UNIT-4 Fraud Detection Techniques

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Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Explain what is Fraud Detection
- ✓ Identify different fraud detection techniques
- ✓ Examine fraud risk factors

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UNIT 4

Fraud Detection: Overview

Fraud usually occurs as a result of collusion and is carefully concealed. This makes the job of fraud detection very difficult, especially if it involves large sums of money and financial misstatements (which occur only in 2% of cases). Perpetrators cover up fraud by producing false documents and omitting incriminating documents from the company's files. Criminal actions are made to appear legal through falsification and the alteration of genuine paperwork. Fraud detection mechanisms are not foolproof and do not always catch fraudsters; however, strong detection techniques do decrease the likelihood of fraud and discover any anomalies in a timely manner.

The initial step in fraud detection is to know where to look. Auditors and forensic accountants should be aware of the motivational factors that drive people to commit fraud. They should then identify the areas that need to be scrutinized carefully. Hundreds of transactions take place and it is important for investigators to pick up on any warning signs that point towards specific transactions, which need to be examined closely.

Detection techniques discussed in this chapter include analytical procedures, observation and inspection, audit testing, inquiries and interviews. These techniques are often conducted during routine audits of financial statements; however, conducting them with a sceptical mindset and with the knowledge that specific fraud schemes are on-going makes the difference between detecting and not detecting fraud. Moreover, it is important to consider all the information obtained from conducting these techniques, evaluating it and computing the risk of fraud.

Fraud detection depends on the following key procedures and attitudes:

- Adopt a professional scepticism while carrying out audit procedures.
- Consider the possibility that documents have been falsified and review documents while keeping deception techniques in mind.
- Be vigilant and pick up on any alerting factors or indicators that point towards areas that require scrutiny.
- Review the maximum possible volume of documentation during audits.
- Verify everything.

Laying a Foundation for Detection

It is important for an auditor to have an understanding of the business organization, its budgeting process, its control mechanisms, the environment in which it operates, the industry, and the larger economic factors that affect the company. This will enable the auditor to identify irregularities and

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alerting factors such as analytical relationships that do not make sense, fictitious transactions, control weaknesses and unexplained financial performance.

In order to understand a business, one must be able to identify its customers, its suppliers and its other numerous business partners. Understanding the company's organizational structure and corporate culture provides a deeper insight into the business. Auditors also need to identify the company's competitors and its comparable businesses in order to obtain a point of reference. They should consider the financial performance of competitors, observe how the industry has changed due to mergers, takeovers and new entrants, keep track of the company's market share and follow the market trends. This information is vital as it forms the foundation of an investigation and helps with the application of detection techniques. Additional guidance and tools for obtaining information about the business and the industry are provided in SAS 22.

Assessing the Risk of Fraud

Identifying high-risk areas and assessing the extent of risk are key initial steps towards fraud detection. All financial statement audits have uncertainty and risk associated with them. They may include uncertainty about the competence of the management, the accountants and the company's internal controls, and the quality of evidence etc. The uncertainties and risks of audits are classified into:

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- Inherent risk,
- Control risk
- Detection risk.

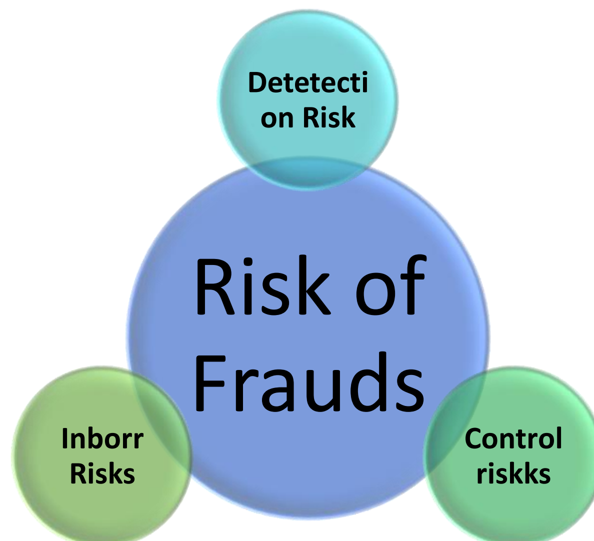

Fig. 4.1

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Fraud Risk Factors

According to SAS 99, the three main categories of fraud risk factors are management characteristics, industry characteristics, and operating characteristics (including financial stability).

- *Management characteristics* relate to management's motivation to carry out financial reporting fraud, such as increased involvement in setting accounting principles and financial estimates for the company, responsibility to achieve aggressive financial targets, tension between external auditors and senior management, a history of violations, high senior management or board member turnover, etc. These characteristics are a reflection of the management's abilities, style and attitude, the company's internal controls, and the financial reporting process.
- *Industry characteristics* are the economic and regulatory aspects of the environment in which the business entity operates. They include both stable and volatile features, such as new financial regulations, increased competition, market saturation, and the adoption of more aggressive accounting policies by the company in order to keep up with the industry.
- *Operating characteristics and financial stability* include the nature of the business, the complexity of its financial transactions, the locations where transactions are recorded and disbursements are made, the geographic location of the company's operating activities, the company's profitability, and its general financial condition.
- Here, the auditor should look for potential risk factors such as pressure on the business entity to obtain capital, threat of a hostile takeover, or the possibility of bankruptcy.
- Fraud risk factors related to asset misappropriation are classified into two categories: susceptibility of assets to misappropriation and adequacy of controls.
- *Susceptibility of assets to misappropriation* is the extent to which a business entity's assets are at risk of being stolen or becoming the target of a fraudulent scheme. The degree of susceptibility also depends on the nature and type of the asset. For example, fixed assets that have a high value, a small size and a high demand are more likely to be misappropriated or stolen. High-risk assets also include those that are easily convertible such as cash receipts, cash in hand, diamonds, computer chips, etc. Vendor fraud through cash misappropriation is one such kind of fraudulent scheme.
- *Adequacy of controls* means the design, implementation and monitoring of the entity's control mechanism and its ability to detect and prevent fraudulent schemes and misappropriation of assets.

