Using Forensic Accounting to Detect Fraud in Public Service Organizations

By

Kevin M. Bronner, Ph.D.¹

Forensic accounting is a useful technique to detect fraud in public service organizations. This paper outlines a fraud profile for public service organizations as developed by the Association of Certified Fraud Examiners (ACFE). It then illustrates forensic accounting techniques and outlines examples of how the Office of the New York State Comptroller (OSC) uses forensic accounting techniques to uncover fraud in governmental units.

A FRAUD PROFILE FOR PUBLIC SERVICE ORGANIZATIONS

When evaluating the internal control system of public service organizations it is necessary to obtain a good working definition of the types of activities that constitutes fraud. Fortunately, there are numerous resources to help administrators understand fraud. The first aspect of fraud that must be understood is that fraud is a broad legal concept. Fraud investigators are held to a high standard of evidence when they raise fraud allegations because the implications of fraud usually involve fines, terminations, and even formal legal proceedings against employees, managers, and outside vendors.

The American Institute of Certified Public Accountants (AICPA) issues auditing standards directing how audits should be conducted. From a fraud perspective, one of the more important standards issued by the AICPA is Statement of Auditing Standards 99 Consideration.

¹ The author is a Public Service Professor at the Nelson A. Rockefeller College of Public Affairs and Policy at the University at Albany.
of Fraud in a Financial Statement Audit (AICPA 2002). In regards to financial statement fraud, the AICPA describes fraud as follows:

Fraud is a broad legal concept and auditors do not make legal determinations of whether fraud has occurred. Rather, the auditor’s interest relates to acts that result in a material misstatement of the financial statements. The primary factor that distinguishes fraud from error is whether the underlying action that results in a misstatement of the financial statements is intentional or unintentional. For purposes of the Statement, fraud is an intentional act that results in a material misstatement in financial statements that are subject of an audit. (AICPA 2002, p. 6)

The key points to understand fraud from the AICPA’s definition are:

- Fraud determinations are legal in nature.
- Auditors do not make legal determinations of fraud.
- Fraud is an intentional action.

The AICPA also discusses the concept of professional skepticism where auditors should assume that fraud exists and conduct a brainstorming exercise concerning potential fraud schemes as they plan how to conduct specific audits. The concepts associated with the AICPA’s fraud definition can also be reviewed in a plain language summary for students (Pany and Whittington 2002).

The United States Government Accountability Office (GAO 2011) publishes auditing standards to be used by entities auditing governmental agencies. The GAO auditing standards are an important tool used in audits conducted for local governments in the State of New York (NYSGFOA 2007). When analyzing inappropriate behavior in public service organizations the GAO considers the concept of abuse and fraud. The fraud definition included here are for
performance audits as outlined in Chapter 6 of the GAO document. According to the GAO the concept of fraud involves:

...Fraud involves obtaining something of value through willful misrepresentation. Whether an act is, in fact, fraud is a determination to be made through the judicial or other adjudicative system and is beyond auditors’ professional responsibility. (GAO 2011, p. 124).

The GAO fraud definition has two important criteria to be considered when analyzing a transaction occurring in a public service organization:

- Willful misrepresentation of an event occurs to obtain something of value.
- Auditors do not have the responsibility to make legal determinations of fraud.

It is clearly evident from the above material that fraud is a type of intentional action where there is willful misrepresentation of the event in order to obtain something of value.

Organizations construct internal control systems including auditing processes and other safeguards to prevent fraud and numerous examples can be cited. (Freeman et al. 2013 at pp. 781-811, Finkler et. al 2013 at pp. 286-287, McMillan 2006 at pp. 121-196, NYSGFOA 2006, OSC 2011).

