Chapter 12

Assessing Control Risk and Reporting on Internal Controls

Concept Checks

P. 381

1. As illustrated by Figure 12-1, there are four phases in the process of understanding internal control and assessing control risk. In the first phase the auditor obtains an understanding of internal controls, which includes an understanding of their design and whether they have been implemented. Next the auditor must make a preliminary assessment of control risk (phase 2) and perform tests of controls (phase 3). The auditor uses the results of tests of controls to assess control risk and to ultimately decide planned detection risk and substantive tests for the audit of financial statements, which is phase 4.

2. The purpose of a control risk matrix is to assist the auditor in assessing control risk at the transaction level. The control risk matrix identifies existing controls and deficiencies for each audit objective in the transaction cycle, making it easier for the auditor to assess control risk for each transaction-related audit objective.

3. The four types of procedures used by auditors to test whether internal controls are operating effectively are (1) inquiring of appropriate personnel regarding the operation of controls; (2) examine documents and records when there is a trail of evidence that the control is/is not operating (e.g., a supervisor's signature on a time card); (3) observe control-related activities in process, preferably at various points throughout the year, and (4) reperform control activities performed by the client.

P. 386

1. The financial statement audit findings are relevant to the auditor's opinion on the effectiveness of internal controls over financial reporting because the auditor may or may not identify misstatements during the audit. If the auditor identifies material misstatements during the audit that were not prevented or detected by the client's internal controls, this would indicate a potential material weakness in internal controls. Any identified misstatements would indicate a potential control deficiency or significant deficiency.

Concept Check, P. 386 (continued)

2. Auditors are required to perform integrated audits, an audit of the financial statements coupled with an audit of internal control over financial reporting, on audit engagements of large publicly traded companies (accelerated filers). For integrated audits, the auditor issues an opinion on the effectiveness of internal control in addition to the opinion on the financial statements. As a result, the level of understanding and the extent of testing of internal controls need to be sufficient to express an opinion on the effectiveness of internal controls. For financial statement-only audits, the auditor does not issue an opinion on the effectiveness of internal controls, but rather the focus is on understanding controls that are relevant to the audit in order to identify and assess the risks of material misstatement.

■ Review Questions

12-1 The auditor's responsibility for obtaining an understanding of internal control for a large public company, when an opinion is issued on the effectiveness of internal controls, is significantly greater than the understanding necessary when the auditor is solely expressing an opinion on the financial statements. To express an opinion on internal controls for a large public company, the auditor obtains an understanding of controls for *all* significant account balances, classes of transactions, and disclosures and related assertions in the financial statements. In contrast, for an audit of a nonpublic company or a smaller public company, the auditor will obtain an understanding of internal controls that are relevant to the financial statement audit in order to assess the risks of material misstatement. Thus, the level of understanding of internal controls required for the audit of internal controls exceeds the level required for an audit of only the financial statements.

12-2 Maier is correct in her belief that internal controls frequently do not function in the manner they are supposed to. However, regardless of this, her approach ignores the value of beginning the understanding of internal control by preparing or reviewing a rough flowchart or other internal control descriptions. Obtaining an early understanding of the client's internal control will provide Maier with a basis for a decision about further audit procedures and sample sizes based on assessed control risk. By not obtaining an understanding of internal control until later in the engagement, Maier risks performing either too much or too little work, or emphasizing the wrong areas during her audit.

12-3 In a walkthrough of internal control, the auditor selects one or a few documents for the initiation of a transaction type and traces them through the entire accounting process. At each stage of processing, the auditor makes inquiries and observes current activities, in addition to examining completed documentation for the transaction or transactions selected. Thus, the auditor combines observation, inspection, and inquiry to conduct a walkthrough of

12-3 (continued)

internal control. PCAOB auditing standards require the auditor to perform at least one walkthrough for each major class of transactions.

12-4 For many control activities, documentation of their performance is more objectively evaluated in contrast to the evaluation of the control environment. Due to the nature of the subcomponents that constitute the control environment, such as integrity and ethical values and commitment to competence, the nature of evidence used to evaluate the control environment may differ somewhat from the nature of evidence used to evaluate control activities. While auditors examine similar types of evidence to assess both the control environment and control activities, they often perform more extensive inquires and observation to assess the design and implementation of control environment subcomponents, such as the entity's code of conduct and whistleblowing system, so they can evaluate whether employees understand those policies and procedures, and to gain a sense as to the overall ethical tone and perception of management's integrity. Because of the more judgmental nature of many of the control environment subcomponents, auditors often make numerous inquiries and perform extensive observation of client personnel in the performance of policies and procedures to evaluate those subcomponents of the control environment. While inquiry and observation may also be performed to evaluate control activities, auditors frequently inspect documentation that demonstrates a control activity was performed, such as examining signatures on documents or matching of documentation supporting a transaction, and they often reperform certain client performed procedures, such as the calculation of a transaction amount.

12-5 A significant deficiency exists if one or more control deficiencies exist that are less severe than a material weakness, but important enough to merit attention by those responsible for oversight of the company's financial reporting. A material weakness exists if a significant deficiency, by itself or in combination with other significant deficiencies, results in a reasonable possibility that internal control will not prevent or detect material financial statement misstatements. The presence of one significant deficiency that is not deemed to be a material weakness may not affect the auditor's report. In that instance, the auditor's report on internal control over financial reporting would contain an unqualified opinion. However, if the deficiency is deemed to be a material weakness, the auditor must express an adverse opinion on the effectiveness of internal control over financial reporting.

12-6 The extent of controls tested by auditors for an integrated audit of a large public company, in which the auditor will express an opinion on internal control, is significantly greater than the extent of testing solely to express an opinion on the financial statements. To express an opinion on internal controls for a large public company, the auditor obtains an understanding of and performs tests of controls for *all* significant account balances, classes of transactions, and disclosures and related assertions in the financial statements.

12-6 (continued)

In contrast, the extent of controls tested by an auditor of a nonpublic company or a smaller public company is dependent on the auditor's assessment of control risk. Whenever the auditor assesses control risk below maximum, the auditor must perform tests of controls to support that control risk assessment. The auditor *will not perform tests of controls* when the auditor assesses control risk at maximum. When control risk is assessed below the maximum, the auditor designs and performs a combination of tests of controls and substantive procedures. Thus, for a nonpublic company or smaller public company, the tests of controls vary based on the auditor's assessment of control risk.

12-7 Auditing standards indicate that reliance can be placed on controls that were tested in a prior year, except for controls that mitigate significant risks, which must be tested in the current year. Controls should be tested at least every three years, and whenever there is a significant change in the control. Continued reliance on the effectiveness of automated controls is appropriate if the auditor is satisfied that general controls over the computer applications are adequate to identify any changes to computerized processes. The ability to rely on prior year tests of automated controls is due to the systematic nature of IT-based procedures. That is, once an automated control is programmed to perform correctly, it should continue performing in that manner until the underlying software program is changed. In contrast, controls performed manually are generally tested each year because there is always a risk of human error occurring in the performance of a manual control.

12-8 When the auditor's risk assessment procedures identify significant risks, the auditor is required to test the operating effectiveness of controls that mitigate these risks in the current year audit, if the auditor plans to rely on those controls to support a control risk assessment below 100%. Thus, tests of controls are required in the current year audit for those controls the auditor plans to rely on to reduce control risk. The greater the risk, the more audit evidence the auditor should obtain that controls are operating effectively.

12-9 The fact that your client has outsourced the majority of its accounting information system to a third-party data center does not change your professional responsibilities. One of the principles underlying auditing standards requires the auditor to obtain an understanding of internal controls in all audits. Thus, the auditor would need to perform procedures to obtain information to provide an understanding of internal controls that may reside at the data center. The auditor would benefit greatly from a service auditor's report, if one is available. Because the client has outsourced a majority of the accounting information system, the auditor is likely to identify controls that may support lower assessments of control risk that must be tested. Either the auditors may decide to conduct their own testing of those controls or they may be able to obtain a service

12-9 (continued)

auditor's Report on Management's Description of a Service Organization's System and the Suitability of the Design and Operating Effectiveness of Controls (referred to as a Type 2 report).

