

Chapter 15

The Human Resources Management and Payroll Cycle

Learning Objectives

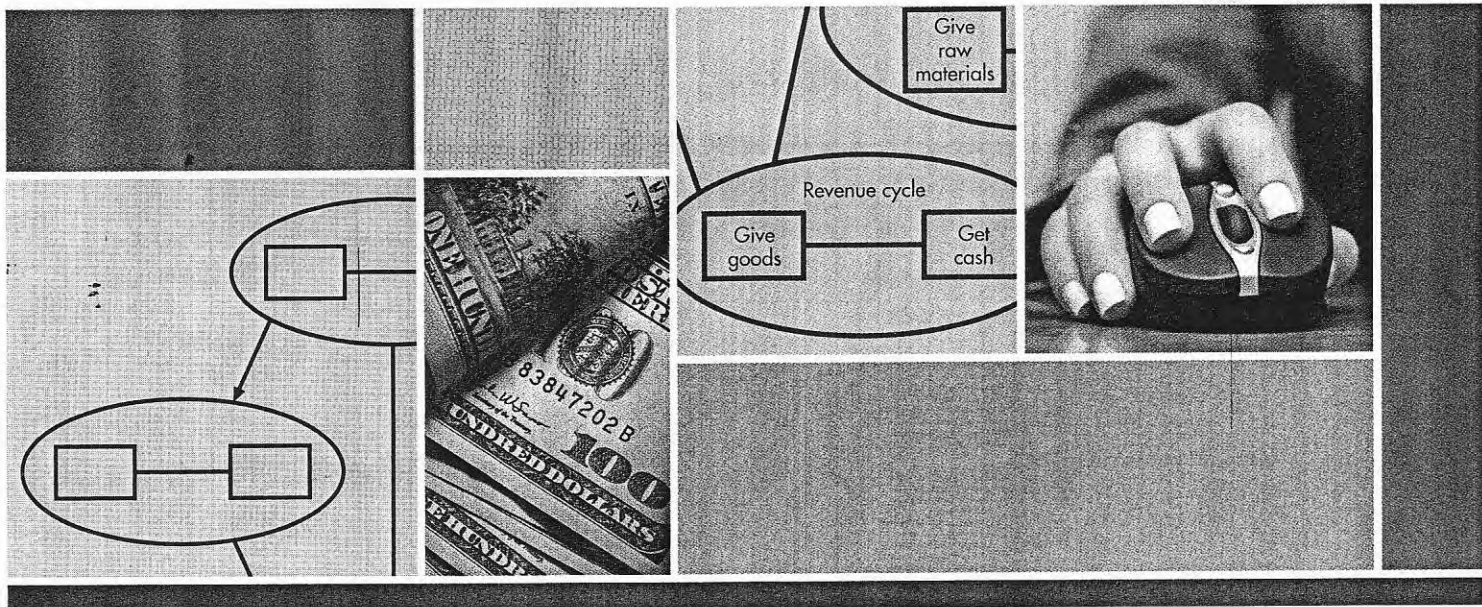
After studying this chapter, you should be able to:

1. Describe the major business activities and related information processing operations performed in the human resources management (HRM)/payroll cycle.
2. Discuss the key decisions to be made in the HRM/payroll cycle and identify the information needed to make those decisions.
3. Identify the major threats in the HRM/payroll cycle and evaluate the adequacy of various internal control procedures for dealing with them.

INTEGRATIVE CASE ALPHA OMEGA ELECTRONICS

Like many companies, AOE did not fully implement all modules of its new enterprise resource planning (ERP) system at the same time. It focused first on integrating the revenue and expenditure cycles with the production cycle while continuing to use its existing payroll and HRM systems. Thus, like many companies, AOE currently has separate HRM and payroll systems. The payroll system, which is under the accounting department's control, produces employee paychecks and maintains the related records as required by government regulations. The payroll system uses batch processing: Hourly employees are paid biweekly; salaried employees and those on commission are paid monthly. The HRM system, which the human resources department runs, maintains files on employee job history, skills, and benefits; these files are updated weekly. Each system maintains its own separate files, sometimes storing the same data, such as pay rates, in different formats. This practice makes it difficult for accounting personnel to prepare reports that combine HRM and payroll data.

