Chapter 15
New Paradigm in Auditing: Continuous Auditing

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Abstract Organizations are losing substantial amounts of money and facing immeasurable ethical repercussions because of fraud. Regulatory requirements in auditing are increasing with the rate of fraud to boost the investor confidence. The volume and variety of data being created in the organizations are forcing auditors to find more effective and efficient methods as they face the challenges. Once a year audits where sampling is used on audit evidences are not sufficient in the modern business environment. The concept of continuous auditing is the answer to this paradigm. Continuous auditing is considered to be any audit method where the audit is performed on continuous basis. The fundamental idea is that the audit of a transaction is done as it is happening or in a very short time, and a report is issued after the audit. As a result, the anomalies are detected and the audit report is written in real time. The frequent analyses of data enable auditors to perform control and risk assessments in real time or near real time. Continuous control assessment refers to the audits performed on the controls. Continuous risk assessment refers to the identification of systems and processes with risk above the acceptable risk level. In continuous auditing, all the audit activity is done in the electronic environment where only the digital analysis tools and techniques are used. Audit tests are performed on the audit data and the audit report is created by the computer system. The auditor himself develops or uses audit package software to perform audit procedures. As a result, all the records are analyzed easily and quickly on big data in a relatively short time. Initial set up of the continuous audit software requires time and relatively a high level of expertise. However, the same modules may be used repeatedly lowering the cost of continuous auditing in the long run. Moreover, continuous auditing allows remote access to

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company data which enables auditors to perform the audit activity without going to the site of audit. This lowers the audit cost and increases the time efficiency. Continuous audit applications require substantial set-up efforts. Most of the work is done in the system design and pre-implementation stages. Once the audit model is created, it can be used by iterating the modules. The fundamental stages of continuous auditing are development of the audit model, automation of audit methods, data analysis and reporting. The concept of continuous auditing is very new and implementation methods are in the research stage. This audit method is not yet widely used and presents significant difficulties in implementation. With the continuation of research in this field and the development of information systems, the problems experienced in the implementation of continuous auditing practices will be eliminated and its use will increase.

15.1   Introduction

Organizations are facing increasing regulatory requirements in auditing as well as increasing rate of fraud. As a result, auditors are trying to find new methods where they are more effective and efficient. Classical auditing methods and once a year audits are no match to the challenges of the modern business environment. Thorough and frequent audits are needed. The answer to this paradigm is the concept of continuous auditing. Continuous auditing is considered to be any audit method where the audit is performed on continuous basis (Warren and Smith 2006). There have been numerous definitions of continuous auditing. However, the most commonly known one is the one in the CICA/AICPA's 1999 research report (Raschke et al. 2018):

> "A continuous audit is a methodology that enables independent auditors to provide written assurance on a subject matter, for which an entity's management is responsible, using a series of auditor's reports issued virtually simultaneously with, or a short period of time after, the occurrence of events underlying the subject matter."

Continuous auditing is based on two fundamental issues:

1. The audit of a transaction is done as it is happening or in a very short time, so that the anomalies are detected in real time.
2. A report is issued after the audit. This report can be a formal one or a list of anomalies.

The realization of these fundamental issues enables auditors to give written assurance on the audit domain in real time. Therefore, it is critical to collect all the necessary information in real time (Searcy et al. 2002).

The greatest change facing accounting and auditing in the next 15 years is technology (Alles et al. 2000). Modern-day enterprise resource planning (ERP) systems

are capable of recording high volumes of transactions and monitor business processes in real-time basis (Singh et al. 2014). Advancements in information technologies, high risk factors, increased regulatory demands related to antifraud measures, the volume and variety of data being created brought continuous auditing into spotlight (Hardy and Laslett 2015).

15.2 Components of Continuous Auditing: Continuous Control and Risk Assessment

Continuous audit methodology is used by auditors to understand the critical controls, rules and exceptions of the entity. The frequent analyses of data enable auditors to perform control and risk assessments in real time or near-real time (Coderre 2005).