12-10 The auditor uses the control risk assessments and the results of tests of controls to determine the appropriate level of detection risk and the nature and extent of substantive tests for the audit engagement. The auditor links the control risk assessments at the transaction level to the balance-related audit objectives for the accounts affected by the transaction cycles, and also to the presentation and disclosure audit objectives.

12-11 If the auditor assesses control risk as high for a transaction-related audit objective, then in order to maintain a desired level of audit risk, the auditor will need to set a lower level of detection risk. A lower level of detection risk in turn means more extensive substantive testing.

12-12 The auditor may issue an unqualified opinion on internal control over financial reporting when two conditions are present:

- there are no identified material weaknesses as of the balance sheet date; and
- there have been no restrictions on the scope of the auditor's work.

A scope limitation is the condition that would cause the auditor to express a *qualified opinion or a disclaimer of opinion* on internal control over financial reporting. This type of opinion is issued when the auditor is unable to determine if there are material weaknesses, due to a restriction on the scope of the audit of internal control over financial reporting or other circumstances where the auditor is unable to obtain sufficient appropriate evidence.

12-13 The most significant difference in the assessment of control risk for integrated audits versus financial statement-only audits is that control risk may be assessed at maximum for some or all audit objectives for nonpublic companies receiving a financial statement-only audit. Public companies, even relatively smaller ones, are expected to have effective internal controls for all significant transaction cycles and accounts. Thus, it is likely control risk will be set as low for public companies, whereas that is not necessarily the expectation for nonpublic companies.

12-14 "Auditing through the computer" represents an audit approach whereby the auditor tests the design and operating effectiveness of internal controls embedded in applications that are only available electronically to determine the extent to which the controls are effective and can be relied upon. In this case, the auditor can use the computer controls to reduce control risk. Three common approaches to assessing controls include the test data approach, parallel

12-14 (continued)

simulation or using embedded audit modules. Assessing controls embedded in computerized information can be challenging in complex systems and auditors often obtain assistance from information systems specialists. In addition, there is often no paper trail associated with controls embedded in information systems, which can make it difficult to test operating effectiveness. The benefit, however, is that once a computerized application control is determined to be operating effectively through one of the three approaches mentioned above, the auditor does not need to test a sample of transactions in order to rely on controls.

12-15 The test data approach involves processing the auditor's test data using the client's computer system and the client's application software program to determine whether the computer-performed controls correctly process the test data. Because the auditor designs the test data, the auditor is able to identify which test items should be accepted or rejected by the computer. When using this approach the auditor should assess the following:

- How effectively does the test data represent all relevant conditions that the auditor wants to test?
- How certain is the auditor that the application programs being tested by the auditor's test data are the same programs used by the client throughout the year to process actual transactions?
- How certain is the auditor that test data is effectively eliminated from the client's records once testing is completed?

Parallel simulation with audit software involves the auditor's use of an auditor-controlled software program to perform parallel operations to the client's software by using the same data files. Because the auditor's software is designed to parallel an operation performed by the client's software, this strategy is referred to as parallel simulation testing. Parallel simulation could be used in the audit of payroll by writing a program that calculates the accrued vacation pay liability for each employee using information contained in the employee master file. The total liability calculated by the auditor's software program would then be compared to the client's calculation to determine if the liability for accrued vacation pay is fairly stated at year-end.

■ Multiple Choice Questions From CPA Examinations

12-16 a. (3) b. (2) c. (4)

12-17 a. (2) b. (4) c. (4)

12-18 a. (3) b. (3) c. (3)

■ Multiple Choice Questions From Becker CPA Exam Review

12-19 a. (4) b. (1) c. (2)

■ Discussion Questions and Problems

12-20 1. a. Adequate segregation of duties and proper authorization of transactions and activities.
b. Recorded transactions exist.
c. An unauthorized or invalid time record turned in by an existing employee. The time record may be for an employee who formerly worked for the company or one who is temporarily laid off.
d. An employee could be claiming too many hours by having a friend punch him or her in early, or by making manual changes on time cards.
e. Check to see that all employees that are punched in one day are physically present.

2. a. Adequate documents and records.
b. Existing transactions are recorded.
c. A missing time record number never could be identified before preparation of payroll starts.
d. An employee would not be paid for a time period. (The employee is almost certain to bring this to management's attention.) The primary benefit of the control would be to prevent misstatements for a short period of time and to prevent employee dissatisfaction from failure to pay them.
e. Obtain a list of company employees and make sure that each one has received a paycheck for the time period in question.

3. a. Independent check on performance.
b. Recorded transactions are stated at the correct amounts.
c. Mechanical errors of adding up the number of hours, calculating the gross payroll incorrectly, or calculating withholding incorrectly.
d. Payroll checks incorrectly calculated could be paid to employees.
e. Recheck the amounts for gross payroll, withholding and net payroll.

12-20 (continued)

4. a. Adequate documents and records.
   b. Existing transactions are recorded.
   c. Preparation of a check for an inappropriate person, the distribution of that check to that person, and the recording of that check in the cash disbursements journal as a voided check.
   d. An employee who is supposed to void a check could record it as voided on the books and cash the check. At month-end the amount of the check could be covered by adjusting the bank reconciliation.
   e. Test month-end bank reconciliations in detail to determine that the account reconciles properly, that all supporting documents are proper, looking especially for a check that cleared and was supposed to be voided, and that no alterations have been made to the bank statement.

5. a. Proper authorization of transactions and activities.
   b. Recorded transactions exist and recorded transactions are stated at the correct amounts.
   c. Both errors and fraud are likely to be prevented if competent, trustworthy employees are hired. Hiring honest employees minimizes a likelihood of fraud. Hiring competent employees minimizes the likelihood of unintentional errors.
   d. Several types of intentional misstatements could occur if a dishonest person is hired. Similarly, several types of unintentional errors could occur if an incompetent person is hired.
   e. An examination of cancelled checks and supporting documents, including time records and personnel records, is a test of the possibility of fraud. A test of the calculation of payroll is a test for an unintentional error caused by employees who are not competent.

6. a. Proper authorization of transactions and activities.
   b. Recorded transactions exist.
   c. A paycheck cannot be processed for an invalid employee number.
   d. A fictitious payroll check could be processed for a fictitious employee if invalid employee numbers are included in the employee master file.
   e. Include test data transactions with invalid employee numbers to be inputted into the payroll accounting system and determine that all invalid transactions are automatically rejected by the software application.

12-20 (continued)

7. a. Adequate separation of duties.
   b. Recorded transactions exist.
   c. A fictitious payroll check that is originated by the person both preparing the payroll checks and distributing the payroll checks.
   d. If one person kept a record of time, prepared the payroll, and distributed the checks, that person could add a nonexistent employee to the payroll, process the information for the employee and deposit the funds electronically or by paycheck in his or her own bank account without detection.
   e. Perform a surprise payoff in which the auditor accounts for all paychecks and distributes them to the employees, who must provide identification in order to receive their checks or payroll direct deposit notifications.

8. a. Proper authorization of transactions and activities, and adequate documents and records.
   b. Recorded transactions exist.
   c. The preparation of an inappropriate payroll check for a former employee is prevented.
   d. A terminated employee could be continued on the payroll with someone else obtaining the paycheck.
   e. Perform a surprise payoff in which the auditor accounts for all paychecks and distributes them to the employees, who must provide identification to receive their checks or payroll direct deposit notifications.

9. a. Physical control over assets and records, and adequate segregation of duties.
   b. Recorded transactions exist.
   c. Checks prepared for nonexistent employees or employees on vacation, or absent for other reasons, are controlled and safeguarded.
   d. Checks could be lost that were intended for absent employees or a check could be taken by the person responsible for distributing the checks.
   e. Examine cancelled checks to make certain that each check is properly endorsed, supported by a time record, and the person to whom the check is made out is still working for the company.