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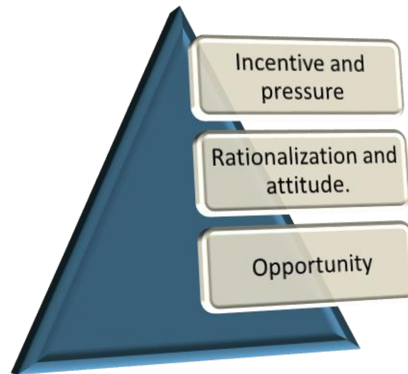
Revisiting the Fraud Triangle

While we are on the subject of indicators and potential signals of fraud, it will be useful to discuss the components of the aforementioned fraud triangle. These components are



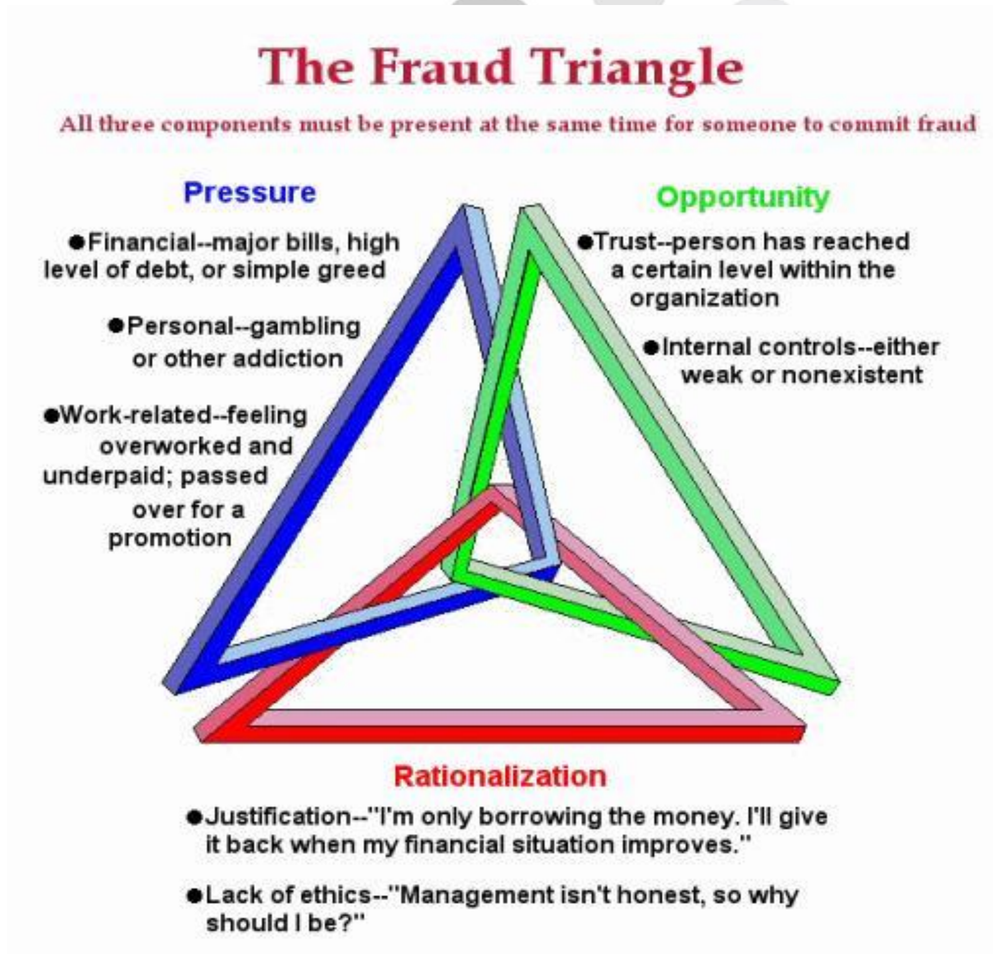


Fig. 4.2

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Incentive and Pressure

Sometimes managers and employees give in to incentive or organizational pressures and commit fraud. Usually, employees' remuneration, promotions or bonuses are dependent on their individual performance or their division's output. In such cases, they may have an incentive to manipulate results or put pressure on other employees to commit fraud. Other kinds of pressures take the form of high expectations from investors, banks, etc. An evaluation of the incentives and pressures that may make an organization more vulnerable to fraud may be useful when considering the degree of risk and risk factors. These risk factors may be any of the following:

- Factors or circumstances that may have a negative effect on the organization's profitability or its financial situation.
- Third parties, such as lenders and investors, who put excessive pressure on the organization and have unrealistically high performance expectations.
- Poor performance by the company or the possibility of bankruptcy, placing the management's personal wealth under significant threat.
- Excessive pressure by the senior management or board of directors on any division's or department's management to achieve unrealistic performance goals.
- Pressure on the company to retain its stock exchange listing and debt rating.
- Struggle or inability to fulfil debt obligations or to meet merger/acquisition agreements.
- Some risk factors lead to misappropriation of assets, including the following:
- An employee's or manager's personal financial problems that lead them to misappropriate assets.
- A feeling of resentment and disloyalty in an employee or employees due to their poor relationship with senior management.

The auditor's goal is to assess the risk of misstatement and fraud by determining the degree of pressures and incentives to commit fraud. Some people will go to any lengths to satisfy their needs, and their ability to do so through illegal means is aided by the presence of opportunity and rationalization.

Opportunity

There must be an opportunity for a fraudster to commit fraud and a perception that a fraud can be committed with impunity. Even a person who is inclined to commit fraud and is determined to do so needs suitable circumstances that will help him/her execute his/her plans. Moreover, such circumstances may also tempt a person who is not generally dishonest to deceive or commit fraud. Factors that provide opportunities for fraud include weak or ineffective controls, poor division of duties, and lack of supervision.

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Sometimes the nature and size of a business provides an inherent opportunity to fraudsters. For example, the number and types of transactions and the kinds of balances and accounts may be vulnerable to manipulation or falsification. Similarly, certain organizational structures and assets are more prone to fraud than others.

Risk factors that provide opportunities include:

- The nature of the industry and the business, the kind of business transactions, and the manner in which records and accounts are maintained.
- The way in which a business interacts with its customers and suppliers, and its position in the market. For example, if a business dictates its terms and dominates the market, it may be prone to inappropriate transactions.
- The extent of deliberation and judgement that goes into determining income and expenditure levels and the valuation of assets and liabilities.
- The level of supervision of senior management by independent entities, such as external audit teams, supervisory boards and non-executive directors.
- The stability of the organization and the complexity of its structure.
- The organization's control environment, i.e. its effective internal controls, effective accounting systems, information technology and efficient accounting personnel.

In large organizations, the extent of the management's role in internal control systems and their ability to bypass controls may determine fraud opportunities. Factors that contribute to creating a high risk of misappropriation of assets include:

- The value, demand, convertibility and movability of assets.
- Weak internal controls intended to protect assets, such as lack of supervision, poor employee screening, weak accounting and physical controls, infrequent reconciliations and lack of segregation of duties.

Rationalization and Attitude

Assuming that other things remain constant, a person's inclination to commit fraud is directly linked to their moral values and personal circumstances. A person's ethical behaviour is determined by personal character as well as certain external factors. These factors include job insecurity originating from downsizing, a negative environment at work, limited promotion prospects, etc. According to these factors, some individuals are more vulnerable to becoming fraudsters than others. The senior management's attitude to fraud prevention and their reaction to fraudulent activities is also a determinant. For example, if the management has not taken serious measures in response to fraud in

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the past, employees will be encouraged to commit financial crimes in the belief that they will get away with it.