Continuous control assessment refers to the audits performed on the controls (Cankar 2006, p. 71). By monitoring the adequacy of management's monitoring activities, it is necessary to measure the effectiveness of the controls with an independent eye and to investigate whether it is possible for the organization to correct any possible problems quickly.

Continuous risk assessment refers to the identification of systems and processes with risk above the acceptable risk level. Auditors identify risk areas of the organization, and rank and prioritize these risks. In this way, they provide more efficient use of limited audit resources.

Auditors' control and risk assessment activities are independent of management's monitoring activities and risk management. Conducting audits does not imply that management may delegate the monitoring responsibility to auditors. Management is still responsible for risk assessment, and design, implementation and updating the controls. The audit evaluates the effectiveness of this corporate risk management system as established by the management and provides opinions on its compliance with the laws. Auditors should not be involved in the design of related systems to remain impartial and independent.

15.3 Major Differences Between the Traditional Audit and the Continuous Audit Concepts

In continuous auditing, all the audit activity is done in the electronic environment where only the digital analysis tools and techniques are used (Mokhitli and Kyobe 2019). Audit tests are performed on the audit data, and the audit report is created by the computer system. The auditor himself develops or uses audit package software to perform audit procedures. In the traditional audit, there are people who perform the audit process, that is, the auditors. They examine records and documents, both

electronically and on paper. Most of the time, the analysis is done by auditors, not by the computers.

In continuous auditing, all of the records can be analyzed easily and quickly. Since computer systems are used to perform audit tests, it is possible to execute audit procedures repetitively on big data in a relatively short time. In the traditional method, a sample set of records may be audited. The auditors use a sampling method to choose the records that they will examine. A sample of records is a very limited portion of the audit domain when there are a large number of records to be audited.

In the traditional audit, audit activity is performed at certain periods followed by an audit report. However, in continuous auditing records are audited in real time and anomalies are immediately reported to the auditors.

The cost of continuous auditing in the long run is lower than the conventional audit. Initial setup of the continuous audit software requires time and relatively a high level of expertise. However, the same modules may be used over and over again. Moreover, audit tests can be performed in less time and with fewer people.

Continuous auditing allows remote access to company data. Unlike in the traditional audit, the auditors do not have to be on site to perform the audit activity. They can access the company data and extract the records they want without leaving their offices. This feature enables auditors living at different geographical areas and with different expertise levels to work together.

The stages of the audit activity are different in the traditional and the continuous one. The stages of the traditional audit include planning, fieldwork and reporting. The stages of continuous auditing are automation of audit methods, development of audit model, data analysis and reporting.

15.4 Benefits of Continuous Auditing

In recent years, audit objectives, assurance levels, timing, audit techniques and audit reporting have changed dramatically in favor of continuous auditing. In many ways, continuous auditing improves audit quality and effectiveness.

The benefits of continuous auditing can be listed as follows:

- Increasing the effectiveness of audit activities: Audit functions take place almost in real time. This enables frequent control and risk assessments on the operations of the organization. This has a positive effect on interim and annual reports (Lee et al. 2014). Financial reports are perceived as more reliable.
- Increasing value-added activities: One task of the audit is to provide advice on the activities of the organization. Since detailed analysis of operations and activities is performed during the audit, auditors can make recommendations efficiently while protecting the ethical values. These recommendations add value to the organization.
- Forming real-time opinions: Since continuous auditing is a real-time audit, auditors have the opportunity to inform related people immediately if an anomaly is

detected. In today's competitive business world, there is a greater need for timely information instead of using the past data for decision making.