12-20 (continued)

10. a. Proper authorization of transactions and activities and adequate separation of duties.
    b. Recorded transactions exist and recorded transactions are stated at the correct amounts.
    c. Preparation of a check for a fictitious employee or preparation of checks using an unapproved pay rate are prevented.
    d. A fictitious payroll check could be processed for a fictitious employee if those with record keeping responsibilities are allowed to enter new employee numbers into the master file. Also, paychecks to valid employees could be overstated if unauthorized personnel have the ability to make changes to the pay rates in the master files.
    e. Attempt to access the online payroll master file using a password that is not allowed access to that master file.

12-21 a. The size of a company has a significant effect on the nature of the controls likely to exist. A small company has difficulty establishing adequate separation of duties and justifying an internal audit staff. However, a major type of control available in a small company is the knowledge and concern of the top operating person, who is frequently an owner-manager. His or her ability to understand the entire operation of the company is potentially a significant compensating control. The owner-manager's interest in the organization and close relationship with the personnel enable him or her to evaluate the competence of the employees and the effectiveness of internal controls.

While some of the five control activities are unavailable in a small company, especially adequate segregation of duties, it is still possible for a small company to have proper authorization of transactions and activities, adequate documents and records, physical controls over assets and records, and, to a limited degree, independent checks on performance.

b. Phersen and Collier take opposite and extreme views as to the credence given to internal control in a small firm. Phersen seems to treat a small firm in the same manner as he would a large firm, which is inefficient. Because many types of controls are often lacking in a small firm, especially one that is a nonpublic company, assessed control risk should be increased and more extensive substantive tests must be used. Because assessed control risk is higher, less emphasis is needed to identify the internal controls.

Collier is not meeting the standards of the profession in that she completely ignores the possibility of a severe deficiency in the

12-21 (continued)

system. She must obtain an understanding of internal control to determine whether it is possible to conduct an audit at all. Auditing standards require, at a minimum, an understanding of internal control.

The auditor must understand the control environment and the flow of transactions. It is not necessary, however, for the auditor to prepare flowcharts or internal control questionnaires. The auditor of a nonpublic company is required to provide a written report about significant deficiencies or material weaknesses to those charged with governance, which may be common on many small audit clients.

c. Collier's approach is not acceptable when auditing either a public or nonpublic company. Collier must obtain an understanding of internal controls over financial reporting in all audits. When the auditor assesses control risk below the maximum, which is generally the case for public companies, the auditor must perform tests of controls to determine whether key controls over financial reporting are operating effectively. Those procedures must provide Collier a basis to express an opinion about internal controls over financial reporting for accelerated filer public companies.

d. While Pherson's approach includes procedures similar to those that would be performed to obtain an understanding of internal controls, if Pherson is auditing a public company, he may need to expand those procedures to ensure that enough information is obtained about the design and operation of internal controls over financial reporting. Furthermore, Pherson must perform tests of key controls over financial reporting to provide a basis for expressing an opinion on internal controls over financial reporting for accelerated filer public companies.

12-22 1. a.

- Supplying the receiving department with electronic access to the purchase order is regarded as a deficiency in that the department may be less careful in checking goods than they would be if they were working without a record of the quantities that should be received.
- The failure to have the storekeeper receipt for the materials when they are sent to him or her from the receiving department or to tie in the items placed in storage with the acquisition constitutes a deficiency in control in that responsibility for shortages cannot be conclusively placed on either receiving or stores.

12-22 (continued)

The receiving department might, in collusion with a vendor, report receipts of materials that were never received. Also, either the receiving department or the stores department might fraudulently convert some of the materials and because of the lack of a record of responsibility, the company would be unable to determine which department was responsible.

b.
- The first deficiency increases the likelihood of obsolete inventory and the possibility of theft of shipments larger than the amount ordered. It also increases the likelihood of inaccurate counts of inventory actually received and recorded.
- The failure to isolate responsibility for shortages also increases the likelihood of obsolescence in that employees are likely to be less concerned when they are not held accountable. Because the company cannot isolate responsibility, it might also encourage receiving or stores to take goods.

c. Use a “blind” copy of the purchase order or a separate receiving report without a copy of the purchase order. Use perpetual inventory records to hold the storekeeper accountable. The storekeeper should also initial the receiving report or purchase order when he or she receives the goods.

2. a.
- The payroll checks should not be returned to the computer department supervisor but should be distributed by persons independent of those having a part in generating the payroll data.
- There is a lack of internal verification of the hours, rates, extensions, or employees by above.

b.
- Padding of payroll with fictitious names and extracting the checks made out to such names when they are returned after they have been signed.
- There may be misstatements in hours, rates, extensions, and the existence of nonworking employees.

c.
- Have the checks handed out by an independent person and not returned to Strode.
- Internal verification of that information by Webber or someone else.

12-22 (continued)

3. a. The bank statement and cancelled checks should not be reconciled by the manager, but should be sent by the bank directly to the home office, where the reconciliations should be made against the manager's report of cash disbursements.

   b. The manager may draw checks to herself or others for personal purposes and omit them from her list of cash disbursements or inflate other reported disbursement amounts.

   c. Have all bank statements sent directly to the home office and have Cooper report directly to the home office by use of a list of cash disbursements and all supporting documentation.

12-23 1. No testing is required in the December 31, 2016, audit because the auditor has determined that the automated control has not been changed since the prior year. The auditor obtains reasonable assurance that the automated control has not been changed due to the effective controls over IT security and software program changes. Thus, the auditor should consider the extent of testing of IT security and software changes that might be necessary in the current year audit due to the auditor's reliance on them to prevent changes to the underlying automated reconciliation control.

2. Testing is required in the December 31, 2016, audit because the underlying control is performed by a person and is not automated. Because the control is manually performed, there is a risk that the operation of the control may not be consistent with the design or the control may not have been performed. Thus, the auditor should test the control's operating effectiveness in the current year's audit.

3. Testing is required in the December 31, 2016, audit because the control is designed to mitigate a significant risk. Controls that mitigate significant risks must be tested each year.

4. Testing is required in the December 31, 2016, audit because the client made changes to the software system during the current year.

5. No testing is required in the December 31, 2016, audit because the auditor has determined that the automated controls have not been changed since the prior year. The auditor obtains reasonable assurance that the automated controls have not been changed due to the effective controls over IT security and software program changes. Thus, the auditor should consider the

12-23 (continued)

extent of testing of IT security and software changes that might be necessary in the current year audit due to the auditor's reliance on them to prevent changes to the underlying automated purchase controls.

12-24 The following are deficiencies of internal control, by transaction-related audit objective.

Occurrence

- The receiving report is not sent to the stores department. A copy of the receiving report should be sent from the receiving room directly to the stores department with the materials received. The stores department, after verifying the accuracy of the receiving report, should indicate approval on that copy and send it to the accounts payable department. The copy sent to accounts payable will serve as proof that the materials ordered were received by the company and are in the user department.
- The controller should not be responsible for cash disbursements. The cash disbursement function should be the responsibility of the treasurer, not the controller, so as to provide proper segregation of duties between the custody of assets and the recording of transactions.
- The purchase requisition is not approved. The purchase requisition should be approved by a responsible person in the stores department. The approval should be indicated on the purchase requisition after the approver is satisfied that it was properly prepared based on a need to replace stores or the proper request from a user department.
- Preliminary review should be made before preparing purchase orders. Prior to preparation of the purchase order, the purchase office should review the company's need for the specific materials requisitioned and approve the request.

Completeness

- Purchase orders and purchase requisitions should not be combined and filed with the unmatched purchase requisitions, in the stores department. A separate file should be maintained for the combined and matched documents. The unmatched purchase requisitions file can serve as a control over merchandise requisitioned but not yet ordered.
- There is no indication of control over vouchers in the accounts payable department. A record of all vouchers submitted to the cashier should be maintained in the accounts payable department, and a copy of the vouchers should be filed in an alphabetical vendor reference file.

12-24 (continued)

- There is no indication of any control over prenumbered documents. All prenumbered documents should be accounted for.

Accuracy

- Purchase requisitions and purchase orders are not compared in the stores department. Although purchase orders are attached to purchase requisitions in the stores department, there is no indication that any comparison is made of the two documents.