Rationalization and attitude originate from the organizational culture, the psychology of individuals working for the organisation, and the relationship between employees and the company. Therefore, the risk factors associated with this category are not tangible or measurable and are difficult for an auditor to ascertain. Another factor that may make it easier for an individual to rationalize fraud is a tough business environment in the industry as a whole. Other risk factors include:

- Vague and unclear ethical values and the non-communication of the organizational ethics.
- Non-serious attitude in dealing with fraud and lack of repercussions.
- Unrealistic budgets and forecasts and non-communication of expectations.
- Attempts by the management to justify questionable accounting practices and disclosure policies.
- Unhealthy relationship between the company and its auditors, which may include bullying by the management, lack of access to data and unrealistic time constraints.

Frauds usually have small beginnings and gradually become larger. Petty fraud, such as using office supplies for personal use and using the office phone for personal calls, has fairly simple rationalizations. These justifications are also used when the crime becomes larger and more complex.

Some of the rationalizations used to justify financial crime and fraud include the following:

- The company will make more money in the next financial quarter and no one will ever notice the missing money.
- This month's fictitious accounting entry can be reversed by a counter-entry next month; therefore it is not exactly fraud. The company will not incur a loss.
- Management does not take supervision of internal controls and discipline seriously.
- Management itself is involved in dubious transactions in order to and maintains aggressive accounting policies.
- The people who have been rewarded with promotions have disregarded the means of achieving objectives and have focused only on the attainment of organizational goals.
- Risk-taking is more rewarding than playing it safe.
- If a little fraud helps the overall position of the company without doing any material harm, then it is justified.
- The company overlooked my hard work and promoted some one else, so I deserve this.
- The company does not pay me enough and may fire me soon, so my fraud may make up for the benefits that the company is eliminating.

A fraud will usually satisfy all three elements of the fraud triangle to varying degrees. For example, when fraudsters have a strong incentive for their actions, it is easy for them to rationalize. Similarly, in the absence of internal controls and when provided with an easy opportunity, employees may think that it is

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acceptable to commit fraud as the management does not care. The probability of a fraud occurring is directly linked to the degree to which the three conditions are present. It is impossible to completely eliminate fraud risk, as an individual's incentive to commit fraud may be strong enough to overcome the lack of opportunity. Moreover, habitual fraudsters may not even need to rationalize their actions as they are compulsive.

Identifying and Evaluating Risk Factors

Risk factors can only be identified and evaluated with a thorough understanding of the context, i.e. the environment in which the business operates, the business entity's structure and culture, and its internal controls. It is also important to have an understanding of the presence and effectiveness of mitigating factors that reduce the risk the fraud.

The context and circumstances determine the significance of risk factors. A small business, for example, will have a less developed internal control mechanism than a large corporation.

In a small organization, supervisory management committees, audit committees, and the segregation of accounting and operational duties may not be as well defined and developed as in a large corporation. The influence of these circumstances on a small company's risk factors is offset by the fact that there is more involvement of the owner/manager in the day-to-day affairs of the business.

Unusual and suspicious transactions, ambiguous financial ratios and questionable explanations by the management should be identified in order to obtain a thorough understanding of the normal functions of the business entity, the overall industry in which it operates and the economic environment. Auditors and fraud investigators should also have an adequate understanding of the business entity's relationship with its suppliers, customers and business partners.

Even though auditors may place their trust in a control mechanism, which may lessen the risk factor of fraud, they cannot completely overrule the possibility of someone from the management being able to circumvent that control. In other words, regardless of how effective a control is, there is still a possibility of manipulation or of someone overriding the system.

The act of identifying and evaluating risk factors of fraud is a cumulative process; it is not something that is undertaken only at the planning stage. Every stage of an audit involves the auditors being vigilant and alert to misstatements indicating fraud. They might then alter their assessments on the basis of new evidence. Auditors may come across new information at the following stages:

- Planning and risk assessment.
- Discussions with employees or with management.
- Audit tests such as control testing, substantive or analytical testing.
- Review of audit.

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The person heading the audit team ensures that the information gathered by the audit team is being shared regularly. This information is considered in a broader context and helps in re-evaluating fraud risk. Information-sharing, assessment and evaluation are carried out in audit team meetings and discussions.

Information Gathering

According to SAS 99 (Statement on Auditing Standards), carrying out inquiries with management and others, analytical procedures, evaluation of fraud risk and information-gathering lead to the identification of fraud risk factors.

"Management and others" include executive management, internal audit team, audit committee, and those inside the organization who are directly involved with operational duties.

The following are some of the most important questions an auditor might ask during the course of his/her inquiries:

- Is the management aware of any alleged, suspected or perpetrated financial misstatement or asset misappropriation that might have resulted in material misstatement in the organization's financial statements?
- Is the management aware of any perpetrated or alleged fraud regardless of materiality?
- Did the management receive any letters or other communications by ex-employees, analysts, etc, alleging fraudulent activity?
- What are the risks of fraud in the organization according to the management?
- What specific areas, transactions or accounts has the management pointed out as being vulnerable to fraud and what are the reasons behind this fraud risk?
- What programs or internal control mechanisms has the management put in place to mitigate the risk of specific fraud or to deter fraud in general? How are these programs and controls monitored and supervised?
- What are the management's views on ethics and business morals and how are these views communicated to employees?
- Is the management's behaviour consistent with these views?
- How are the company's operating locations and other business segments monitored? Are there certain segments that are more prone to fraud?
- Did the audit committee or any other authority receive a report from the management regarding the entity's control environment? This report would include information on how the company's internal controls deter fraud, risk assessment procedures, communication and information systems and monitoring activities.
- Has there been any request to the management or anyone else in the company to alter or withhold information, and to make fictitious transactions or accounting entries?

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The auditor should ask the audit committee the following questions:

- What is the audit committee's evaluation of fraud risk?
- Does the audit committee know of any fraudulent activity that has occurred, is alleged to have occurred or is suspected of having occurred?
- How does the audit committee supervise activities that are linked to the risk of fraud and monitor controls designed to mitigate fraud risks?
- How does the audit committee rate and assess the management's efforts to prevent fraud?
- External auditors must have a fair understanding of the activities of internal auditors. In multinational companies, for example, external auditors might obtain information on how internal auditors are conducting their jobs in each location. The following questions may help auditors assess the objectivity and effectiveness of internal auditors:
- How do internal auditors view fraud risk?
- What audit procedures have been put in place by internal auditors to detect and prevent fraud?
- What results have these procedures produced?
- Do internal auditors know of any instances where fraud has occurred or do they suspect fraud anywhere?
- How has the management reacted to findings of internal audit? Has this reaction been satisfactory?
- Have the internal auditors experienced any limitations concerning access to information, timing of the review or the kind of information they are allowed to review?