**Fraud Profile for Public Service Organizations**

The Association of Certified Fraud Examiners has produced important fraud studies including two reviews that consider the international aspects of fraud (ACFE 2012 and ACFE
The latest fraud study is entitled *Report to the Nations on Occupational Fraud and Abuse 2012 Global Fraud Study*. The study asks a group of 34,274 Certified Fraud Examiners to report on fraud through an online survey instrument. A fraud report is produced based on the responses reviewing specific cases occurring from January 2010 through December 2011. A total of 1,388 fraud cases were incorporated into the fraud study for 2012. The results for the United States included 788 fraud cases and 141 cases were reviewed for public service organizations (ACFE 2012 at 29).³

The ACFE report indicates that approximately 5 percent of the revenues of an organization are subject to fraud. This means that for every $500 billion of public spending in New York State there is potential fraud in these organizations amounting to approximately $25 billion yearly using the Association of Fraud Examiners fraud metric.

Fraud is defined in the ACFE studies by using the concept of occupational fraud which is defined in the following manner:

The use of one’s occupation for personal enrichment through the deliberate misuse or misappropriation of the employing organization’s resources or assets (ACFE 2012 at p. 6).

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² For additional material concerning fraud see: Association of Certified Fraud Examiners (ACFE) 2011. *Fraud Examiners Manual Volumes I-II*. Austin, TX: Association of Certified Fraud Examiners.
³ The Global Fraud study published in 2010 included 959 fraud cases with about 18 percent of them occurring in government or about 172 cases. (ACFE 2010, p. 24)
In developing the fraud profile for specific organizations the ACFE uses a three part category to outline fraud. The schemes include asset misappropriation, corruption, and financial statement fraud:

1. **Asset misappropriation** schemes, in which an employee steals or misuses the organization’s resources (e.g., theft of company cash, false billing schemes, or inflated expense reports).
2. **Corruption** schemes, in which an employee misuses his or her influence in a business transaction in a way that violates his or her duty to the employer in order to gain a direct or indirect benefit (e.g., schemes involving bribery or conflicts of interest).
3. **Financial statement fraud** schemes, in which an employee intentionally causes a misstatement or omission of material information in the organization’s financial reports (e.g., recording of fictitious revenues, understating reported expenses or artificially inflating reported assets). (ACFE 2012 at p 10.)

According to the statistics compiled by the ACFE in 2012 about 87 percent of fraud cases pertain to asset misappropriation schemes, while the other categories represent a lower amount of fraud cases.

The asset misappropriation scheme consists of nine specific categories of fraud in the ACFE profile. Each of the schemes are briefly summarized below:

1. Cash skimming where cash is stolen before being entered on the books.
2. Cash larceny where cash is stolen after it has been entered on the books.
3. Billing schemes where an employee sends in a false bill to the organization.
4. Expense reimbursements which is inflated or fictitious.
5. Check tampering schemes where an employee uses the organization’s checking account to steal funds.
6. Payroll items where an employee sets up a mechanism to receive payments based on a false claim.
7. Cash register disbursements where an employee makes false entries on a cash register.
8. Misappropriation of cash on hand where an employee takes cash from a vault.
9. Non-Cash Misappropriations where an employee takes other assets of the organization. (ACFE 2012 at p 12)
The ACFE provides useful information as to how fraud is detected in organizations (ACFE 2012 at p 14). Fraud is detected by the following internal control items:

- Tips (53 percent of cases)
- Management Reviews (15 percent of cases)
- Internal Audits (14 percent of cases)
- By Accident (7 percent of cases)
- Document examination (4 percent of cases)
- External audits 3 (percent of cases)

The study shows that about 51 percent of the tips come from other employees, and that customers provide about 22 percent of the tip information (ACFE 2012 at 16).

The ACFE study examined a total of 778 fraud cases that occurred in the United States from January 2010 to December 2011. Table 1 provides a summary of the fraud cases in the area of Government and Public Administration (ACME 2012 at 29).