  Prior to attaching the purchase order to the purchase requisition, the requisitioner's functions should include a check that:

  a. Prices are reasonable;
  b. The quality of the materials ordered is acceptable;
  c. Delivery dates are in accordance with company needs;
  d. All pertinent data on the purchase order and purchase requisition (e.g., quantities, specifications, delivery dates, etc.) are in agreement.

  Because the requisitioner will be charged for the materials ordered, the requisitioner is the logical person to perform these steps.
- The purchase office does not review the invoice prior to processing approval. The purchase office should review the vendor's invoice for overall accuracy and completeness, verifying quantity, prices, specifications, terms, dates, etc., and if the invoice is in agreement with the purchase order, receiving report, and purchase requisition, the purchase office should clearly indicate on the invoice that it is approved for payment processing. The approved invoice should be sent to the accounts payable department.
- The copy of the purchase order sent to the receiving room generally should not show quantities ordered, thus forcing the department to count goods received. In addition to counting the merchandise received from the vendor, the receiving department personnel should examine the condition and quality of the merchandise upon receipt.
- There is no indication of control over dollar amounts on vouchers. Accounts payable personnel should prepare and maintain control information on the dollar amounts of vouchers. Such information should be sent to departments posting transactions to the general ledger and master files.

  Note: Classification, timing, and posting and summarization are not applicable. Recording in journals is not included in the flowcharts.

12-25 Following are the appropriate reporting formats for the six independent situations:

INDEPENDENT SITUATION	APPROPRIATE AUDIT REPORT	REASON FOR REPORT
1.	Adverse	The presence of a material misstatement not detected by the company's internal controls is considered at least a significant deficiency, if not a material weakness, for purposes of reporting on internal controls.
2.	Qualified or disclaimer	The auditor's inability to obtain any evidence about the operating effectiveness of internal controls represents a scope limitation.
3.	Adverse	The auditor considers the combination of the several significant deficiencies to be a material weakness requiring an adverse opinion.
4.	Adverse	The detection of a deficiency that will not prevent or detect a material misstatement in the financial statements meets the definition of a material weakness, which requires an adverse opinion.
5.	Unqualified	The control deficiency was remediated and the auditor was able to obtain sufficient appropriate evidence that the new control operates effectively. Thus, an unqualified opinion on internal control is appropriate.
6.	Unqualified	Because the auditor does not believe the significant deficiency in internal control is a material weakness, the auditor's report would contain an unqualified opinion.

12-26 a. The important controls and related sales transaction-related audit objectives are:

CONTROL	SALES TRANSACTION-RELATED AUDIT OBJECTIVE
1. Use of prenumbered sales orders	■ Existing sales transactions are recorded
2. Segregated approval of sales by credit department; customer purchase orders are attached to sales orders; approval is noted on form	■ Recorded sales are for shipments made to existing customers
3. Segregated entry of approved sales orders	■ Recorded sales are for shipments made to existing customers ■ Recorded sales are posted to correct customer account
Prices are entered using an approved price list	■ Recorded sales are at the correct price
Sales invoices are prepared from the data file created from sales order entry; hash totals are generated and used; sales invoices are prenumbered; control totals are reconciled by an independent person	■ Recorded sales are for shipments made to existing customers ■ Existing sales transactions are recorded ■ Recorded sales are at the correct amount ■ Sales transactions are properly included in the master files
4. & 5. Bills of lading are produced with sales invoices and eventually filed with the sales invoice in numerical order; differences in quantities are corrected and transaction amounts are adjusted	■ Existing sales transactions are recorded ■ Recorded sales are for the correct quantity of goods shipped
6. Hash totals of daily processing matched to hash and control totals generated by independent person	■ Existing sales transactions are recorded. ■ Recorded transactions are for shipments made to existing customers

12-26 (continued)

b. Among the audit procedures to be applied to a sample of the invoices and source documents are the following:

1. Account for the sequence of prenumbered sales order forms.
2. Review the sales order forms for agreement with purchase orders from customers.
3. Determine that evidence of approval by the credit department appears on all sales order forms.
4. Account for the sequence of prenumbered sales invoices.
5. Ascertain that bills of lading have been prepared for all invoices and are in agreement therewith.
6. Determine that the price list used by the billing clerk has been properly authorized. Trace prices on the list to invoices, and test the extensions and additions on the invoices.
7. Ascertain that the sales invoices are in agreement with the data on the sales order forms.

Among the audit procedures to be applied to the data file are the following:

1. Verify the company's predetermined "hash" totals and control amounts by computing similar totals on selected batches of invoices and items from the data file.
2. Compare totals and see that they reconcile.
3. Arrange for a tabulating run to be made of selected test transactions. Compare the items in this printout with the totals previously compiled from the test transactions.

12-27 a. The use in grocery stores of bar code scanning technologies impacts a number of financial statement accounts for a grocery. The bar code scanner is used to retrieve unit prices for each product scanned, which is then used to calculate the amount to be posted to the Revenue, Sales Tax Payable, and Cash accounts (and any overnight Receivable accounts related to sales paid by debit and or credit cards that may not be processed until the next business day). Sometimes bar scanning technologies are used to process coupons and other discounts, which would be recorded in the Sales Discount account. Similarly, when goods are returned by customers to the store, the bar scanning technology is used to process amounts recorded in the Sales Returns account and related credit to the Cash account. In addition to recording the transaction amounts paid by the customer, the bar scanning technologies are also used to update perpetual inventory records for cost amounts, which impacts the Inventory and Cost of Goods Sold accounts.

12-27 (continued)

b.

Risks Inherent to Sales Processing	Accounts Affected	How Bar Scanning Technologies Help Reduce Risk
Wrong unit price is used to process sale	Revenues Cash	The system automatically retrieves the unit retail price from the approved price list master file.
Calculation of amounts due from customer for all items purchased is inaccurate	Revenues Cash Sales Taxes Payable	The system extends price times quantity and adds each extended amount to calculate the total sales price, including sales taxes due from customer.
Reduction in inventory accounts for items sold is inaccurate	Inventory Cost of Goods Sold	The system tracks the number of units removed by product number, which is used to update perpetual inventory records.
Not all inventory items taken by customer are included in the processing of the customer's purchase amount	Revenues Cash Inventory Cost of Goods Sold	As the system reads each bar code, it generates a sound to indicate to the cashier and customer that each product scanned has been captured by the system.
Coupons and discounts are incorrectly calculated	Sales Discounts Cash	The system retrieves coupon and discount information from the master file of promotions and discounts and automatically calculates discount amounts.

c. Below are examples of how the auditor might test the operating effectiveness of the bar code scanner technology:

1. The auditor could select a number of different products and use the bar scanning technology to process the sales amounts for comparison to the auditor's separate calculation of transaction amounts based on items processed. The auditor could perform the same kind of test using coupons and other discount programs.
2. The auditor may be able to use audit software to test the accuracy of individual customer transactions and to test the summation of all customer transactions processed by a cash register machine by day and by store.
3. The auditor may be able to use audit software to test the accuracy of the postings of daily totals to the client's general ledger system.

12-27 (continued)

4. The auditor may use audit software to review all unit prices in the price list master file to identify unusual price amounts for further investigation (e.g., negative prices, large unit prices, etc.).
5. The auditor may be able to use audit software to identify the most recent date of the most recent date of sale by product number to identify those products that have not been sold to customers for an extended period of time to identify potentially obsolete inventory still on hand.

12-28 a. The nature of generalized audit software is to provide computer programs that can process a variety of file media and record formats to perform a number of functions using computer technology.

There are several types of generalized audit software packages. Usually, generalized audit software is a purchased audit software program that is Windows-based and easily operated on the auditor's desktop or laptop computer. Other generalized audit software exists that contain programs that create or generate other programs, programs that modify themselves to perform requested functions, or skeletal frameworks of programs that must be completed by the user.