The nature of inquiries conducted within the organization will depend on the area of expertise and the level at which the employees are working. Although lower-level employees may not have the same overview as senior management, they might still provide important insights into the operations of the business. For example, a low-level employee may be responsible for operating controls in the organization or may even be aware of fraud being committed by senior management. Therefore, it would be wrong to dismiss the information provided by lower-level employees.

The auditor should not disregard the possibility of the organization's in-house counsel providing relevant information. In the event of fraud, the counsel is highly likely to have been made privy to the information and asked to take remedial steps. General counsel will also be aware of any regulatory proceedings in which the organization has been involved and that may have affected the company's financial statements. Legal counsel, compliance officers and employees of the human resources department are usually aware of ethics violations by the organization and suspected cases of fraud in the past. This is the kind of information that some management personnel may not be aware of, especially if the management is new.

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Other Sources and Techniques

Other sources of relevant information include the following:

- Press and media reports concerning matters directly or indirectly linked to the organization's financial statements.
- Industry publications, such as trade journals.
- Analysts' reports.
- Data concerning litigation involving the organization.
- Data mining.
- Public records that are available for background checks and that may confirm the existence of a customer, supplier or employee. These records may contain undisclosed conflicts of interest, possession of assets, judgements etc. Looking through public records and interpreting the information is a tedious job and requires professional skills if it is to be cost- and time-efficient.

The auditor has to make a judgement, deciding which sources of information he/she wishes to incorporate and ensuring that the decision is practical, given time and cost constraints.

Computer Assisted Auditing Tools (CAATs):

CAATs are computer programs used by the auditor to process data of significance contained in the client organization's information system, without having to rely on the client.

CAATs help auditors to perform audit procedures such as the following:

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1) Carrying out detailed tests of transactions and balances
2) Identification of inconsistencies and fluctuations
3) Carrying out tests on the general and application control of computer systems
4) Collecting samples for audit testing
5) Recalculating the calculations performed by accounting systems

Ratio Analysis

Like financial ratios, which are calculated to reflect the financial position of an organization, data analysis ratios are an important tool for fraud detection. They identify possible symptoms of fraud and indicate an organization's fraud health. These ratios include:

1. The ratio of the highest value to the lowest value (max/min);
2. The ratio of the highest value to the second highest value (max/max2); and
3. The ratio of the current year to the previous year

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This ratio analysis enables financial experts to observe the relationship between specific costs and measures of production such as number of units sold, number of direct labour hours, etc. In addition, for an auditor to estimate the overhead costs per direct labour hour, he/she needs to divide total overhead costs by total direct labour hours. Therefore, ratio analysis is an important tool enabling the forensic accountant and the auditor to gain an idea of the organization's expenses.

Analytic Procedures

Analytic procedures that are used during audits fulfil three basic purposes:

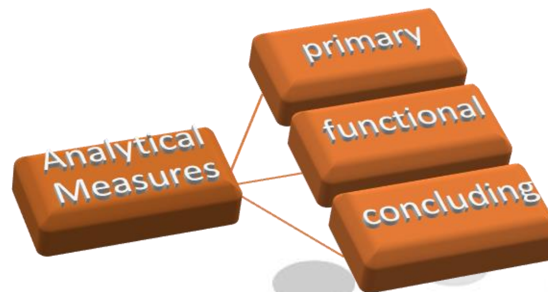

Fig. 4.3

- *Preliminary analytic procedures* help in providing an insight into the company and point out high-risk areas in order that that the nature, timing and extent of audit procedures might be determined accordingly.
- *Substantive analytic procedures* are used in the evaluation of account balances and in obtaining audit evidence.
- *Final analytic procedures* carry out a final assessment of financial statements and assess whether audit conclusions are correct or not.

Additional benefits of analytical testing procedures include:

- *Assessing the company's ability to remain a going concern:* Analytical procedures assess a company's general financial performance, its performance relative to competitors, any future financial problems it may face, and whether it will be able to continue in business or is likely to go bankrupt.
- *Indicating errors in financial statements:* If analytical procedures reveal discrepancies between the company's actual and expected performances, this may indicate accounting errors and irregularities.
- *Implications for detailed audit testing and procedures:* If analytical procedures do not reveal any inconsistencies between the company's expected and actual performances, this may indicate that

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there are no material irregularities or errors. This would further imply that detailed audit testing may not be needed as the substantive evidence gathered by analytical procedures suggests that the company's financial performance is fairly reflected in its financial statements. On the other hand, if analytical procedures find material irregularities, detailed audit testing becomes important.

In addition to the benefits mentioned above, analytical procedures can also help in identifying unexpected relationships. For example, auditors might use financial data obtained from ratio analysis, past trends, financial statements, etc. together with their past experience with the company or with other companies in the same industry and link them with the actual performance/output of the company.

Analytical procedures can therefore draw the following comparisons:

- Current data of the organization versus historical data from previous accounting periods.
- Actual company data versus budgeted amounts and forecasts.
- Financial data of the organization versus the industry's data or data from a comparable company.
- Financial data of the company versus its operational data i.e. production levels, the number of employees, area in square feet, etc.
- Data regarding one segment of the company versus those from another segment, such as comparing data on the basis of product, location, employees or division.
- Actual data of the company versus expected results determined by the auditors.

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Current Company Data versus Historical Data

This involves comparing the company's balance in the current period with that of a previous period, comparing current financial ratios with previous ones, and comparing financial percentages over time. Comparing account balances alone will not help to identify relationships; therefore, ratios and other financial indicators must also be considered. Trends might also be monitored if monthly data over a period of two or more years are compared. Analytical procedures will only be able to identify fraud, such as fictitious sales figures posted at a quarter's end to achieve quarterly earning objectives, if financial data from a period of less than a quarter are considered. Auditors might also use graphical depictions of these trends to indicate areas that need to be investigated in greater detail.

Company Data versus Company Budgets, Forecasts, or Projections

It is important to analyze differences between actual and budgeted performance because budgeted results reflect the organization's expectations. Usually, companies prepare budgets for their departments, plants and other subunits and for functions such as sales, production, marketing, etc. These budgets give an insight into the organization's performance and financial goals for the accounting period.

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Auditors might include their analysis of actual data and budgeted data from previous years in their current year report, because indications that the company has always had a difficult time achieving budgeted figures are a warning sign. It may also indicate that the organization does not set realistic budgets. Another red flag would be the revision of budgetary figures to adjust them to actual performance. Even though actual and budgetary figures may match, this does not necessarily mean that the possibility of fraud or manipulation can be ruled out. Sometimes, the budget is managed in such a way as to mask the company's underperformance or benefit fraudsters.