- Extending the audit scope: Computer systems have the potential to examine large amounts of records in a short time. Since continuous auditing is a type of audit performed entirely on information systems, all or nearly all records can be examined.
- Improving the reliability of the audit: The fact that all records, analysis and reporting are in the electronic environment minimizes human error and bias. Accurate and thorough analysis of data, complex analytics capability and consistent applications of the audit tests increase the reliability of the audit.
- Increasing transparency: Designing continuous audit models requires detailed analysis and documentation of the business processes and the audit model itself. Transparency and standardization in approaches are achieved by this detailed documentation.
- Acting independently from the IT department: According to the audit standards, auditors should be able to act independently from other departments in conducting audit functions. Extracting and analyzing data from the entity's database is easy with audit software. The audit software used in continuous auditing can reduce the support the auditors receive from programmers.
- Developing the audit plan: Continuous risk assessment determines the scope of the audit. Risk factors in the processes are taken into consideration to determine the scope and timing of the audit.
- Supporting audits in specific areas of interest: Auditors may decide to conduct audits on certain data or processes based on the results of continuous risk assessment. The elements of the audit, such as the scope of the audit, its objectives and the data to be examined, are decided according to the findings of the continuous risk assessment.
- Reducing the cost of audit: Recent studies show that corporations are motivated to adopt continuous auditing technology to better utilize capacity and save economic resources (Rikhardsson and Dull 2016). Same audit modules are used automatically in continuous auditing. Audit costs are reduced by reusable computer techniques since the amount of man /hour required in the audit process is less than other audit types.
- Reducing audit waste: There are seven different types of audit waste: over-auditing, waiting, delays, audit process, working period, review, errors (Searcy and Woodroof 2003). Continuous audit practices greatly reduce audit waste.
- Achieving standardization and timeliness in reporting: In continuous auditing, the audit report is prepared by the information system and sent to the related parties immediately after the audit tests are performed. Moreover, the standardization in the form and content of the report improves the quality of reporting.
- To ensure the follow-up of the audit results: The auditors have the opportunity to see the results of their evaluations and advice of the previous auditing activities. The audit activities are carried out so frequently that they can see how much of their suggestions were taken into consideration by the management and how they affected the performance of the business.

- Combining skills from different fields: It allows the integration of skills from different fields. Continuous auditing requires knowledge of accounting and information technologies.
- Communicating effectively with external auditors: When internal auditors use continuous auditing, they have well-documented business processes. This in return enables external auditors to be well informed about the risks and the controls of the organization. The exchange of expertise and knowledge between the internal and external auditors improve the audit quality (Weins et al. 2017).
- Increasing company value: Continuous auditing is a new assurance service that adds value to the entity. In a controlled experiment conducted in 2008, it is found that investors feel safer and they consider the company risk lower when the company is continuously audited (El-Masry and Reck 2008).

15.5 Historical Development of Continuous Auditing

In the 1960s, audit modules were implemented into the software to automate testing the controls. These attempts were the first examples of audit automation. Due to difficulties in use of these modules at the time, it did not find a widespread use. In the late 1970s, its use declined even more (Coderre 2005, p. 3).

In the early 1980s, some auditors began to use digital analysis techniques to analyze data. The concept of continuous monitoring emerged. This concept, whose main premise was to focus on risky areas by providing automation in data analysis, was embraced by academic circles. However, information technology was not developed enough for the auditors to use these unfamiliar analysis techniques (Coderre 2009, p. 104).

In the 1990s, parallel to the development of information technology, the use of data analysis techniques to control the effectiveness of internal controls increased. In a survey among auditors in 1994, 93% of respondents said they believed that computer technologies would increase in importance within five years. In the same survey, it was asked which software that the auditors needed most to achieve their goals. Word processing, tabulation and data extraction modules were the top three choices of the auditors (Coderre 2009, p. 104).

In the 1990s, internal auditing and external auditing were separate and distinct functions. While the external audit was concerned with the compliance of the financial statements, the internal audit's role was to serve the management in a variety of matters. In the early 1990s, external audit firms assumed some internal audit roles. Some large institutions outsourced their internal audit activities to external audit firms (Moeller 2009, p. 60).