Peter Wu, the new vice president for human resources at AOE, wants to address several problems with AOE's payroll and HRM activities. Payroll processing costs have



risen, and employees are unhappy with the lengthy delays required to obtain information about their benefits and retirement plans. In addition, the current HRM system makes it difficult to accurately track employee skill development, which impedes evaluating the effectiveness of AOE's investment in training and continuing education. Consequently, employees find it difficult and time-consuming to obtain approval to attend professional training classes. In addition, managers have tended to hire externally to meet new staffing needs, rather than promoting or transferring existing employees. These practices have hurt employee morale. Peter thinks that implementing the payroll and HRM modules of the ERP system will solve these problems.

Peter meets with Elizabeth Venko and Ann Brandt to discuss the process of migrating from AOE's current stand-alone payroll and HRM systems to integration of those functions in the new ERP system. Elizabeth and Ann agree that such a conversion would improve both the efficiency of payroll processing and the effectiveness of HR management. They begin developing a detailed timetable for the system conversions. As you read this chapter, think about the relationships between HRM and payroll activities and how an integrated database can make both functions more efficient and effective.

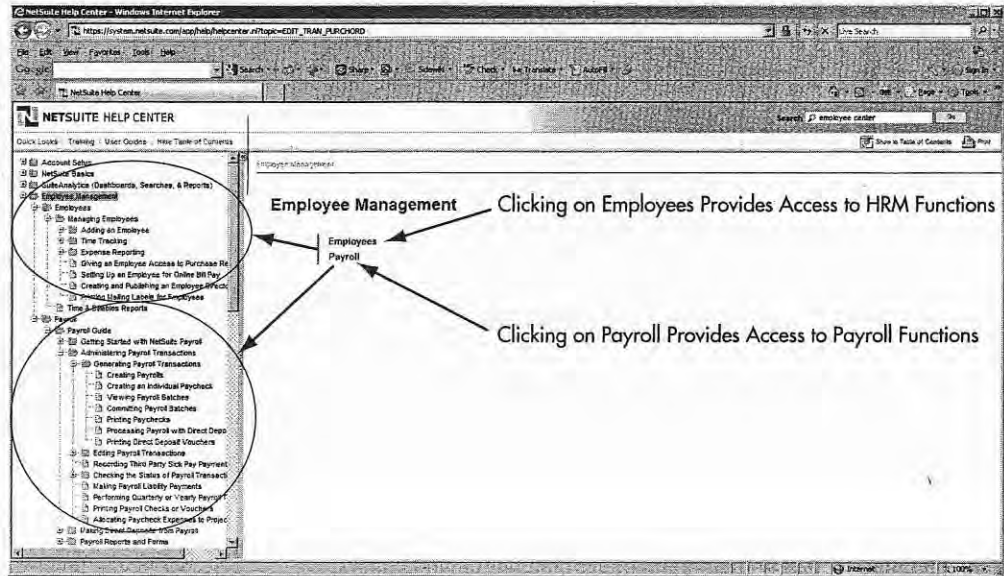
Introduction

The *human resources management (HRM)/payroll cycle* is a recurring set of business activities and related data processing operations associated with effectively managing the employee workforce. The more important tasks include the following:

1. Recruiting and hiring new employees
2. Training
3. Job assignment
4. Compensation (payroll)
5. Performance evaluation.
6. Discharge of employees due to voluntary or involuntary termination

Tasks 1 and 6 are performed only once for each employee, whereas tasks 2 through 5 are performed repeatedly for as long as an employee works for the company. In most companies, these six activities are split between two separate systems. Task 4, compensating employees, is the

FIGURE 15-1
Integration of HRM and
Payroll Functions in
Typical ERP System



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payroll system's primary function. (In addition, as discussed in Chapter 14, the payroll system also allocates labor costs to products and departments for use in product pricing and mix decisions.) The HRM system performs the other five tasks. In many companies, these two systems are organizationally separate: The HRM system is usually the responsibility of the director of human resources, whereas the controller manages the payroll system. However, as Figure 15-1 shows, ERP systems integrate the two sets of activities.