Company Data versus Industry Data and/or Comparable Company Data

The company's financial data are compared with those of the overall industry or with a peer company. If the company's data are significantly different from the industry or from its peers, this may indicate a problem, which should be investigated further. Performance measures used for comparisons include sales growth, net income, ratios, bad debts and gross profits.

Company Financial Data versus Company Operational Data

Auditors might make comparisons between the company's operational and financial data and establish linkages. For example, one might expect increased production level to be reflected in the financial statements as increased inventory or increased revenue. Departmental revenues should not be greater than total production after adjusting for inventory. Operational data such as number of employees, square footage, number of locations, shipping and invoice volumes, etc. might also be compared with financial data.

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Company Data versus Auditor-Determined Expected Results

Based on the auditor's understanding of the company and the industry in which it operates, there may be certain expectations regarding financial data, ratios, trends and relationships. If the auditor observes a significant difference between the company's recorded data and the expected data, then more detailed investigation may be required to rule out fraud. This assessment relies on the accuracy and precision of the auditor's expectation. In other words, the closer an auditor's expectation to the correct balance (as opposed to the recorded balance) the more effective the exercise of comparing recorded data with expected results.

Analytic Techniques

Some of the techniques used to analyze financial relationships are as follows:

1. ***Horizontal analysis:*** This compares the balances from the current period to those from previous accounting periods. A base year is chosen and current year balances are taken as percentages of this year. Similarly, account balances from prior periods are also calculated as percentages of the same base year. This allows further scrutiny if significantly different changes

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are observed in a particular account as compared with other similar accounts. If, for example, sales increased by 20% and cost of goods only increased by 9% in the same year, these two accounts may need further investigation.

2. ***Vertical, or common-size, analysis.*** Each line item on a financial statement is calculated as a percentage of a baseline item. In an income statement, for example, each line item is expressed as a percentage of revenue. Expenses such as commissions and cost of goods sold are directly linked with the company's revenues, thus giving auditors a fair idea of important financial relationships. In a balance sheet, each line item is expressed as a percentage of total assets or of total liabilities plus equity. These percentages are compared with percentages from previous years or with industry/comparable companies' percentages.
3. ***Comparison of the detail of a total balance with similar detail for the preceding year(s).***
   This technique analyzes a specific balance over a period of time or at one point in time and then compares it to a similar balance from a previous period. If the company's operations remain unchanged in the current period, then it is highly likely that its financial statement details will not show much difference from the previous periods. This technique is capable of identifying irregularities and isolating information that may need further scrutiny. Take one account for ***example. A detailed analysis of trade receivables may show that the company's customers*** increased in number significantly from one period to the next, and that most new customers have balances below the materiality level, which may indicate a need for further scrutiny.
4. ***Ratios and other financial relationships.*** Ratios, such as those measuring a company's liquidity, profitability, leverage, etc, reflect the relationship between two financial variables and play an important role in quantifying a company's financial health. Comparing a company's ratios from different accounting periods with the industry's ratios, or with a competitor firm's ratios may identify anomalies or changes that need to be scrutinized in more detail. The following is a list of financial ratios that might be calculated:

- Working capital balance
- Accounts receivable turnover
- Inventory turnover
- Asset turnover
- Debt or debt to equity
- Gross margin
- Operating margin
- Profit margin

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Apart from the basic ratios mentioned above, certain other ratios measure the relationship between high-risk financial variables such as revenue and inventory. These include:

- Sales versus returns, allowances, and discounts
- Sales versus advertising or promotion budget
- Sales versus outbound freight costs
- Sales versus cost of sales
- Sales versus accounts payable
- Sales versus sales commissions
- Sales versus gross profit
- Sales versus inventory
- Sales versus production levels/capacity
- Sales versus measure of total market size
- Sales versus accounts receivable
- Sales versus interest expense
- Inventory versus cost of sales
- Inventory versus current or total assets
- Inventory versus production levels

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Usually, cash accounts are not misstated, as it is relatively easy for the actual amount to be confirmed. However, ratios between cash accounts and other accounts that are more likely to be misstated should be calculated as they may reveal irregularities. These ratios include:

- Cash versus current or total assets
- Cash from operations over time
- Cash from operations versus sales
- Cash from operations versus net income
- Free cash flow (operating cash flow less capital expenditures and dividends)

Generally, one or more of these techniques are used to make comparisons, analyze relationships and isolate areas where more investigation is required. Each of these techniques provides a different set of information and may unveil an unexpected relationship or change. Take, for example, a company whose operations are financed by working capital. Its production and sales show an increase but at the same time interest expense is decreasing (assuming there is no decrease in interest rate). This information may point to an irregularity or fraud. Perhaps the company's increased efficiency led to the cash flow from operations financing increased production and sales, or perhaps some sales figures were fictitiously recorded.

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Financial Statement Fraud: Detection Techniques

Any line item in a financial statement or balance sheet might be subject to manipulation and misstatement; however, certain items are more vulnerable than others. A crucial aspect of detecting fraud is knowing where to look. The auditor should already have in mind all the possible ways in which a line item might be misstated. Overstatement of net income or the company's net worth is the most common kind of financial misstatement. Net income is usually overstated by exaggerating revenues and understating expenses, while net worth is overstated by overstating assets and understating liabilities. The double-entry bookkeeping system ensures that a misstatement or manipulation appears in at least two or more line items. An auditor should be familiar with the client organization's risk identification system, since the absence of such a system would be a warning sign.

Revenue Recognition

Improper revenue recognition is one of the most common types of financial reporting fraud. The auditor should first ascertain the nature of the business and then analyze the different ways in which it generates revenues, the possibility of misstatement in revenue figures and the possibility of concealing such a misstatement. The following are a few examples of risk areas that an auditor might identify, depending on the nature of the business:

- Falsification of inventory records, invoices and shipping records to conceal fraudulent sales of tangible goods.
- Overstatement of sales through the shipping of goods not ordered, by recording consignment shipments as revenues and by ignoring shipping terms involving transfer of ownership.
- False sales figures for products that have been packaged but will never be shipped to the customer. These figures are reversed or written off later in order that ratios might not be adversely affected.
- There may be terms and conditions of the sale agreement with a customer that have the effect of partially or wholly reversing sales, such as a customer's right to return unused goods.
- Sales benchmarks and cut-offs may be manipulated by tactics such as keeping the financial records open beyond the year-end.
- There may be exaggerated or completely fictitious revenue figures from long-term projects that are not yet complete. The management may make aggressive or unreal estimates regarding the degree of completion of the project, and this risk may increase if judgement is required in order to measure the value of work that has been completed. An example of such a judgement-based measurement is a large-scale project involving the development of intangible goods such as custom software.