The Sarbanes–Oxley laws enacted in 2002 had an impact on the auditing standards of most countries, particularly the USA. With this law, the responsibilities of internal auditing increased. Testing the effectiveness of internal controls gained importance with the new corporate governance approach. Today's competitive business environment requires taking precautions against the risks that may occur in the

organization. Since delayed reactions can lead to huge losses, taking precautions or actions immediately after the risks occur is important.

These developments led people in the audit profession to look for new audit approaches and develop audit software. The change in audit understanding and the development of computer technologies brought the concept of continuous auditing back to the agenda.

The concept of continuous auditing was first used by John Kearns. Kearns stated that processing large volumes of data was possible due to the advancements in information systems, rendering continuous audit process possible. Academic studies on continuous auditing began to increase along with the developments in computer technology as continuous auditing became possible over time (Ağca 2006).

The first continuous auditing application was developed at the AT & T's Bell Labs. It was called continuous process auditing system (CPAS), and it was developed as a paperless audit model for internal audit (Yeh and Shen 2010). After AT & T, corporations such as Siemens, HCA, Itau Unibanco, IBM, HP, MetLife and Procter & Gamble became the first practitioners of continuous auditing (Chan and Vasarhelyi 2011.).

In 1999, American Institute of Certified Public Accountants (AICPA) and Canadian Institute of Chartered Accountants (CICA) made a joint decision and called on researchers to investigate the concept of continuous auditing and develop applications (Onions 2003). This approach had a great impact in the academic circles, and many continuous audit models have been created in the 2000s.

Recent financial scandals led authorities to change auditing standards and make extensive changes in the legal framework. Legal obligations increased the importance of auditing in today's business world. The need for financial markets to verify information immediately required that audit reports be prepared and disclosed to the public as soon as possible. Moreover, auditing is expected to increase corporate efficiency rather than compliance assessments. These factors changed audit understanding. It became imperative to make in-depth and real-time analysis on corporate data, which is only possible with continuous auditing (Sarva 2006).

Recent technological advancements enabled continuous auditing attainable. It is found that organizations use computer systems in audit at different levels. There are four levels of technology in organizations (Coderre 2009, p. 28):

- Beginning: Administrative purposes such as budgeting, time management and reporting
- Medium: Data extraction, limited data analysis, use of spreadsheet and presentation software
- Integrative: The use of technology at all stages of the audit; risk identification, identification of data to be examined, electronic worksheets and reporting
- Advanced: Continuous auditing and extensive use of Intranet.

A 2007 study showed that the rate of continuous auditing tests being used by internal auditors was twice as high as that of managers to monitor business processes and related controls. Therefore, internal auditors are considered to have the greatest role in the development of continuous auditing practices (Lehmann et al. 2010, p. 58).

15.6 Developing Continuous Auditing Applications

Continuous audit applications require substantial setup efforts. Most of the work is done in the system design and pre-implementation stages (Vasarhelyi 2002). Once the audit model is created, it can be used by iterating the modules.

15.6.1 Steps to Develop Continuous Auditing Applications

Continuous auditing applications are generally developed in six steps (Aquino et al. 2008):

1. Identification of priority audit areas: Critical business processes are identified. The risks related to these processes are classified and rated. For each risk, accessibility to digital audit data, benefits and costs of continuous auditing are determined. The risk area of which the audit results have the highest contribution to the organization is selected.
2. Determining the rules and the continuous audit model: The rules are the guidelines of auditing. These rules will be programmed, repeated frequently and changed when necessary.
3. Determining the frequency of which the application is repeated: The frequency of which the continuous auditing application should run is predetermined. The objectives and the cost of the audit determine the frequency of the audit.
4. Setting the parameters: Parameters are adjusted to indicate anomalies in data. The initial parameters are corrected when necessary.
5. Determining actions taken after the audit: Actions need to be taken are determined if anomalies or error are detected in data during the audit.
6. Feedback: Who and how the audit results will be shared are planned.