This chapter focuses primarily on the payroll system, because accountants have traditionally been responsible for this function. We begin by describing the design of the integrated HRM/payroll system and discuss the basic controls necessary to ensure that it provides management with reliable information and complies with government regulations. We then describe in detail each of the basic payroll cycle activities. We conclude with a discussion of options for outsourcing both payroll and HRM functions.

HRM/Payroll Cycle Information System

Figure 15-2 depicts the portion of an ERP system that supports the HRM/payroll cycle. The HRM-related activities (information about hiring, firing, transfers, training, etc.) and the collection of information about the use of employee time occur daily. The actual processing of payroll, however, occurs only periodically because in most organizations employees are paid on a weekly, biweekly, or monthly basis rather than every day. Thus, payroll is one application that continues to be processed in batch mode.

Overview of HRM Process and Information Needs

Organizational success depends on skilled and motivated employees because their knowledge and skills affect the quality of the goods and services provided to customers. Indeed, in professional service organizations, such as accounting and law firms, employees' knowledge and skills are the principal component of the company's product, and labor costs represent the major expense incurred in generating revenues. Even in manufacturing firms, where direct labor costs represent only a fraction of total direct costs, employees are a key cost driver in that the quality of their work affects both overall productivity and product defect rates. Thus, it is not surprising to find that some stock analysts believe that employee skills and knowledge may be worth several times the value of a company's tangible assets such as inventory, property, and equipment.