Auditors must have a thorough understanding of the client's revenue sources and revenue recognition policies, along with any changes that have occurred in these policies. Indicators of manipulation or fraud

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generally include, but are not restricted to, the following: unusual sales patterns, unusual ratios, irregularities in documentation, recognition of revenue that is not consistent with contractual terms, long-outstanding debts, non-reconciled debit entries, irregularities in inventory, large credit notes after year-end, etc.

Corruption

It is difficult to detect corruption and kickbacks because they are usually concealed by legal transactions. Bribes usually involve purchases; for example, the company overpays for goods and services and the perpetrator of the fraud receives kickbacks from the vendor.

Anyone with the authority to award contracts or purchase products, such as supplies, inventory, fixed assets, raw materials, software, etc, is a potential target of fraudulent schemes. Engineers, quality personnel, technical experts and people whose sanction is required before contracts are accepted are also potential targets.

Internal controls usually focus more on deterrence than detection because it is hard to detect corruption. Therefore, controls are usually designed to minimize the risk of corruption or fraud. The first step is to assess the areas that are most vulnerable to fraud.

Control mechanisms include the following:

- Transparency and integrity in the bidding process involved in asset procurement.
- Frequent rotation of employees through different vendor assignments.
- Using private fax machines and requiring the bids to be submitted to named individuals other than those soliciting the bids in order to prevent fraudsters informing their partners about lower-bidding competitors.
- Establishing a hotline to enable vendors to complain should they be approached by someone seeking to bribe them.
- Enforcing a strong policy on the total disclosure of conflicts of interest, receipt of gifts, etc.
- Corrupt schemes usually result in victim companies having to overpay for goods and services. Auditors might examine expenditure trends and analyze reasons for the increase in a declining trend, the purchase of unneeded items, or the purchase of necessary items at increased prices. Trending the company’s assets may reveal the purchase of unnecessary assets and inventory. For example, the discovery of excess inventory write-offs may indicate an attempt to make space for more purchases.

In addition to those mentioned above, the following are other warning signs of corruption schemes:

- The same vendor for most orders.
- Cost of materials or other purchases not consistent with related activities.
- Extravagant lifestyles of buyers.

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- Managers outside the purchasing department making procurement decisions that favour key suppliers.
- Terms and conditions in solicitation documents that restrict competition.
- Abnormally short time for responding to bids.

Specific Detection Methods

These detection techniques are designed specifically to detect corruption schemes rather than fraud in general.

Asset Misappropriation Schemes

- Having a person outside accounts payable or cheque-writing personnel review bank statements and cancelled cheques and then forwarding them to the relevant person for bank reconciliation.
- Ensuring frequent rotation of duties.
- Carefully examining transactions that have a review/approval level, examining all transactions below that level and then classifying them by customer, vendor and employee.
- Carrying our frequent reconciliations for inventory and receivables.

Cash Larceny

- Identifying and investigating cash shortages in deposits, cash registers and cash drawers.
- Investigating sales records that seem to be altered or missing.
- Designating at least two people to carry out an independent verification of deposits on bank statements to general ledger record.
- Reviewing daily cash availability amounts.
- Delivering deposits to bank under dual control.
- Determining the amount of the deposit confidentially before transmitting it to the bank and then confirming the amount with the bank.
- Ensuring that deposits in transit are cleared on the next statement first.
- Conducting surprise cash counts.
- Conducting daily reviews of cash and cheque ratio of bank deposits.
- Reviewing and ensuring that deposits from remote locations reach the central treasurer in a timely manner.
- Monitoring cash receipts at all entry points.

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Billing Schemes

Shell Company

- Making sure that payments are sorted by vendor, amount and invoice number.
- Being alert to the possibility of fraud if expense exceeds budget, especially if it is exactly double the amount in budget, as this may indicate that two cheques are being issued: one for the legitimate vendor and the other for the fraudster.
- Carefully examining the largest expense account in detail as fraudsters usually charge their billing schemes to the largest expense account in order to conceal their fraud.

Horizontal analysis

- Verifying the invoices of service-only vendors.
- Cross-referencing employees' addresses with vendors' addresses with the help of software tools such as CAAT.
- Testing the length of time from receipt of invoice to its payment
- Verifying the legitimacy of vendors. This task can be made more time- and cost-efficient by verifying only those vendors added since the last audit and those specific to the relevant business unit. Auditors can find the vendors in phone books or through Google.

Checking with the local chamber of commerce and contacting others in the same industry

- Reviewing cancelled cheques
- Delaying payment on suspicious invoices and waiting to see who follows up.
- Being especially vigilant with employees who have the authority to add vendors to the authorized list. It is better to segregate the duties of adding vendors and approving invoices.
- Data mining for all possible warning signs.

Verifying the legitimacy of any vendor who uses Excel-generated invoices

- Obtaining a printed version of the vendor list in alphabetical order and searching for all identical names and data.

Pass-Through Vendor

- Investigating all invoices that were just below the approval level after sorting them by vendor or by the employee who approved the invoice.
- Using CAAT and comparing market prices for invoice prices.
- Reviewing invoices in order to determine the products or services being purchased and their prices.

Non-Accomplice Vendor

- Sorting invoices by vendor and separating unusual invoice numbers.
- Classifying vendors by invoice amounts and separating unusual amounts
- Verifying invoices that resulted in vendor refunds

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- Asking the bank to notify the relevant person in the event of someone endorsing a cheque with a "For Deposit Only" stamp and where the company is the payee.

Personal Purchases

- Checking credit card expenses to identify unusual vendors or unusual purchases.
- Regular and surprise audits of employees who are in charge of signing cheques or using credit cards.
- Investigating performance reports for unfavourable balances.
- Analyzing vendor payment trends.
- Spotting and isolating all purchases without a purchase order and summarizing them by vendor and employee.
- Spotting and isolating all purchases below the approval limit and summarizing them by vendor and employee.

Payroll Schemes

Ghost Employees

Reconciling employees in the payroll database with employees in the human resource database (subject to the feasibility of the job); in the case of a ghost employee, the name and data will be missing from the HR database. Reconciliation includes:

- Reconciling Social Security Numbers (SSN) from the SSN file with the employees' SSNs at least once a year.
- Distributing the cheques manually every once in a while and requiring employees to produce IDs to pick them up.
- Investigating payroll cheques for dual endorsements, which may be a sign that an employee is working with a real person (serving as a ghost employee) as an accomplice.
- Rotating duties of employees handling printed pay cheques, or requiring them to take vacations timed to coincide with the issuance of pay cheques (pay day)
- Scrutinising payroll data for the following red flags:
- Physical address versus the employee's PO Box address.
- Duplicate addresses i.e. two employees having the same physical address.
- Deposit account number that is the same as that of another employee.
- A phone number that is the same as that of another employee, the same as an office phone number or a missing phone number.
- Terminated employee being used as a ghost by another employee, a situation indicated when the dates on pay cheques are later than the termination date of the employee.
- Employees who are never on vacation or sick leave, indicating the existence of a ghost employee.
- Employees with no pay cheque deductions.
- Employees with no valid SSN, a missing SSN, or a duplicate SSN.