15.6.2 Preparation to Develop Continuous Auditing Applications

Define the audit goals

An audit goal states the purpose of the audit. It is the explanation of why the continuous audit application is created. The purpose statement defines the general framework of the audit activity that will be performed.

Although the purpose statement is not a detailed list of things to be done, it should clearly indicate the goal to be achieved as a result of the audit. Examples of purpose statement are as follows:

- To assess the adequacy of internal controls of the procurement process at the headquarters and branches of the corporation

- To assess the compliance of the records related to fixed assets to accounting standards
- To determine that enterprise resource planning software users performed their tasks without exceeding the privileges assigned to them.

Audit objectives should be clearly defined before starting the analysis. This will ensure effective use of time and resources. Moreover, it will clarify which controls are assessed and which ones are beyond the scope of the audit.

Auditors should avoid the following mistakes when setting audit objectives (Mainardi 2011, pp. 69–69):

- Lack of communication: Auditors should have a good communication among themselves and with the employees. The scope of the audit and the reasons for the tests to be performed should be clearly stated so that the auditors may perform their tasks as a team with the support of the employees. Failure to explain the audit objectives well may cause insecurity among the employees toward the auditors.
- Inadequate explanation: The audit objectives should provide sufficient information as to why the continuous audit application is being developed. Enough details should be given so that a person who has no previous knowledge of the subject can understand the reasons for the audit.
- Inadequate link to corporate goals: Audit objectives should be linked to corporate goals. The role and the risks of the department, which will be audited, should be stated clearly.
- Setting the audit objectives that are impossible to realize: There is a belief that if the scope of audit is kept wide, the continuous audit application will be more successful. However, this approach makes the objective of the audit unattainable. If the objectives of continuous auditing are too many and involve many different operational processes, it becomes difficult to manage the application and report the results.

15.6.3 Getting the Support of the Management

Senior management should be informed of all stages of the audit, including data access, assessment methods, how and when reporting will be made. If this is not done, a reaction may occur against the continuous audit and may cause the audit activities to slow down. Auditors who participate in continuous auditing applications should have technical knowledge on computer systems and the related software. The audit data needs to be extracted from the corporation's enterprise resource planning system and analyzed by the audit software.

All the assessment and reporting activities are done digitally in continuous auditing. Therefore, auditors that work in such projects should be aware of the technological challenges and should improve their knowledge on information technologies (Mokhitli and Kyobe 2019).

15.6.4   Determining the Audit Software

In order to conduct continuous auditing, it is necessary to access, extract and analyze data electronically. The audit software should be selected according to the corporate data's format and quantity. Therefore, the selection of computer programs that will be used in the audit plays an important role.

15.6.5   Understanding the Business Processes

It is imperative to understand the business processes that will be audited. Globalization and the development of complex processes increase evaluation risks for auditors (Hunton and Rose 2010). It is not possible for an auditor who is not familiar with the corporation's processes to develop an application that will provide opinions on transactions and controls.

Information on the business processes can be attained by undertaking the following activities:

- Research should be made in the library and Internet on the main activities of the corporation. The audit will be done on a process, which is a part of the main activity.
- Documentation related to the previous audits may supply invaluable information on the objectives, scope, risks, controls, analyses and results.
- The business process should be observed by the auditor to get information about related activities from the employees who undertake them.
- It is helpful to graph the business process. All activities, risks and controls are shown graphically in detail.
- Information system of the corporation should be analyzed thoroughly because the records, which will be audited, are generated from this system.
- The whole business activity, including suppliers and customers, needs to be understood. This may give important information on inputs, outputs and processes.
- Auditors should be well informed of the related laws, regulations and policies.

15.6.6   Determining the Important Controls and Risks

The purpose of continuous auditing is to increase the effectiveness of controls and reduce risks. Therefore, it is necessary to identify important controls and risk categories to plan the audit. The auditors make a risk assessment of the corporation and decide which controls should be examined.