<table>
<thead>
<tr>
<th>Scheme</th>
<th>Number</th>
<th>Percent</th>
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<tbody>
<tr>
<td>Corruption</td>
<td>50</td>
<td>36%</td>
</tr>
<tr>
<td>Billing</td>
<td>33</td>
<td>23</td>
</tr>
<tr>
<td>Non-Cash</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>Skimming</td>
<td>25</td>
<td>18</td>
</tr>
<tr>
<td>Expense Reimbursements</td>
<td>19</td>
<td>14</td>
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<tr>
<td>Payroll</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>Cash on Hand &amp; Larceny</td>
<td>22</td>
<td>16</td>
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</tbody>
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Five additional minor fraud detection techniques are also presented by ACFE.
Table 1 illustrates that the largest amount of fraud schemes for public organizations occur in the area of corruption, billing issues, and non-cash asset misappropriation. Other significant areas of fraud include cash skimming, expense reimbursements, payroll issues, and check tampering.

Another issue where the ACFE study provides useful information concerns where fraud occurs in the organization. The ACFE research indicates that the majority of fraud cases occur in six important areas (ACFE 2012 at p. 52). The organizations, and the percent of fraud that occurs there are presented below:

- Accounting department (22%)
- Operations departments (17%)
- Sales departments (13%)
- Executive/Upper Management (12%)
- Customer Service (7%)
- Purchasing (6%)

The accounting department has the largest amount of fraud cases and that Executive and upper management levels experience a significant amount of fraud. The ACFE report for 2010 shows similar results to those presented in the 2012 global fraud study profile.

The accounting departments included in the study experienced the largest amount of fraud cases in the areas of billing, check tampering, cash skimming and related cash issues, payroll fraud, and expense reimbursements issues (ACFE 2012 at p. 55). This paper will now briefly discuss forensic accounting issues and will conclude with evidence presented in four

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5 The information concerning the area where fraud occurs is for the entire sample and not the Government and Public Administration cases.
Office of the New York State Comptroller audits where forensic accounting techniques were used to uncover occupational fraud.

**FORENSIC ACCOUNTING TECHNIQUES**

Forensic accounting investigations involve situations where there is a possibility that (1) fraudulent accounting and reporting has occurred, and (2) there is a misappropriation of assets (Ranallo 2006, p. 110). Forensic accounting is trying to identify fraudulent transactions and typically involves reviewing transactions using document reviews, interviews, and examination of electronic media. Forensic accounting techniques are often time consuming and since the results may be used in government adjudication processes or in court reviews, there is a very high evidence standard that must be maintained when forensic accounting evaluations are made.

Forensic accounting evaluations often use interview techniques designed to obtain an admission of guilt by the person(s) involved with the fraud scheme (Golden and Dyer 2006). The investigations also involve detailed document reviews (Clayton 2006, pp. 306-311). Data mining of entries in databases is another important forensic accounting technique (Clayton et al. 2006). Each of these three areas of evidence gathering are discussed below.

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6 Electronic media involves the review of numerous systems such as computer databases, telephone system records, security system records, and other material. Often there is a trail of evidence left by those working in organizations that use these types of electronic media systems.
**Interview Techniques**

It is important that forensic accountants properly structure the interview process because the results of the interview may be used in court and adjudication processes. Because the outcome of the interview may enter a legal process it is important that the interview process be coordinated with an attorney from the auditing organization. The auditors must work within the rules of the interview process but there are areas that they should try to control to make the interview process work (Golden and Dyer 2006). Some of the key factors are listed below:

- Control the timing of the interview so the process cannot be influenced by severe time constraints.
- Try to control the interview setting to avoid unnecessary interruptions.
- Formal recording of the interview may work against the free flow of information in the interview.
- Use two interviewers with one person taking notes.
- Interview one person at a time.
- Final notes of the interview may end up in court so be sure the notes have only one version and follow proper documentation rules.
- Use information seeking interviews to gather information and try to obtain information from people who are not suspects in the case.
- Interview at the periphery of the transaction first and then move towards the person(s) involved with the transaction.
- Keep the information seeking interview non confidential if possible.

