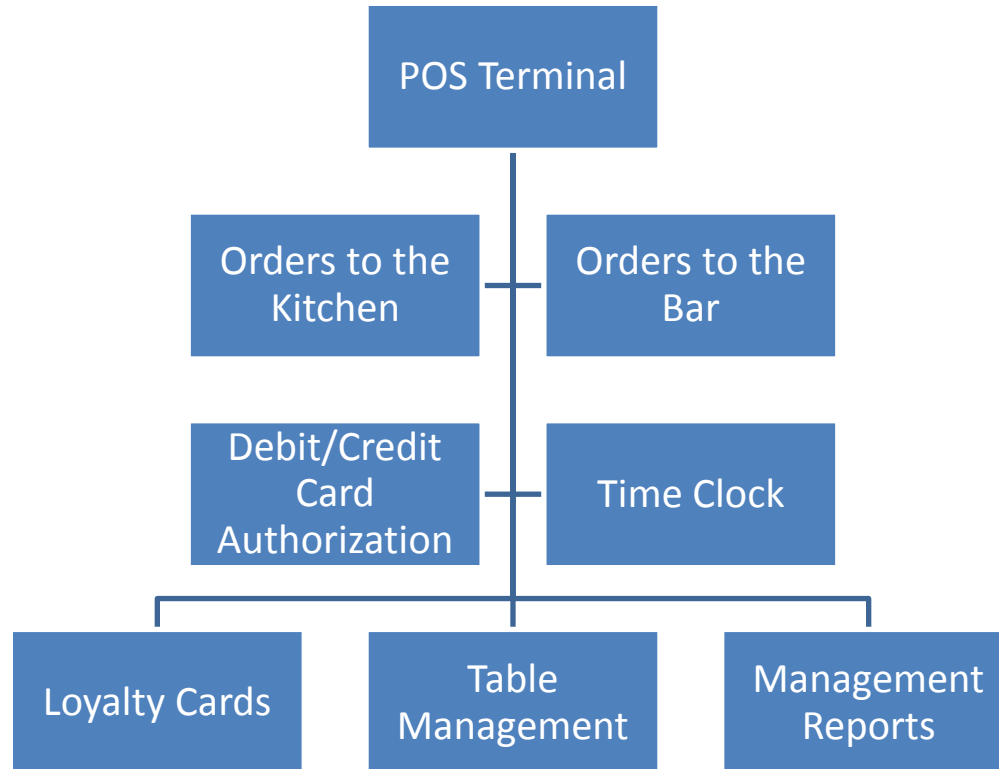
S.M. 2010, c. 29, s. 56.

Restaurants and owners fined $731,986 for tax evasion
Winnipeg, Manitoba, May 1, 2013

Company A pleaded guilty to evading federal tax of $82,039 and unreported GST of $62,581 for the years 2006 to 2008. They also pleaded guilty under the Manitoba *Tax Administration and Miscellaneous Taxes Act* of failing to report $106,064 for the years 2007 to 2009 and were **fined and $106,564 for possessing software that is designed to suppress electronic sales transactions**.

Company B, pleaded guilty to evading federal tax of $85,000 and unreported GST of $47,734 for the years 2007 to 2009. They also pleaded guilty under the Manitoba *Tax Administration and Miscellaneous Taxes Act* of failing to report $60,614 for the years 2007 and 2008, for which they **were fined $61,114**.
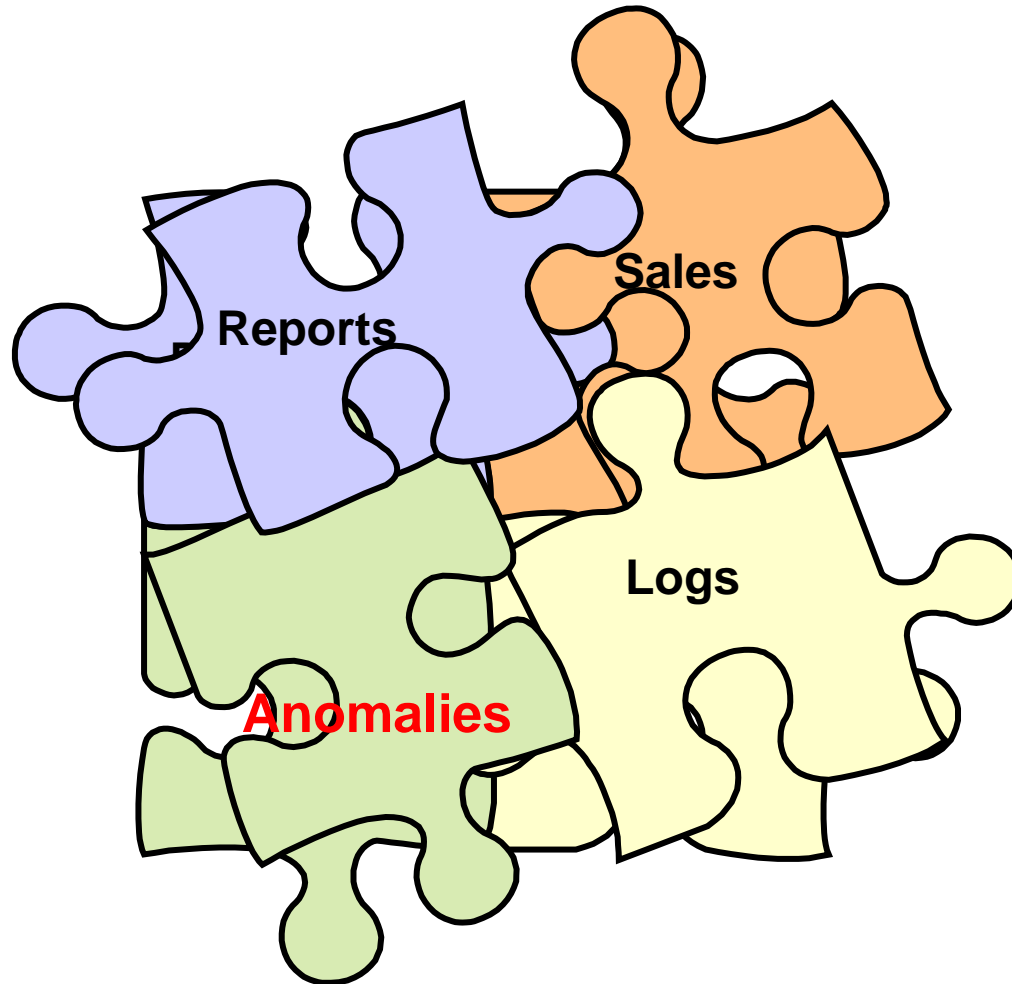
POS – Hospitality Restaurant Management