A package can be used to perform or verify mathematical calculations; to include, exclude, or summarize items having specified characteristics; to provide subtotals and final totals; to compute, select, and evaluate statistical samples for audit tests; to print results or sequences that will facilitate an audit step; to compare, merge, or match the contents of two or more files; and to produce machine-readable files in a format specified by the auditor.

b. Ways in which a generalized audit software package can be used to assist in the audit of inventory of Boos & Baumkirchner, Inc., include the following:

1. Compare data on the CPA's set of preprinted inventory count cards to data on the electronic inventory master file and list all differences. This will assure that the set of count cards furnished to the CPA is complete.
2. Determine which items and parts are to be test-counted by selecting a random sample from the audit deck of count cards or the electronic inventory master file. Exclude from the population items with a high unit cost or total value that have already been selected for test counting.
3. Access the client's electronic inventory master file and list all items or parts for which the date of last sale or usage indicates a lack of recent transactions. This list provides data for determining possible obsolescence.

12-28 (continued)

4. Access the client's electronic inventory master file and list all items or parts of which the quantity on hand seems excessive in relation to quantity used or sold during the year. This list provides data for determining overstocked or slow-moving items or parts.
5. Access the client's electronic inventory master file and list all items or parts where the quantity on hand seems excessive in relation to economic order quantity. This list should be reviewed for possible slow-moving or obsolete items.
6. Enter the audit test-count quantities onto the cards. Match these cards against the client's adjusted electronic inventory master file, comparing the quantities on the cards to the quantities on the electronic file and list any differences. This will indicate whether the client's year-end inventory counts and the master file are substantially in agreement.
7. Use the adjusted electronic inventory master file and independently extend and total the year-end inventory and print the grand total on an output report. When compared to the balance determined by the client, this will verify the calculations performed by the client.
8. Use the client's electronic inventory master file and list all items with a significant cost per unit. The list should show cost per unit and both major and secondary vendor codes. This list can be used to verify the cost per unit.
9. Use the costs per unit on the client's electronic inventory master file, and extend and total the dollar value of the counts on the audit test count cards. When compared to the total dollar value of the inventory, this will permit evaluation of audit coverage.

12-29

INTERNAL CONTROL	a. TYPE OF CONTROL	b. TRANSACTION-RELATED AUDIT OBJECTIVE	c. OPPORTUNITY TO RELY ON PRIOR YEAR TESTING
1	AC	Recorded payroll transactions exist for valid employees	Yes
2	AC	Recorded payroll transactions exist (i.e., are for currently employed personnel)	Yes
3	AC	Recorded payroll transactions are classified into the correct accounts	Yes
4	AC	Recorded payroll transactions are at the correct amounts	Yes
5	AC	Recorded payroll transactions are summarized and posted to the correct general ledger account at the correct amounts	Yes
6	MC	Recorded payroll transactions exist; existing payroll transactions are recorded	No, since manual control
7	AC	Recorded payroll transactions exist (i.e., are for time actually worked)	Yes
8	MC	Recorded payroll transactions exist (i.e., are for time actually worked)	No, since manual control
9	MC	Recorded payroll transactions are at the correct amounts	No, since manual control
10	AC	Recorded payroll transactions exist (i.e., for valid work performed); recorded payroll transactions are at the correct amounts	Yes

12-30 a. The following deficiencies in the Parts for Wheels, Inc., online sales system may lead to material misstatements:

1. *Lack of Sales System Interface*. The lack of automatic interface between the online sales ordering system and the sales accounting system may increase the risk of material misstatements for sales.

12-30 (continued)

Sales orders printed from the online system may be lost and not recorded, or they may be recorded more than once if not properly controlled. Additionally, because each sale must be manually entered, there is increased risk that sales may be processed or recorded inaccurately.

2. *Lack of Inventory System Interface*. The lack of automatic interface between the online sales ordering system and the inventory management system may increase the risk that processed sales may not be properly reflected in the inventory accounting records. With manual processing, there may be some risk that shipments occurred without completion of a proper bill of lading, which is required to adjust inventory records. As a result, shipments will not be accurately deducted from inventory records. Also, if bills of lading are not properly numbered and accounted for, there is a possibility that completed bills of lading are not entered or are entered more than once. Furthermore, the manual process of recording inventory transactions increases the risk of inaccurate posting of bills of lading into the inventory records.
3. *Manual Credit Approval*. The process of verifying credit authorization with the credit card agency is dependent on human processing. The lack of automatic electronic credit authorization may increase the risk of sales to unauthorized customers. This may lead to an increased risk of collection problems from credit card receivables.
4. *Premature Recording*. Currently, sales are entered into the sales journal on the date credit is authorized, which is often the date the order is placed. This may result in premature recording of sales, given that sales are recorded before shipment has occurred. As a result, sales may be recorded in accounting periods different from when inventory records are updated for the shipment. Cutoff problems may occur.
5. *Inadequate Tracking of Returns*. If systems for tracking and estimating online sales returns are inadequate, Parts for Wheels, Inc., may understate estimates of customer returns, including estimated costs for refunding shipping costs. This could result in overstated net sales and understated shipping costs.

b. Below are suggested changes that could be made to the existing manual system to enhance internal control, without re-designing the online system:

12-30 (continued)

1. When the accounting department prints submitted orders from the online system, each order should be numbered sequentially with the range of used numbers logged daily. When the sales orders are recorded, the order number should be recorded.
2. Prenumbered bills of lading should be used. All bills of lading should be accompanied by the sales order used by warehouse personnel to process shipment. All bills of lading should be forwarded to accounting on the date of shipment.
3. Accounting should match the bills of lading with the accounting department's copy of the sales orders before any entries are recorded in the sales journal and inventory system. Entries to the sales journal and inventory records should be made on the same day to ensure consistent cutoff of the recording of transactions.

c. For the deficiencies identified in part a, the auditors would be most concerned about the following transaction-related and balance-related audit objectives:

1. *Lack of Sales System Interface*. Auditors would be concerned about occurrence, completeness, accuracy, and timing of sales as well as occurrence, completeness, accuracy, and cutoff of accounts receivable.
2. *Lack of Inventory System Interface*. Auditors would be concerned about occurrence, completeness, accuracy, and timing of cost of goods sold as well as occurrence, completeness, accuracy, and cutoff of inventory.
3. *Manual Credit Approval*. Auditors would be most concerned with realizable value of credit card receivables.
4. *Premature recognition*. Auditors would be most concerned with timing of sales recognition and cutoff of accounts receivable.
5. *Inadequate Tracking of Returns*. The auditor would be concerned about completeness of sales returns (occurrence of sales) and shipping costs.

d. Auditors could use generalized audit software in several ways. First, they could use audit software to match orders made through the online sales order system to sales recorded manually by comparing the records. Any unmatched orders or sales could be identified for follow-up. Second, the generalized audit software could be used to compare the date of the shipment according to the bill of lading to the date the sale is recorded to identify sales recorded prematurely at year-end.

12-30 (continued)

Audit software could also be used to compare updates to the inventory system with the sales recorded to ensure all sales are recorded in the inventory system as well. Each of the procedures using generalized audit software would be made even easier by the changes recommended in part b. above.

12-31 a. When an organization outsources its information technology functions to a third party, there are several inherent risks that arise. For First Community Bank, management is totally reliant on Technology Solutions' internal controls designed to protect IT hardware, operations, software, and data maintained at the data center. In essence, the design and operation of most of the IT general controls necessary to reduce IT related risks to acceptable levels are under direct control of Technology Solutions. Thus, the bank's management is reliant on Technology Solutions' implementation of effective IT-related general controls.

Because First Community must transmit transaction related data between the bank and the Technology Solutions data center, there is a risk that data may be lost, corrupted, or stolen during the communication transfer process. Also, like First Community, other organizations that use Technology Solutions to manage IT have access to servers located at Technology Solutions. There is some risk that other customers of Technology Solution might negatively affect IT operations of First Community.

b. As noted in the answer to part a., the outsourcing of the IT function to Technology Solutions means that most of the IT general controls are now under the direct supervision of management at Technology Solutions. While management at First Community continues to be responsible for the design and operation of internal controls, including those related to IT, they are now dependent on Technology Solutions' design and operation of effective IT controls, especially those related to IT general controls.

c. The use of Technology Solutions is likely to have a significant effect on the audit of the financial statements of First Community Bank. Because the bank has outsourced all of the bank's financial reporting applications to Technology Solutions, most of the IT-related controls and underlying applications and data files now reside at Technology Solutions. The auditors for First Community will need to understand all IT related operations, including those at Technology Solutions, so that they can understand internal control, assess the risks of material misstatements, and perform appropriate tests of controls and substantive tests. Most likely the auditors of First Community will seek a service auditor's Type 2 report on controls that have been implemented and tested for operating effectiveness.