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Commissions

- Conducting random spot checks of transactions involved in sales commissions for a salesperson or a pay period.
- Carrying out investigations into higher rates of returns or higher credit for a salesperson.
- Sorting sales and commissions paid by employee and reviewing the relationship between them.
- Keeping track of uncollected sales.
- Making exception reports for employees who have increased their compensation by an unusual percentage over the last year.
- Keeping track of all changes in commission rates by designating an independent official for the job.

Falsified Wages

- Collecting data related to all transactions that took place over a certain number of overtime hours.
- Conducting random verifications of pay rates in a pay period or for employees over a pay period.
- Designating an independent person for tracking and verifying changes in pay rates.
- Carefully maintaining the custody of time cards and ensuring that they are processed immediately after approval.

Cheque-Tampering

- Periodic rotation of personnel in charge of handling and coding cheques.
- Making dual signatures mandatory for cheques beyond a certain limit.
- Requiring the entity's bank to use a positive pay system.
- Sending an unopened bank statement to a member of management with no link to accounts payable for reviewing of the statement and cancelled cheques before it is sent for bank reconciliation. In smaller companies, the bank statement might be sent to the owner.

Skimming

Skimming frauds occur before a booking entry, making them even harder to detect as they are off the books. Individual skimming schemes may include sales (understated or unrecorded sales), receivables (write-offs, lapping schemes, unconcealed schemes), and refunds. Detection techniques for these kinds of schemes include the following:

- Monitoring and surveillance of employees at the point of sale through cameras placed above registers and meal tables.
- Identifying and investigating gaps in pre-numbered receipts.
- Looking for excessive numbers of no-sale transactions, voids and refunds in the registers.

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- Posting signs at the register such as “If you did not get a receipt, please contact your manager and your meal will be free.”
- Looking for signs of fraud by employing a trained secret shopper.
- Determining the occurrence of skimming, and approximating missing monies through invigilation.
- Determining revenue variances by employee and shift.
- Ascertaining the amount of sales that should exist by creating a pro forma income statement, cost of goods sold and the standard mark-up. These sales might then be compared with actual sales figures to determine missing monies.
- Performing cash counts or surprise audits just after a shift ends.

Lapping

- Personnel independent of the accounts receivables department following up on complaints of delays in posting cheques and conducting customer service phone calls.
- Analyzing the number of days in receivables, sorting them out by business unit or accounts receivables clerk, and following up on trends that are above the organizational average.
- Confirming accounts receivable balances independently.
- Performing spot checks, cash counts and surprise audits.
- Investigating irregularities by classifying credit memos and write-offs by employee.
- Carrying out unannounced customer satisfaction surveys to obtain feedback about the length of time between mailing a cheque and posting on account.
- Observing employees who do overtime regularly.
- Looking for a second set of books during surprise desk raids.
- Verifying whether names on cheques match recorded posts during spot checks of daily accounts receivable deposits.
- Matching the dates on accounts receivable postings with dates on cheques, or with the date when payment was mailed.

Corruption Schemes

- Classifying transactions by vendor and then looking for unexpectedly high volumes.
- Carrying out random investigations of vendors, owners, major shareholders, employees, etc.
- Taking a sample during each audit and reviewing contracts and invoice approvals.
- Carrying out verifications for vendor authenticity.
- Looking for transactions where related parties are involved and the relationship has been concealed.
- Conducting annual reviews of approvals for transactions where related parties are involved.

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Bribery and Economic Extortion

- Rotating personnel whose duties include approving contracts, authorizing vendors and bidding responsibilities.
- Segregating the duties of approving vendors from awarding contracts and approving invoices.

Improper Revenue Recognition

Reasons for overstated revenues include the following:

- Keeping record books open for sales that take place after the accounting period has ended, and accelerating shipments.
- Recording earned revenue for transactions that do not qualify as sales. Examples of such transactions are consignment sales that are not yet sold to the end user, sales dependent on special conditions, bill-and-hold transactions, and products sent for trials and evaluation.
- Swaps, round-trip trades, related party transactions, and sham sales that only occur to increase sales volumes.
- Exaggerating percentage of completed sales.
- Understating deductions from gross sales, such as sales returned, allowances or discounts, product markdowns, etc.
- Making entries forfictitious sales.

Usually, an inquiry into improper revenue recognition begins by reviewing customer contracts and revenue recognition policies. The company's norms and compliance with policies are questioned; for example, if a company normally requires a written sales agreement, then the absence of a written document may be a warning sign. Contracts might be reviewed by beginning with a detailed reading of all contractual terms, with special emphasis on conditions relating to payment and shipment, delivery and acceptance, payment of upfront fees, risk of loss, future performance of the seller before payment and other such contingencies.

Timing

Timing is another important consideration for the auditor. The auditor has to determine the time period during which sales agreements were obtained, when the products or equipment were delivered, when the buyer had to pay, and any additional services required from the seller.

Timing of transactions may also be manipulated for improper revenue recognition. A company that commits such manipulation of timing regarding revenue recognition may be facing the following circumstances:

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- Pressure to fulfil revenue targets as the accounting period (a quarter) comes to a close.
- An expected shortfall in sales during the accounting period.
- Potential sales that are expected to be consummated after the accounting period ends.
- An opportunity to alter the dates on transactions that have occurred after the accounting period end to make it seem as though they took place during the period.

The following are red flags that auditors should be looking for:

- False or altered documentation including backdated shipping/delivery documents.
- Backdated invoices.
- Alteration of documents that might provide evidence of the correct dates on which transactions occurred.

The documents that provide evidence of correct dates include:

- Copies of signed contracts.
- Transaction records stored in the management's information system.
- Sales journals and registers, which have recorded dates of the transactions.
- Purchase order dates. If the purchase order was dated after the period end, it would be hard to explain the falsified dates on invoices and delivery documents.
- Dated correspondence concerning negotiations and the actual transaction.

Timing irregularities in accounting cause current accounting periods to borrow revenue from subsequent periods; thus, if the next periods also show declining sales (worsening revenue shortfall due to timing irregularities), further early revenue recognition will be required in order to achieve the following:

- Compensate for the shortfall by lending revenue to earlier accounting periods.
- Conceal the effects of a real shortfall in sales.
- Achieve the expected level of sales growth.

When real sales are declining and timing irregularities are occurring to maintain the façade of growing revenues, each accounting period requires more fraudulent premature revenue recognition.

Revenue Recognition Detection Techniques

Auditors might use various techniques to detect fraud in revenue recognition, including substantive tests, investigating relevant managers, and calling in forensic accountants to investigate possible fraud. General detection tools and techniques include the following:

- Discussing with sales, marketing and finance personnel how sales targets were achieved, the time during which they were achieved and, in particular, the sales that occurred during the end of an accounting period.