Auditors should first understand the internal structure of the organization in order to provide an opinion on the controls. The internal control structure can be analyzed in parallel with the report of the Committee of Sponsoring Organizations (COSO).

COSO states five components of the internal control structure: control environment, risk assessment, information and communication, control activities and monitoring. The adequacy of internal controls results from the evaluation of these five components. Auditors evaluate the effectiveness of internal control practices and processes by conducting tests. Analysis of the internal control system is necessary for the auditors to present their opinions on the internal control structure. The reliability of internal controls is also important for the reliability of the audit evidence collected. The content, timing and scope tests of the internal controls are carried out simultaneously with the tests performed on the transactions. The tests of controls begin by examining the controls determined by the management. Once the auditors decide that the controls of the management are appropriate and sufficient, they examine the internal controls related to the transactions.

Control and risk assessments are two intertwined activities. The result of one is the input of the other. An increase in risk may be due to control weaknesses. In this case, measures to eliminate control weaknesses are taken. Controls are evaluated according to risk levels. Therefore, measures should be taken according to risk levels.

Controls should ensure confidentiality, integrity, accessibility and reliability of information. Continuous control assessment is to conduct analyses by applying predesigned control tests on records in the digital environment. It measures the effectiveness of controls by performing tests to detect problems such as exceeding a limit or blank data fields.

Organizations are exposed to a wide range of risks. They need some methods to assess the damages that arise in the event of risks. This is the risk management process. Risk management is a management activity that evaluates the impact of uncertainties to the organization and determines the measures to be taken.

The importance given to risk management is different in every organization. While some organizations divide the risks into basic groups as low, medium and high, some organizations try to measure the cost of risks through more advanced analyses.

The risk management process is one of the two main components of the audit. The auditors have to assess the probability of the risks occurring and determine their costs to the organization. The activities of the audit department are risk-based. The auditors question the management's ability to identify and evaluate risks.

15.6.7 *Developing the Continuous Auditing Model*

15.7 Determining the Scope of the Analysis

The auditors need to determine how detailed the controls will be examined. The effectiveness of controls performed by the management and the areas of which the corporate governance focuses are taken into consideration in determining the extent of the audit. If the management is effective in control and risk assessment, the levels determined as a result of these activities may form the basis of the audit. However, if

management is not effective in this respect, auditors need to carry out a more detailed analysis to determine risk and control levels.

Determining the data sources

Corporate data is created as a result of business activities which often do not have any meaning by itself. When this data is analyzed and classified, making it meaningful and useful for the decision maker, it becomes information. Records in the corporate database include log information, record length, record type, by whom made these records are created and when, etc. as well as values related to the activities. The auditor determines how to use the data in the enterprise resource planning software and forms the audit model. He has to find out where he can extract the required data from the corporate database as well. The objectives of the audit will determine the data that will be needed.

In continuous auditing applications, information is not only in monetary terms. There may be financial, operational or compliance information on any corporate activity.

Determining the audit evidence

The auditor needs audit evidence to form his opinions. For each assessment he makes, he needs to work with a sufficient amount of audit evidence.

Continuous audit applications can only use digital data. This data has to be stored in databases where its integrity is well protected.

Timing of the audit

Audit applications test various arguments. For example, the auditors may assess whether certain issues have occurred, such as the existence of a particular asset or liability, the reliability of internal controls and compliance with related rules and regulations.

The related audit evidence is in electronic format for continuous audit applications. The timing of the audit should be in such a way that the continuous audit application could find the audit evidence. For instance, some electronic evidence may disappear or change after a certain period. Therefore, the timing of the audit should be planned before the audit evidence is lost.

Data access

Data access is a critical part of any audit. It is necessary to reach the audit evidence effectively. The fact that there are numerous data formats and data storage technologies results in the existence of various data access methods.