12-32 a.
1. Automated control embedded in computer software
2. Manual control whose effectiveness is based significantly on IT-generated information
3. Automated control embedded in computer software
4. Manual control whose effectiveness is based significantly on IT-generated information
5. Manual control whose effectiveness is not significantly reliant on IT-generated information

b.
1. The extent of testing of this control could be significantly reduced in subsequent years if effective controls over program and master file changes are in place. Such controls would increase the likelihood that the inventory software program that contains the automated control and the related inventory master file are not subject to an unauthorized change. If the auditor determines that no changes have been made to the automated control, the auditor can rely on prior year audit tests of the controls as long as the control is tested at least once every third year audit. If the control mitigates a significant risk, the control must be tested in the current year's audit.
2. The extent of testing of this control could be moderately reduced in subsequent years if effective controls over program and master file changes are in place. Such controls would increase the likelihood that the printout of prices accurately reflects actual prices used by the system to record inventory transactions. Adequate controls over the master file decrease the likelihood that prices approved by the sales and purchasing department managers have been changed without authorization. However, because this control is also dependent on manager review of computer generated output, some testing may be required each year, although the amount of testing may be reduced by effective general controls.
3. The extent of testing of this control could be significantly reduced in subsequent years if effective controls over program and master file changes are in place. Such controls would increase the likelihood that the inventory software program that processes the automatic purchase order and the related inventory master file of product numbers are not subject to an unauthorized change.

12-32 (continued)

4. The extent of testing of this control could be moderately reduced in subsequent years if effective controls over program changes are in place. Such controls would increase the likelihood that the purchasing system software program that identifies purchases exceeding $10,000 per vendor functions accurately. However, because this control is also dependent on manager review of the computer generated exception listing, some testing may be required each year.

5. Because this control is not dependent on technology processes, the strength of general controls over program and master file changes is not likely to have an impact on the extent of testing of this review by the sales department manager.

12-33 Note: The PCAOB reorganized their auditing standards effective December 31, 2016. Auditing Standard No. 5 is identified in the reorganized standards as AS 2201.

a. Paragraph .01 of AS 2201 notes that the integrated audit standard applies when an auditor is engaged to perform an audit of internal control over financial reporting that is integrated with an audit of the financial statements. Large public companies (accelerated filers) are required by Section 404(b) of the Sarbanes-Oxley Act to engage an independent auditor to perform an audit of management's assessment of the effectiveness of internal control over financial reporting.

b. According to paragraph .07 of the standard, the auditor's objective in an audit of internal control over financial reporting is to express an opinion on the effectiveness of internal controls over financial reporting as of year-end. The objective of a financial statement audit is to express an opinion on whether the financial statements are fairly stated in accordance with accounting standards. In an integrated audit, the auditor should gather sufficient evidence related to internal controls to support their opinion on the effectiveness of internal controls over financial reporting and also to support the assessment of control risk that is relevant to the financial statement audit.

c. As discussed in paragraphs .10 through .12 of AS 2201, risk assessment related to the audit of internal control over financial reporting, similar to risk assessment related to the financial statement audit, involves identifying significant accounts and disclosures and the related assertions and audit objectives. In an audit of internal control over financial reporting, the auditor is concerned about the risk a material weakness exists, and that assessed risk in turn affects the level of substantive testing to be performed.

12-33 (continued)

d. Paragraph .39 notes that the auditor should test those controls that are important to the auditor's conclusion about whether the company's controls sufficiently address the assessed risk of misstatement to each relevant assertion. The auditor uses a top-down, risk-based approach to selecting which controls to test. The top-down approach means the auditor will focus first on entity-level controls and then work their way down to significant accounts and then relevant assertions and audit objectives. Both quantitative and qualitative factors are important in identifying significant accounts and relevant assertions.

e. If the auditor identifies a material misstatement during the financial statement audit that was not prevented or detected by the client's internal controls over financial reporting, this suggests the existence of a material weakness. If the auditor identifies misstatements below materiality, then a control deficiency, a significant deficiency, or possibly even a material weakness is implied.

12-34 1. Students should have located the Form 10-K for Bob Evans Farms, Inc., for the year ended April 25, 2014. Instructors may want to encourage students to use the EDGAR Full-Text Search option to identify the company's filings more efficiently.

2. Management's Annual Report on Internal Control Over Financial Reporting provides the following answers to the questions in a. through f.:

a. Management is responsible for establishing and maintaining adequate internal control over financial reporting.

b. Management's report addresses internal control over financial reporting.

c. Management conducted its assessment of the effectiveness of internal control over financial reporting based on criteria established in the COSO *Internal Control – Integrated Framework*.

d. Management concluded that its internal control over financial reporting was not effective due to the existence of material weaknesses as described in e. below.

e. Management arrived at its conclusion that internal control over financial reporting is not effective due to material weaknesses related to current and deferred income tax accounting and property, plant, and equipment accounting.

f. Management does not disclose any changes in their report, but discloses additional information in Item 9A of the form

12-34 (continued)

10-K. Management discloses that they have taken actions to remediate both material weaknesses; however, they did not have sufficient time to test the effectiveness of the controls prior to the balance sheet date and thus continue to disclose the material weaknesses as of that date.

3. The report of the independent registered public accounting firm notes the firm audited internal control over financial reporting in accordance with the standards of the PCAOB. The auditor's report also discusses the material weaknesses identified in management's report and concludes internal controls over financial reporting are not effective as of the balance sheet date. The report also references the associated audit report on the financial statements.

■ **Case**

12-35 1. Strengths in lines of reporting from IT to senior management at Jacobsons:

- Melinda Cullen (IT Manager) and the chief operating officer (COO) work closely on identifying hardware and software needs.
- Melinda's boss, the COO, has access to the board of directors and provides periodic updates about IT issues, if needed.

Deficiencies in lines of reporting from IT to senior management:

- The chief IT person (Melinda) is relegated to a manager level and is not considered a part of the senior executive team. This signals a potential lack of adequate support extended by top management to the IT function.
- The IT Manager reports to a key user, the COO. The COO may place undue pressure on IT to work on IT related projects that affect the COO's areas of responsibility. Thus, other areas, such as those under the chief financial officer's control (e.g., the accounting system), may not receive adequate IT resources.
- Melinda and the COO make all major hardware and software decisions without input from other user personnel and the board of directors.
- There does not appear to be a written IT strategic plan that sets direction for the IT function.

Recommendations related to the lines of reporting from IT to senior management:

12-35 (continued)

- The IT Manager should report directly to the president and be considered a part of senior management (e.g., on equal footing relative to the COO, CFO, etc.).
- The board of directors should receive regular input from the IT Manager about the status of IT projects.
- A written strategic plan should be developed and reviewed annually by the board.
- Significant hardware and software changes should be approved by the board or its IT Steering Committee. Other changes to application software should also be approved by affected user departments.

2. Assessment of Melinda's fulfillment of IT Manager responsibilities, including her strengths:

   - Melinda is actively involved in the IT function and closely monitors day-to-day IT activities.
   - Melinda is experienced in Jacobson's IT function, having been employed by the company for 12 years. She has served in several IT roles at Jacobsons. Thus, she offers stability for the IT function.
   - Melinda performs extensive background checks before offering candidates employment in IT functions.
   - Melinda has successfully maintained a fairly stable IT staff.
   - Melinda conducts weekly IT departmental meetings to discuss issues affecting the performance of the department.
   - Apparently the IT department is functioning well, given that few IT-related problems must be reported by the COO to the board.

   Concerns about current management of the IT function:

   - Melinda may be over-delegating tasks to IT personnel without maintaining close accountability for employee actions. For example, programmers are given extensive leeway in programming changes to software and operators check each other's work to ensure that Melinda's job schedule was properly followed.
   - Melinda spends too much of her time in the systems analyst role, which leaves little time for her to adequately monitor all IT tasks.