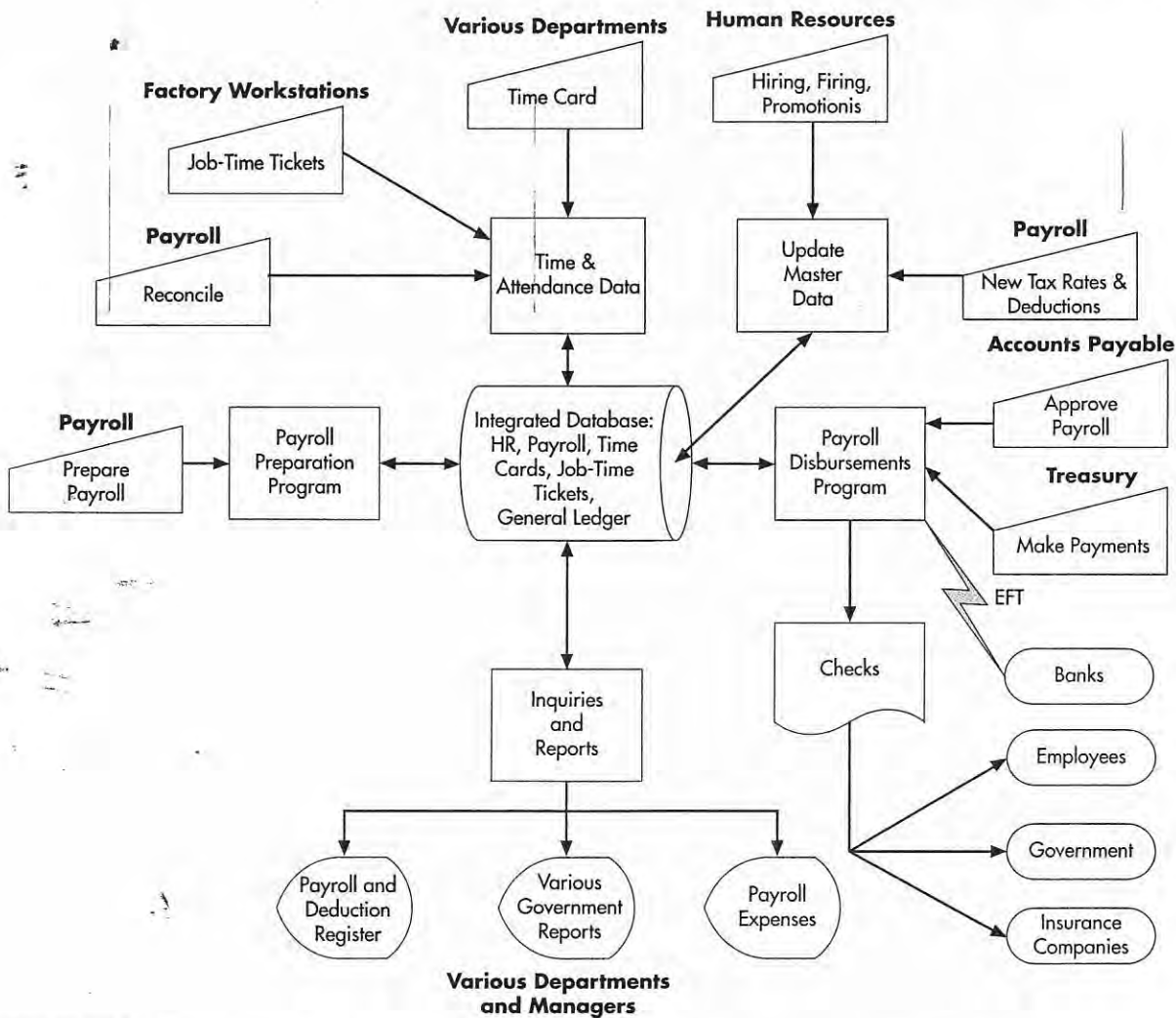


FIGURE 15-2
Portion of ERP System That Supports Human Resources Management and Payroll

To effectively utilize the organization's employees, the HRM/payroll system must collect and store the information managers need to answer the following kinds of questions:

- How many employees does the organization need to accomplish its strategic plans?
- Which employees possess specific skills?
- Which skills are in short supply? Which skills are in oversupply?
- How effective are current training programs in maintaining and improving employee skill levels?
- Is overall performance improving or declining?
- Are there problems with turnover, tardiness, or absenteeism?

The HRM/payroll master database (Figure 15-2) provides some of the information needed to answer those questions. However, it typically contains only descriptive information, such as which employees possess which skills and who has attended various training programs. Although such information enables managers to make staffing-related decisions, it does not help leverage the specific knowledge and expertise possessed by its employees.

To more effectively use employees' knowledge and skills, many organizations have invested in knowledge management systems. *Knowledge management systems* not only serve as a directory identifying the areas of expertise possessed by individual employees, but also capture and

store that knowledge so that it can be shared and used by others. Knowledge management systems can significantly improve productivity. For example, professional consulting firms often provide similar services to many different clients. Knowledge management software enables consultants to store their solutions to specific problems in a shared database. Oftentimes, those solutions can be used as a template to address the needs of other clients. Such reuse of knowledge saves time on future engagements. Access to the shared database also enables employees to learn from geographically dispersed colleagues who have had prior experience in addressing a particular issue.

Recognizing the value of employees' knowledge and skills can help companies better understand the true costs associated with excessive turnover. In addition to the direct expenses associated with the hiring process (advertising, background checks, interviewing candidates, etc.), there are also the costs associated with hiring temporary help, training new employees, and the reduced productivity of new employees until they fully learn how to perform their tasks. Thus, estimates place the total costs to replace an employee at about 1.5 times the annual salary. Consequently, organizations that experience below-industry-average turnover rates reap considerable cost savings compared to rivals with higher turnover rates. For example, consider two companies, each with 1,500 employees earning on average \$40,000. One company experiences 20% annual turnover, the other only 5%. The company with 20% annual turnover would incur costs of \$18 million (300 employees times \$60,000) to replace employees, compared to only \$4.5 million for the company experiencing only 5% annual turnover. Of course, some turnover will always occur and may even be desirable. For example, professional consulting organizations have traditionally encouraged some level of turnover because they believe it provides an important source of new ideas. The key is to control and manage turnover rates so that they are not excessive.