Once the interview process has proceeded in obtaining information it may be necessary to conduct more serious admission of guilt interviews. The objective of this type of interview is to have the person admit to the transaction. The key aspects of these types of interviews are to:

- Obtain an admission of guilt.
- Interviewers to let the person know they understand the person is lying.
- Use a logical approach and simply lay out the evidence.
- Try a “Do the right thing” approach in the interview.
• Silence is a powerful weapon in an interview. If the person does not answer the question, do not let them off the hook, repeat the question.
• Ask questions to which you know the answers. This lets you know if the person is being honest or not.

The framework of using information seeking interviews and admission of guilt interviews is a key part of the forensic accounting investigation (Golden and Dyer at 351-357).

Data Mining With Computers

Data mining is another key element in forensic accounting investigations (Clayton et al. 2006 at pp. 386-412). Data mining is a process where the auditor looks for trends, patterns, and anomalies in a data set. If unusual transactions are found in a data set they should be investigated. Another aspect of data mining concerns the concept of Metadata. Metadata is data about the computer program and file used in an organization. Specific aspects of Metadata will show certain aspects of the computer file including:

• The name of the computer file
• The date the file was created and modified.
• The size of the file.
• The location where the file was stored or changed.
• The name of the person who changed the file.

When working with computer files the forensic accountant understands that there is a trail of data that is associated with a computer file. For instance, for a general ledger in an accounting organization there will be Metadata to show the name of the person who changed the ledger. Every change to the ledger should have the date and time recorded for transaction changes. Metadata will also be present for other computerized systems such as e-mail accounts.
Because Metadata review use the computer system to analyze data it is important that forensic accountants work with a computer expert from their organization to ensure that the review is properly conducted. This allows the forensic audit team to review the computerized controls in the computer system. Also, the use of an information specialist will avoid problems with accessing data and even destroying the data or making it useless for the investigation.

In addition to examining the Metadata associated with a computer file such as an accounting ledger, forensic accountants review the actual data in the file. There are many patterns in data but some of the common data sets that forensic accountants review include the following items:

- Are their common elements in the data that show an unusual pattern?
- Look for repeated names, addresses etc. in a vendor file.
- Sort the data and look for misspelled vendor names or names that may have been changed.
- Frequency of payments to vendors may identify a problem.
- Multiple payments to the same vendor for the same amount may be problematic.
- Missing data or gaps in ledgers may be a problem.
- Invoice numbers listed in sequence to the same vendor should be investigated.
- Vendors with the same name and different address should be researched.
- Check vendor addresses to employee’s addresses.
- Examine reclassifications, reconciliations, adjustments, and back billing in ledgers.

There are a large number of systems in organization which contain data that can be useful to the audit team. Examples include personal computers, network servers, telephone system data, answering machines, pagers, called identification devices, digital cameras, fax machines, printers, scanners, and copiers, security cameras, parking system devices, GPS systems and many others (Miller and Marston 2006 at 430).
Document Review Strategies

Document reviews are a key part of the evidence for an audit (Miller and Marston 2006). Forensic accounting requires special care in dealing with documents because the audit may involve special adjudication and court proceedings where the rules of evidence may be used to exclude documents from the evidence if they are not properly acquired and maintained. Three basic questions apply to the documents being reviewed in a forensic accounting investigation:

1. How do you handle confidential information?
2. How do you preserve the information in the documents so it can be used in an adjudication or court situation?
3. Who maintains the records from the audit?

The forensic audit will need to have some agreements between the parties to properly handle the documents so they can be used in court proceedings. If documents are improperly obtained by the forensic accounting team, they may be excluded from the court proceeding. If documents are altered or changed by the forensic accounting team, the quality of the evidence may be diminished. Also, if the documents are not controlled in a proper manner, the evidence from the document may be compromised. The subject of the forensic audit is a serious matter that may go to adjudication or to court, those being audited will have an incentive to develop situations where the audit team obtains documents in an improper manner with the ultimate goal of excluding the evidence contained in the document from the court proceeding. It is imperative, therefore, that the forensic accounting team maintain close coordination with legal counsel as they obtain documentation for the audit. This applies to interview material and items from computerized data bases as discussed above.
Once the legal processes of the audit have been developed and confirmed as appropriate, the forensic accounting investigation must develop a plan to obtain the correct documents. Large organizations may have hundreds of thousands or millions of documents that are relevant to the issues being investigated in the auditing proceeding. Some of the document issues that should be incorporated into the documentation plan include:

- A formal records retention policy should be developed.
- Storage locations must be developed to maintain the documents.
- Imaging technologies should be used as part of the investigation.
- Employee files at the work location should be reviewed.
- Employee files at their homes or other locations or on computer data bases should be considered.