   Recommendations for change related to the management of the IT department:

   - Consider assigning systems analyst responsibilities to a senior programmer.

12-35 (continued)

- Establish standardized programming procedures and have Melinda review changed programs for compliance with those procedures.
- Melinda should reconcile the Job Processed Log to the job schedule developed by her.Melinda should assign or at least approve the assignment of programmer staff responsibilities.

3. Assessment of the strengths of the programming function at Jacobsons:

   - The programming staff is experienced with both systems software and Jacobsons' application software.
   - The assignment of projects based on time availability of programmers ensures that each programmer stays familiar with all types of software in use at Jacobsons.
   - Programmers regularly attend continued professional education courses.
   - Extensive logs of tape use and of changes made to programs are maintained.

   Concerns about the programming function:

   - Programmers work with both systems and application software program changes. Thus, a programmer is more likely to be able to implement an unauthorized change to an application program that also requires an unauthorized change to systems software.
   - Programmers are responsible for maintaining secondary storage of live programs and data files. Thus, programmers are able to make unauthorized changes to live production copies of programs and data files.

   Recommendations for change related to the programming function at Jacobsons:

   - Divide programmers into systems programmers and application programmers. Only assign system software changes to systems programmers and application software changes to application programmers.
   - Reassign responsibility for maintaining secondary storage to either the computer operators or to data control personnel.

4. Assessment of the strengths of the IT operations function at Jacobsons:

   - Melinda prepares a job schedule which operators follow to process transactions. Day-shift operators reconcile Job

12-35 (continued)

Processed Logs generated during the night shift to the job schedule, and night shift operators do the same type of reconciliation for jobs processed during the day.

- Operators perform routine monthly backup procedures.
- Input batch controls are generated to verify the accuracy and completeness of processing.

Concerns about the IS operations function:

- Backup procedures only occur monthly, which increases the risk of data loss.
- No one, other than operators, verifies that only jobs included on the job schedule are processed. Melinda depends totally on the completeness of the operators' identification of exceptions noted by operators.
- Jobs Processed Logs are generally discarded, unless the output does not reconcile to the job schedule.
- Operators have the authority to make small changes to application programs.
- Comparison of batch input control totals to computer processing is not performed by someone independent of the operator responsible for the processing.

Recommendations for change related to the management of the IS operations function:

- Update key data files and program tapes on a more periodic basis (perhaps daily). Store backup copies offsite.
- Prohibit operators from performing any programming tasks. Restrict access to program files to a READ/USE only capability.

5. Assessment of the strengths of the IT data control function at Jacobsons:

- Data control personnel review exception listings and submit requests for correction on a timely basis.
- Data control clerks monitor the distribution of output.

Concerns about the IT data control function:

- Data control personnel have the authority to approve changes to master files. Thus, they could add a fictitious employee to the employee master file to generate a payroll check for a non-existent employee.

Recommendations for change related to the management of the IT data control function:

- Restrict data control personnel from being able to authorize changes to master files. Only allow the respective user

12-35 (continued)

department to authorize changes to master files. Data control clerks should be held accountable for only inputting user department authorized changes to master files.

6. Users should be responsible for approving changes to master files. They should actively compare authorized input to output to ensure the accuracy, completeness, and authorization of output. Users should also be an active participant in the program systems development process. They should participate in program development design, testing, and implementation. In addition, users should have a voice in establishing the job schedule, given that users understand their processing needs best.

12-36 ACL Problem

a. There are 5,298 records in the "Purchase_orders" dataset, with a total dollar value for the purchase order amount column of $62,047,339.67. *(Use the Total command under the Analyze for the Purchase Order Amount column).*

b. Below is the ACL output from the Stratify command for the Purchase Order Amount column. The first strata with purchase order amounts ranging from $100 to $10,089.99 accounts for the largest number of purchase transactions at 3,783 transactions.

Command: STRATIFY ON po_amount SUBTOTAL po_amount MINIMUM 100 MAXIMUM 100000 INTERVALS 10 TO SCREEN

Table: Purchase_orders

Minimum encountered was 100.32
Maximum encountered was 273,698.86

Purchase Order Amount	Count	Percent of Count	Percent of Field	Purchase Order Amount
100.00 - 10,089.99	3,783	71.4%	17.66%	10,959,684.20
10,090.00 - 20,079.99	655	12.36%	15.15%	9,399,478.68
20,080.00 - 30,069.99	282	5.32%	11.14%	6,913,537.96
30,070.00 - 40,059.99	182	3.44%	10.19%	6,320,381.51
40,060.00 - 50,049.99	106	2%	7.64%	4,741,547.94
50,050.00 - 60,039.99	87	1.64%	7.57%	4,695,597.55
60,040.00 - 70,029.99	56	1.06%	5.82%	3,608,147.20
70,030.00 - 80,019.99	38	0.72%	4.6%	2,854,213.35
80,020.00 - 90,009.99	17	0.32%	2.31%	1,435,789.51
90,010.00 - 100,000.00	26	0.49%	3.98%	2,469,222.55
>100,000.00	66	1.25%	13.94%	8,649,739.22
Totals	5,298	100%	100%	62,047,339.67

12-36 (continued)

c. Highlighting the Purchase Order Number column and using the "Gaps" command under Analyze, there are 343 gap ranges detected in the "Purchase_orders" dataset. In addition, it appears based on scanning the purchase order numbers and purchase dates, the purchase orders appear to be used out of order. This suggests poor internal controls over purchasing activity. The auditor would want to know why there are 343 purchase orders missing, and whether they were used but not recorded. If they were used but not recorded, the auditor would be concerned about a potentially material understatement of purchases. It is possible the purchase orders are canceled if an employee makes an error while filling one out; however, it would be important for the client to keep track of any voided purchase orders so they can ensure purchases are complete. Using the "Duplicates" command under Analyze, there are no duplicate purchase orders identified in the dataset. If there had been duplicates, the auditor would be concerned about an overstatement of purchases if they were being recorded more than once.

d. Highlighting the "Requisition Number" column, and using the "Summarize" command, there are 3,097 purchase transactions (out of the 5,298 total transactions) that do not have a requisition. The total dollar value of purchases without requisitions is $35,228,641.28, which represents 57% of the total dollar amount of purchases. It would be important for the auditor to understand the client's policy related to purchases, and when a requisition is required. Internal control over purchasing would be strengthened if the client required a purchase requisition for all purchase transactions, or an indication of why that policy may be violated (e.g., if a purchase needs to be expedited and no one is available to approve a requisition). The concern when there is no requisition is that the purchase may not have been approved, or may not be for a legitimate business purpose.

e. Use the "Classify" command to classify by vendor number with a subtotal for purchase amount and save the output to "file." That indicates there are 2,823 unique vendor numbers. Performing a "Quick Sort" of the percent of field column (in descending order) in the file created by the Classify command shows there are no vendors that account for more than 5% of purchases. The maximum percent of total purchases is 1.1% for vendor number VN-0010390476508.

12-36 (continued)

f. Below is the output from filtering on purchases greater than $100,000. There are a total of 66 purchase transactions greater than $100,000. Not all output columns are included below.