Employee morale is also important. Low employee morale creates financial costs when it results in turnover. Conversely, there is increasing evidence that high employee morale provides financial benefits. For example, Sears collected detailed data on employee satisfaction, actual behavior, and customer satisfaction. Statistical analysis revealed that employee attitudes about their jobs and the company significantly predicted how they behaved with customers, which in turn affected customer satisfaction as measured by repeat sales. Sears' results are not isolated; research has found a positive correlation between employee attitudes and financial performance, particularly in highly competitive industries¹. Thus, it is not surprising that many companies are monitoring employee attitudes. Focus 15-1 describes some of the methods companies use to better understand employees' job-related concerns and how they use that information to improve working conditions and morale.

Threats and Controls

Figure 15-2 shows that all HRM/payroll cycle activities depend on the integrated database that contains information about employees, payroll, and use of employee time. Therefore, the first general threat listed in Table 15-1 is inaccurate or invalid master data. Inaccurate employee master data could result in over- or understaffing. It can also create inefficiencies due to assigning employees to perform tasks for which they are not fully qualified. Inaccurate payroll master data that results in errors in paying employees can create significant morale issues. In addition, the organization may incur fines for errors made in paying payroll taxes. Errors in data about use of employee time can result in inaccurate performance evaluations and mistakes in calculating the costs of the organization's products and services.

One way to mitigate the threat of inaccurate or invalid master data is to use the various processing integrity controls discussed in Chapter 10 to minimize the risk of data input errors. It is also important to restrict access to that data and configure the system so that only authorized employees can make changes to master data. This requires changing the default configurations of employee roles in ERP systems to appropriately segregate incompatible duties. For example, consider the situation where a payroll clerk types in the name of an employee who is not currently in the database. The default configurations of most integrated ERP systems would respond by asking

¹Alex Edmans, "Does the Stock Market Fully Value Intangibles? Employee Satisfaction and Equity Prices," (June 2010), SSRN.com/abstract=985735; Rajiv D. Banker and Raj Mashruwala, "The Moderating Role of Competition in the Relationship between Nonfinancial Measures and Future Financial Performance," *Contemporary Accounting Research* (24:3, Fall 2007): pp. 763–793.


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15-1

The Value of Understanding Employee Jobs and Attitudes

A growing number of companies, including Walt Disney, Continental Airlines, Sysco, and Amazon.com, periodically require some of their upper-level executives to spend time in the trenches to better understand job duties and pressures. The experience can help executives identify needed changes in working conditions. For example, when the CEO of Loews Hotels assumed the roles of bellman, pool attendant, and housekeeper at a Florida hotel, he found that the company's polyester uniform caused him to sweat profusely. He immediately ordered that the style and material be altered for all employees. Immersion experiences also enable top executives to better empathize with rank-and-file workers. For example, after the vice president of DaVita Inc., a major provider of dialysis treatment, spent three days working in one of the company's clinics, she understood how physically demanding and stressful the work is. She also personally experienced how the need to respond to life-threatening emergencies can result in delays in completing corporate-mandated reports. As a result of these experiences, the vice president now strives to ensure that new initiatives and changes in procedures are implemented in a manner that does not interfere with clinic technicians' primary patient care responsibilities.

Executive immersion experiences are important because there is a growing body of evidence that employees who have positive attitudes contribute to improved profitability by being more willing to take initiative, to step in when needed to help fulfill customer requests, and to promote the company when not at work. Thus, it is not surprising to find that many companies regularly survey employees to learn about their concerns. These new surveys replace traditional questions about job satisfaction with ones specially designed to better reveal employees' true attitudes about their job, coworkers, and managers. The answers can help managers take specific steps to improve employee morale and motivation. For example, such surveys informed the manager of a fast food franchise in Houston that some employees were unhappy because they were assigned too few hours to work but that others were unhappy because they had to work too many hours. The manager now makes a point to review work schedules for the following month early enough to accommodate employees' desires as much as possible. As with executive immersion experience, follow-through on such survey data is critical because if companies do not act on feedback obtained from employees by these methods, employee morale and performance drop sharply.