It is not enough to know the corporate information system in general terms to access the data. The auditor should know the modules of the source file, what information it contains, the metadata related to the file and how it can be accessed.

For continuous auditing, data should be accessed electronically. The access method is chosen depending on the purpose of the audit. However, the technical characteristics of the information system, such as the amount of data and data traffic between computers, should also be considered. Relevant data must be extracted from

the enterprise resource planning system to be processed by the continuous auditing application. The first step is to find out where that data is stored in the corporate database. The next step would be to determine the methods to access it.

If the auditor will analyze the corporate data in a software other than the enterprise resource planning software of the corporation, he must extract the data to the audit software. The files, which are extracted, may have different file types and formats. Errors may occur, especially when merging information from different databases. It is crucial to understand the technical structure of these files. These records should be combined in a common format.

Data analysis

The corporate data, which is extracted from the enterprise resource planning software, should be checked for data integrity before starting the analysis. The auditor must ensure data integrity of the audit evidence, which he will analyze and use to make assessments.

If an audit is performed without testing data integrity, the results may be incomplete or incorrect. The auditor should treat the data received with professional skepticism. Testing the integrity of the data will increase confidence in the accuracy of the analysis results.

After data integrity is achieved, digital analyses are performed on the data to achieve the audit objectives. Internal controls are analyzed by testing the controls of the enterprise resource planning software, and transactions are analyzed by substantive procedures (Raschke, Saiewitz, Kachroo and Lennard, 2018). Studies show that there are differences in the predictive ability and detection performance of digital tests (Kogan et al. 2014). No single test performs better on all aspects. It is desirable that multiple digital tests or statistical methods are applied onto the audit data instead of selecting only one of them to detect anomalies.

Evaluating results

When determining the timing and scope of continuous auditing tests, the objectives of continuous auditing, risk understanding of the organization and risk monitoring practices of the management should be taken into consideration. The risks are listed with respect to their importance. The continuous auditing applications are created starting from the highest risk areas.

Continuous auditing applications can be run in certain periods as well as in real time. The timing varies depending on the magnitude of the risk and the extent to which the management is performing the risk monitoring task. Problems are identified by examining the results of continuous auditing. Transactions that fail from control tests are proofs of control weaknesses.

It is normal to report many anomalies in transactions erroneously when the continuous audit is first established. Test parameters are corrected over time. Each process has different risks and exceptions. Exceptions are irregular or suspicious transactions identified by the continuous auditing model (Li et al. 2016). It is almost impossible to model a continuous audit application that takes into account all risks and exceptions.

Any exception does not indicate an error or fraud in the process. Trying to identify and implement all potential fraud factors into the original design, or subsequent redesign, of the rule set may result in complete failure (Gonzalez and Hoffman 2018). The audit model can be improved, and the application can function near perfect.

Reporting

There are two types of continuous auditing reporting: formal reporting and reporting exceptions. Official reporting is a full audit report structure that describes the activities of the continuous audit application in detail. The exception reporting resembles a working paper that summarizes continuous audit activities. The report type used in continuous auditing can be arranged as a mixture of these two report types.

15.8   Conclusion

Corporations are facing increasing rates of fraud. Corporate accountability, business competition and regulations put pressure on corporations to have more effective and efficient audits. Once a year, audits are insufficient to meet the present-day expectations.

These concerns led the way to the concept of continuous auditing. Continuous auditing is any method where auditing is done digitally by information systems in real time. The audit model is developed by iterating digital tests on the audit evidence. Results and feedback of these tests determine whether or not the model should be corrected. Most of the effort is put in developing the audit model. Once the model is functional, it can be run as many times as needed by the computer system.

The concept of continuous auditing is very new, and implementation methods are in the research stage. This audit method is not yet widely used and presents significant difficulties in implementation. With the continuation of research in this field and the development of information systems, the problems experienced in the implementation of continuous auditing practices will be eliminated and its use will increase.

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