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- Performing tests to determine accelerating or declining sales. These tests might include the following:
  - Scrutinizing purchase orders, invoices, and shipping documents.
  - Comparing shipping volumes with volumes billed.
  - Examining closing inventory.
  - Looking for documents with altered dates.
    Conducting inquiries into employees in the shipping department regarding large shipments near the period end, large sales returns, bill-and-hold transactions, etc.
- Analyzing large sales transactions, especially those that occurred near the period end, with new customers or with a related party.
- Observing the shipment of goods.
- Analyzing new customers making large purchases by:
  - Confirming the physical location (rather than accepting a post office box).
  - Comparing entity address and employee addresses.
  - Searching public records to confirm their existence.
  - Reviewing invoices after the closing of transactions to look for evidence of payment, cancellation or returns.
- Looking for returned shipments or returns that have been shipped to off-site warehouses and have gone unrecorded or unprocessed.
- Conducting inquiries into personnel outside of the financial and accounting functions, into large customers and into customers who place orders towards period ends regarding side agreements, such as return rights, terms of cancellation, guarantees, etc.
- Analyzing sales returns and cancellations that have occurred towards the end of the accounting period.
- Sending confirmations to customers with quantities, amounts, dates, and side agreements. This includes looking for written confirmations in addition to oral confirmations, and following up on unreturned confirmations and confirmations that have been returned with discrepancies.
- Reviewing manual sales journal entries.
- Verifying estimates for percentage of completion.
- Identifying vendors who are related parties (customers, employees), and analyzing transactions that have occurred with those parties.
- Analyzing disaggregated sales data and various relationships with sales.

Auditors may conduct substantive tests at the beginning and determine the existence of fraud by requesting and reviewing contracts, examining invoices and deliveries, and obtaining confirmations from customers regarding accounts receivables and the amount of sales. In addition, the auditors might

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scrutinize public records and perform background checks on customers, vendors and third parties to verify their existence.

Usually, when receivables are falsified, the corresponding amount is credited to sales. Fake sales invoices are created to support fictitious sales and receivables, phantom customers are created, or fake transactions are concealed in the accounts of large customers with a high volume of activity.

There is often a small window for detecting revenue recognition fraud because receivables either have to be collected, written off, or disguised in some manner.

Specific detection techniques for receivables include:

- Questioning customers regarding receivable balances.
- Reconciling the company's records with confirmations and investigating the discrepancies.
- Reviewing debt collections
- Examining credit agency records on key customers
- Investigating discrepancies between general ledger and the subsidiary accounts receivable ledger.
- Reviewing the length of time of outstanding debts (aging of accounts receivables) and testing whether they can be re-aged.
- Examining non-computerized or manual journal entries regarding sales and receivables.
- Investigating a consistent or excessive pattern of partial payments.
- Techniques used for detecting fictitious sales might be applied to detection of fake accounts receivables.
- Performing the usual analytical procedures on receivables
- Calculating receivables and inventory as a percentage of current assets. The higher this percentage, the higher the risk of receivable fraud.
- Performing analytical tests on inventory.

Side Agreements

According to SAB 104, there should be a definitive sale or service agreement. However, sometimes businesses do not have definitive agreements depending on customer-vendor relations, which can be quite complex and fluid. Companies enter into agreements and later make oral or written changes to those agreements, which are outside reporting channels and may therefore cause problems.

Modifications made by management to boost sales figures are so common that they are often treated as side agreements. However, these side agreements occurring outside normal reporting channels are potentially a means of starting fraudulent schemes. The existence of numerous side agreements may prompt the auditor to dig deeper into how and when those agreements were entered into. The first task should be to determine whether side agreements were made outside reporting channels. If that is the case, it should be considered a warning sign. Fraud schemes related to side agreements include liberal

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cancellation policies allowing the customer to cancel their order at any time, unconditional rights of return, loose payment terms, and schemes started by sales staff to maximize their commissions.

It is hard to detect side agreements, mainly because they do not exist in centralized accounting departments to which auditors usually have access. They may require investigation on a broad scale. Auditors may have to question management, accounting personnel, sales staff, sales support staff, customer services representatives, distribution managers, etc. about side agreements and their effects on sales. Salespeople may be questioned about whether they are authorized or encouraged to enter into side agreements and whether these agreements are made in conformity with the organization's transparency policy and through established reporting channels.

Auditors may also review the organization's return policies, examine sample contracts for side agreements, and confirm the terms of contracts with the customers.

Liberal Return, Refund, or Exchange Rights

Rights of return are conditions under which a product might be returned after its sale in exchange for a cash refund, for credit applied to amounts owed or to be owed for other products, or in exchange for other products. There may be various reasons why an organization allows rights of return to its customers. Rights of return are usually a part of the contract or organizational practice.

Rights of return frauds usually involve concealment of the right, or a departure from the conditions spelled out in SFAS 48. Concealment may take place in the following ways:

- Using side letters that have the buyer's right of return. These side letters are created separately from the actual sales contract.
- Hidden or oral understanding between the buyer and seller.

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Mischaracterizing the nature of the agreement by misrepresenting the following:

- Consignment arrangements misrepresented as final sales.
- Concealing terms under which the customer is entitled to return sales, trial periods, conditions related to product performance, etc.
- Concealing stock rotation rights, annual returned goods limitations, and price protection concessions.

  Concealing the true nature of transactions with special purpose entities, agents, related parties, and counterparties that do not have any risk associated with the sale.

Another assessment technique is to carry out inquiries into general practices regarding returns and exchanges. Auditors might conduct analytical tests such as the following:

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- Conduct sales returned comparisons between the current period and previous periods, and investigate any unusual increases.
- Determine the timeliness of processing returns, as the company may be slowing the processing deliberately to avoid a decrease in sales due to returns. The auditor may have to visit the warehouse and confirm with customers.
- Calculating sales returned as a percentage of total sales and investigate unusual increases.
- Comparing sales returned after a reporting period with monthly returns and return reserve to assess whether they are reasonable.
- Determining the payment of sales commissions at the time of sale or at the time of collection; if they are paid at the time of sale, then salespeople have the incentive to exaggerate sales in order to meet market pressures.
- Determining whether sales returned are compensated against commissions. There may be a hidden mechanism to process sales returned in a way that inflates sales to phantom customers, enables the collection of undue commissions and avoids adjustment of returned goods against commissions.

Further Reading:

- ✓ ***Wells, J. T. (2006) Principles of Fraud Examination***
- ✓ ***Albrecht, C.C., Albrecht, W. (2005) Fraud Examination***
- ✓ ***Brown, A., Doig, A., Summers, G., Dobbs, L. (2004) Practically Fraud***

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