There are many considerations when the document review commences that must be evaluated:

- The organization chart must be examined for the entire entity being audited.
- The carbon copy route should be explored for the key documents.
- All storage mediums for documents must be reviewed.
- Records may have been retained for former employees that are relevant to the audit.
- The computer system including the e-mail system may have a history associated with key documents.
- Important documents may be outsourced to vendors.
- The physical location of the document may be important.

The issues associated with documents is one of the key ingredients to a successful forensic audit. With hundreds of thousands or millions of documents involved it is very easy for a forensic audit to be disrupted if there are failings in the document review process. If for instance, key documents exist which pertain to the audit which the forensic accountants failed to obtain or to know even exist, the findings of the audit will most likely be rejected in the adjudication or formal court proceedings. For example, if a vendor maintains key documents
offsite for a transaction and the audit team failed to review the documents, their audit findings will be highly criticized. Also, if documents from former employees that are key to decision making are not found and evaluated, the audit will most likely fail. It is imperative, therefore, that a well thought out document plan be developed for the audit and that it be coordinated with legal counsel.

**OFFICE OF THE NEW YORK STATE COMPTROLLER AUDITS**

The Office of the New York State Comptroller (OSC) has conducted numerous audits over the past decades. This agency conducts audits of many entities including cities, counties, towns, villages, school districts, special districts, and other governmental entities in the State of New York. Many of these audits use forensic accounting techniques or other fraud detection devices which illustrate the practices of fraud detection and forensic accounting discussed above. The results of the audits are also instructive because they illustrate many of the important points concerning fraud as developed by the Association of Fraud Examiners. Note how the following audits involve problems at the top of the organization (Board of Directors and upper management) and how the accounting function is often involved in the fraud schemes.

This section of the paper discusses four audits conducted by the Office of the State Comptroller where illustrative forensic accounting and fraud detection techniques were used. The audits include:

2. The Office of Mental Retardation Development Disabilities program located in Central , New York (OSC 2007).
Roslyn Union Free School District Audit

The Roslyn School District is located on Long Island near New York City. The Office of the New York State Comptroller completed a forensic audit of the school district in 2006. The audit report illustrates how forensic accounting techniques can be used where there are large amounts of missing data in the organization. The outcome of the audit was that allegations were made concerning $11.3 million in misspent funds (OSC 2007 at 52). Some of the larger items included:

1. Use of district credit cards for personal use $5,902,544.
2. Private mortgages and loans paid for by school district $1,137,939.
3. Fraudulent purchases at Home Depot by school employees $609,000.
4. Food purchases by employees $594,121.
5. Salary and benefit abuses $582,783.
6. Consultants related to district employees $1,074,547.
7. Eight other cost categories with an aggregate cost of $1,350,431 were identified in the audit.

The OSC audit is useful since it shows exactly where the funds were taken in the organization. Much of the fraud was committed by the upper management of the school district in conjunction with the accounting office and the auditor hired by the school district to certify that its accounting records were correct. Computerized data bases were manipulated by the fraud perpetrators and the OSC used forensic accounting techniques to study the data bases. The review of data bases illustrated that there was poor use of computer permission control rules in the organization. Also, computer data was manipulated and Metadata files were review to support the findings of the audit. Many documents such as 57,000 checks were...
missing and the OSC forensic accountants reconstructed the accounting system to measure the abuse. It was necessary for the OSC auditors to review activities of outside vendors and other entities such as Home Depot to follow the inappropriate purchases. The bottom line of the Roslyn audit was that management manipulated numerous internal control systems to hide the $11.3 million in fraud. Many documents were missing or destroyed and the OSC forensic audit team had to reconstruct the records to measure the amount of fraud.