POS Terminal

Orders to the Kitchen

Orders to the Bar

Debit/Credit Card Authorization

Time Clock

Loyalty Cards

Table Management

Management Reports

POS Files - Integration

Tables & Files

Name	Date modified	Type	Size
ccaserver.ldf	17/04/2013 9:49 PM	SQL Server Database Transaction Log File	1,024 KB
ccaserver.mdf	17/04/2013 9:49 PM	SQL Server Database Primary Data File	768 KB
gl0000data.ldf	17/04/2013 9:49 PM	SQL Server Database Transaction Log File	1,024 KB
gl0000data.mdf	17/04/2013 9:49 PM	SQL Server Database Primary Data File	896 KB
pscustomer.ldf	18/04/2013 2:16 PM	SQL Server Database Transaction Log File	1,024 KB
pscustomer.mdf	18/04/2013 2:16 PM	SQL Server Database Primary Data File	21,888 KB
psdata.ldf	17/04/2013 9:49 PM	SQL Server Database Transaction Log File	1,024 KB
psdata.mdf			
rm0000data.ldf			
rm0000data.mdf			
rm0000history.ldf			
rm0000history.mdf			
rmmonitor.ldf			
rmmonitor.mdf			
RMTrainingData.ldf			
RMTrainingData.m			
RMTrainingHistory.			
RMTrainingHistory.			

rm0000history

Available Tables

Select table(s) to import.

To import multiple tables, use the SHIFT or CTRL key.

```
dbo.RMHFDCredit
dbo.RMInvoiceDetail
dbo.RMInvoiceHeader
dbo.RMNonResetTotal
dbo.RMTxnCCALog
dbo.RMTxnDetail
dbo.RMTxnDiscount
dbo.RMTxnFDCustomer
dbo.RMTxnHeader
dbo.RMTxnModifier
dbo.RMTxnPayment
dbo.RMTxnShipAddress
dbo.RMTxnSplit
dbo.RMTxnTableInstruct
dbo.RMTxnTender
```
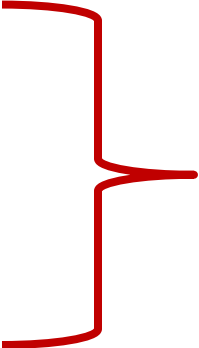
Check size of ODBC import   Advanced

- Attach in MS SQL Server

- 83 Tables/Files

- 28 are relevant for import via ODBC

- Header Sales

- Detail Sales   Master File

- Tender File

Unique Identifier/Transaction ID Evolution

- Sequential

- By Time

- Other Methods

- Future Iterations

Case Study 1 – Sequential

Case Study 2 – By Time

There is no magic to detecting ESS

All data must be analysed and cross referenced to bills. The "magic" is in the analysis.

However, all it takes is one indication of a missing bill to confirm a problem.

Additional resources can then be allocated.

POS Data & Automated Analysis

- Data Analysis Software
  - A look at standard POS files
    - POS Analytics App

- Tag Fields (Once only for each different POS System)

- Creates Master File for analysis from Header, Detail and Tender files

- Output sales and tender analysis for risk assessment
  - Gap detection
  - Cash versus non-cash (Graph)
  - Percentage cash over total sales (Graph)

Questions & Comments?

Sunder Gee

Data Analytic Specialist

ZAP Consulting Ltd.

Toronto, Ontario, Canada

1-647-367-3567

www.zapconsulting.ca

Sunder.Gee@ZapConsulting.ca