po_number	po_date	vendor_number	po_amount	created_on
028493214615	1/19/2014	VN-0010090307334	115183.06	1/19/2014
028493215666	3/26/2014	VN-0010000259877	109933.27	3/26/2014
028493215782	4/5/2014	VN-0010340106140	149638.15	4/5/2014
028493215789	4/1/2014	VN-0010230187330	127375.73	4/1/2014
028493215811	4/7/2014	VN-0010000394772	108840.26	4/7/2014
028493215837	4/5/2014	VN-0010090260265	105883.12	4/5/2014
028493215843	4/6/2014	VN-0010260172176	128973.34	4/6/2014
028493215844	4/7/2014	VN-0010070247341	101968.05	4/7/2014
028493215924	4/14/2014	VN-0010000024372	111524.37	4/14/2014
028493215931	4/9/2014	VN-0010000271470	109810.9	4/9/2014
028493216120	4/20/2014	VN-0010000110409	114456.03	4/20/2014
028493216185	4/26/2014	VN-0010000433003	137635.35	4/26/2014
028493216189	4/26/2014	VN-0010260179830	115138.1	4/26/2014
028493216213	4/28/2014	VN-0010000195648	165841.62	4/28/2014
028493216220	4/30/2014	VN-0010000245035	227778.89	4/30/2014
028493216221	4/27/2014	VN-0010390088981	150800.65	4/27/2014
028493216250	5/3/2014	VN-0010000147105	102095.08	5/3/2014
028493216432	5/12/2014	VN-0010090203173	126002.08	5/12/2014
028493216438	5/7/2014	VN-0010450022589	115068.47	5/7/2014
028493216439	5/10/2014	VN-0010390190953	140503.18	5/10/2014
028493216467	5/12/2014	VN-0010450113576	132830.82	5/12/2014
028493216559	5/18/2014	VN-0010000256594	106881.05	5/18/2014
028493216591	5/20/2014	VN-0010090193739	138132.97	5/20/2014
028493216596	5/18/2014	VN-0010160206123	102713.45	5/18/2014
028493216597	5/18/2014	VN-0010000269163	104790.21	5/18/2014
028493216619	5/19/2014	VN-0010070241895	108725.19	5/19/2014
028493216718	5/26/2014	VN-0010210023460	106386.5	5/26/2014
028493216747	5/26/2014	VN-0010410272994	125765.85	5/26/2014
028493216752	5/27/2014	VN-0010480512685	152527.65	5/27/2014
028493216753	5/25/2014	VN-0010070502023	148475.86	5/25/2014
028493216914	5/31/2014	VN-0010000268675	155921.72	5/31/2014
028493216922	6/4/2014	VN-0010250311629	117570.63	6/4/2014
028493217004	6/7/2014	VN-0010070108651	103041.69	6/7/2014
028493217009	6/4/2014	VN-0010200427270	108830.02	6/4/2014
028493217050	6/8/2014	VN-0010090260265	135321.12	6/8/2014
028493217057	6/8/2014	VN-0010480078505	117350.22	6/8/2014

12-36 (continued)

028493217135	6/15/2014	VN-0010000267717	200945.74	6/15/2014
028493217142	6/14/2014	VN-0010330031684	199494.08	6/14/2014
028493217274	6/21/2014	VN-0010070241895	110073.07	6/21/2014
028493217278	6/18/2014	VN-0010000259361	117540.23	6/18/2014
028493217392	6/28/2014	VN-0010000087814	111687.45	6/28/2014
028493217398	6/24/2014	VN-0010000102912	101973.45	6/24/2014
028493217423	6/29/2014	VN-0010000147105	108972.1	6/29/2014
028493217431	7/1/2014	VN-0010100020125	107515.38	7/1/2014
028493217544	7/2/2014	VN-0010450319216	139761.96	7/2/2014
028493217715	7/12/2014	VN-0010000281402	164763.19	7/12/2014
028493217722	7/14/2014	VN-0010160228550	122279.13	7/14/2014
028493217723	7/12/2014	VN-0010070052167	127611.4	7/12/2014
028493217815	7/21/2014	VN-0010000108791	143510.51	7/21/2014
028493217822	7/21/2014	VN-0010460029032	141854.71	7/21/2014
028493217823	7/20/2014	VN-0010070059858	102233.56	7/20/2014
028493217938	7/22/2014	VN-0010000273841	115415.65	7/22/2014
028493218094	8/3/2014	VN-0010270141534	127599.74	8/3/2014
028493218180	8/9/2014	VN-0010000430933	101012.03	8/9/2014
028493218187	8/9/2014	VN-0010000282973	149550.22	8/9/2014
028493218224	8/13/2014	VN-0010000270884	148361.72	8/13/2014
028493218231	8/11/2014	VN-0010070344773	104780.65	8/11/2014
028493218275	8/16/2014	VN-0010090168632	118950.76	8/16/2014
028493218346	8/16/2014	VN-0010380323702	273698.86	8/16/2014
028493218353	8/19/2014	VN-0010290049720	143706.72	8/19/2014
028493218354	8/17/2014	VN-0010000268420	132859.03	8/17/2014
028493218453	8/24/2014	VN-0010000233061	119706.99	8/24/2014
028493218549	9/1/2014	VN-0010070241895	142498.05	9/1/2014
028493218555	9/1/2014	VN-0010000249805	182623.85	9/1/2014
028493218556	9/2/2014	VN-0010150116435	145616.81	9/2/2014
028493218579	9/2/2014	VN-0010000207185	113427.53	9/2/2014

■ **Integrated Case Application**

12-37 (see text Web site for Excel solution - Filename **P1237.xls**)

PINNACLE MANUFACTURING—PART IV

Following are control risk matrices and related notes that are used to direct a discussion of the requirements of the case. It should be understood that judgment is a critical element in this case, and accordingly, there often is no single right answer.

Computer-prepared matrices using Excel (**P1237.xls**) are contained on the text web site. They are essentially the same as the matrices on the next two pages.

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12-37 (continued)

PINNACLE MANUFACTURING - Part IV
Control Risk Matrix – Acquisitions

Transaction-Related Audit Objective / Internal Controls	Recorded acquisitions are for goods and services received (occurrence).	Existing acquisition trans-actions are recorded (completeness).	Recorded acquisition transactions are stated at the correct amounts (accuracy).	Recorded acquisition transactions are properly included in the master files, and are properly summarized (posting and summarization).	Acquisition transactions are properly classified (classifica-tion).	Acquisition transactions are recorded on the correct dates (timing).
1. Required use of PO and receiving report with check of completeness	C					
2. Proper approval	C		C			
3. Segregation of functions	C					
4. Cancellation of documents	C					
5. Prenumbering of documents with accounting for sequence		C				
6. Internal verification of documents/records	C		C	C	C	C
7. Use of chart of accounts					C	
8. Procedures requiring prompt processing						C
9. Monthly reconciliation of A/P master file with general ledger				C		
Assessed control risk	Low	Low	Low	Low	Low	Low

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12-37 (continued)

PINNACLE MANUFACTURING - Part IV
Control Matrix - Cash Disbursements

Transaction-Related Audit Objectives / Internal Controls	Recorded cash disbursements are for goods and services actually received (occurrence).	Existing cash disbursement transactions are recorded (completeness).	Recorded cash disbursement transactions are stated at the correct amounts (accuracy).	Recorded cash disbursement transactions are properly included in the master file and are properly summarized (posting and summarization).	Cash disbursement transactions are properly classified (classification).	Cash disbursement transactions are recorded on the correct dates (timing).
1. Segregation of functions	C					
2. Review of support, signing of checks by authorized person	C					
3. Prenumbered checks; accounted for		C				
4. Use of chart of accounts					C	
5. Procedures for prompt recording						C
6. Monthly reconciliation of A/P master file with G/L				C		
Deficiencies						
1. Lack of an independent bank reconciliation (Done by Treasurer)		D	D			
2. Lack of internal verification of documentation package by cash disbursements clerk.	D		D		D	
3. Lack of internal verification of key entry into cash disbursements file.	D	D	D			
Assessed control risk	Medium	Medium	High	Low	Low	Low

12-37 (continued)

Notes to 12-37, Part IV

1. The purpose of Part IV is to have the students:
   (a) develop specific transaction-related audit objectives for a cycle,
   (b) obtain controls from a flowchart description,
   (c) relate controls to objectives,
   (d) evaluate a set of controls as a system.

2. Control is quite good for acquisitions. If misstatements in acquisitions occur, they will result from the incorrect application of controls, not their absence. This demonstrates the inherent deficiencies in any control system. It explains the reasons why some misstatements were found last year. However, they were not material. It also indicates the need for tests of controls and substantive tests of details of balances and/or transactions. Controls for cash disbursements are not nearly as good, given the three deficiencies. This provides an opportunity to discuss both fraud and errors. Given the deficiencies, there is potential for fraud in cash.

3. It is appropriate to use the matrices to consider whether all controls shown are important to both the client and to the auditor. Is it necessary to have all controls (e.g., prenumbering of requisitions)? Are the controls costly (e.g., internal verification of *all* acquisitions)? Should all controls be tested (e.g., cancellation of documents)?