The Office of Mental Retardation Development Disabilities Program Audit

The OSC completed an audit in 2007 for a program located in Oneida County in upstate, New York (OSC 2007). The essential mission of the program was to have the Office of Mental Retardation and Development Disabilities hire vendors to repair housing units so that they would be used by persons with disabilities. The audit focuses on the bidding and procurement processes to determine if they were appropriate. The audit found that the management of the program mismanaged the processes which led to many abuses. Some of the findings were:

- Favored vendors were allowed to bid and receive projects at higher than reasonable prices.
- Management of the program hired vendors to perform work at their personal properties.
- Bidding costs were manipulated to come in under cost thresholds that would require more review.
- The Internal Auditor for the program was not qualified to perform such audits.
- Management of the program ran personal businesses out of the program’s office.

The OSC audit team used many forensic accounting techniques to quantify the problems. They reviewed the computer hard drives for nine of the program’s employees and found that there
were no filters on the emails they could receive and that access to the internet was not controlled. Computer networks and hard drives on the program’s centralized computer system also provided key data for the audit’s findings.

Voorheesville Central School District Audit

The OSC completed an audit of the Voorheesville Central School District in 2006 (OSC 2006). This audit found that the upper management of the organization received excessive salary and other leave payments that they were not entitled to. The audit found that the School Board did a poor job in developing adequate internal controls for the district. They also presented false and inflated expense reimbursement vouchers for travel that was not necessary to complete their school related duties. Appendix C of the audit shows how the OSC auditing team obtained computerized databases and analyzed them to detect the improper payments. They also reviewed other key documentation such as vendor history reports and payroll earnings records to illustrate how the upper management of the school district was taking inappropriate payments for various cost claims. The credit card system for the school district was also examined in detail to determine if payments being made were proper.

The audit found that the basic accounting system was not structured for internal control safeguards to be used by payroll clerks and others. Basic internal control records were “not reviewed by anyone” according to the OSC report at p. 11. The lack of internal control processes resulted in improper payments for items such as unused leave and tuition reimbursement payments, personal expenses for hotels and meals, and improper gifts from a vendor.
**Saratoga Springs Housing Authority**

The OSC completed an audit of the Saratoga Springs Housing Authority in November 2012. (OSC 2012). The audit is useful since it illustrates how the upper management and the accounting function of the organization illustrated deficiencies in the management of internal control issues. This audit represents another example where the Association of Certified Fraud Examiners fraud profile was useful since it helped to identify many of the problems caused by upper management of the organization and the accounting office (ACME 2012).

The audit found that the Board of Directors of the Agency failed to implement internal controls to approve travel expenses. The Board of Directors also failed to review 75 vendor payments amounting to $449,333 and they violated an ethics policy by using a vendor related to the Director of the organization. Also, compensation paid to the agency’s Director and the chief Accountant were not paid according to agency procedures.

The auditing team used a number of auditing techniques related to analysis of computer systems and data bases to develop the audit findings. A list of 23 auditing search tools were conducted as set forth in Appendix E of the audit (OSC 2012).

**SUMMARY AND CONCLUSIONS**

The Association of Fraud Examiners has developed a useful fraud profile that can be used to study how fraud can be detected in public service organizations. This paradigm shows
important facts such as the type of fraud being committed, and which parts of the organization are most susceptible to fraud.

Forensic accounting techniques such as interviewing, computer assisted reviews such as data mining, and document review techniques are also useful to detect fraud. Because of the unique legal aspects of forensic accounting investigations, there are special auditing protocols that must be followed since the audit’s conclusions and findings may be subject to challenge in an adjudication proceeding, or in more formal court proceedings.

Lastly, the Office of the New York State Comptroller has produced significant audits during the past several years which illustrate how forensic accounting techniques are useful to detect fraud related problems in public service organizations.
REFERENCES