TABLE 15-1 Threats and Controls in the Payroll/HRM Cycle

Activity	Threat	Controls (first number refers to the corresponding threat)
General issues throughout entire HRM/payroll cycle	1. Inaccurate or invalid master data	1.1 Data processing integrity controls
	2. Unauthorized disclosure of sensitive information	1.2 Restriction of access to master data
		1.3 Review of all changes to master data
	3. Loss or destruction of data	2.1 Access controls
	4. Hiring unqualified or larcenous employees	2.2 Encryption
	5. Violations of employment laws	3.1 Backup and disaster recovery procedures
		4.1 Sound hiring procedures, including verification of job applicants' credentials, skills, references, and employment history
		4.2 Criminal background investigation checks of all applicants for finance-related positions
		5.1 Thorough documentation of hiring, performance evaluation, and dismissal procedures
		5.2 Continuing education on changes in employment laws
Update payroll master data	6. Unauthorized changes to payroll master data	6.1 Segregation of duties: HRM department updates master data, but only payroll department issues paychecks
	7. Inaccurate updating of payroll master data	6.2 Access controls
Validate time and attendance data	8. Inaccurate time and attendance data	7.1 Data processing integrity controls
		7.2 Regular review of all changes to master payroll data
		8.1 Source data automation for data capture
		8.2 Biometric authentication
		8.3 Segregation of duties (reconciliation of job-time tickets to time cards)
		8.4 Supervisory review

(Continued)

TABLE 15-1 (Continued)

Activity	Threat	Controls (first number refers to the corresponding threat)
Prepare payroll	9. Errors in processing payroll	9.1 Data processing integrity controls: batch totals, cross-footing of the payroll register, use of a payroll clearing account and a zero-balance check 9.2 Supervisory review of payroll register and other reports 9.3 Issuing earnings statements to employees 9.4 Review of IRS guidelines to ensure proper classification of workers as either employees or independent contractors
Disburse payroll	10. Theft or fraudulent distribution of paychecks	10.1 Restriction of physical access to blank payroll checks and the check signature machine 10.2 Restriction of access to the EFT system 10.3 Prenumbering and periodically accounting for all payroll checks and review of all EFT direct deposit transactions 10.4 Require proper supporting documentation for all paychecks 10.5 Use of a separate checking account for payroll, maintained as an imprest fund 10.6 Segregation of duties (cashier versus accounts payable; check distribution from hiring/firing; independent reconciliation of the payroll checking account) 10.7 Restriction of access to payroll master database 10.8 Verification of identity of all employees receiving paychecks 10.9 Redepositing unclaimed paychecks and investigating cause
Disburse payroll taxes and miscellaneous deductions	11. Failure to make required payments 12. Untimely payments 13. Inaccurate payments	11.1 Configuration of system to make required payments using current instructions from IRS (Publication Circular E) 12.1 Same as 11.1 13.1 Processing integrity controls 13.2 Supervisory review of reports 13.3 Employee review of earnings statement

whether the clerk wants to create a new employee record. This violates segregation of duties by permitting the person who does the recording (payroll) to also authorize the creation of new accounts. Similarly, the default configurations of many systems permit payroll staff not only to read but also to change the salary information in the employee payroll master file. These examples are just some of the many areas that the controller or CFO needs to review to ensure that various users are assigned only those privileges necessary to perform their specified job duties. Although the procedures for modifying configurations vary across different software packages, knowing what changes need to be made requires only a sound understanding of proper segregation of duties for different business processes. However, since such preventive controls can never be 100% effective, Table 15-1 also indicates that an important detective control is to regularly produce a report of all changes to master data and review them to verify that the database remains accurate.

A second general threat in the HRM/payroll cycle is unauthorized disclosure of sensitive information, such as salary and performance evaluations for individual employees. Such disclosures can create morale problems if employees learn that their pay differs significantly from co-workers. In addition, unauthorized disclosure of performance evaluations or reasons for firing an employee may subject the organization to lawsuits. The best control procedure for reducing the risk of unauthorized disclosure of payroll data is using multifactor authentication and physical security controls to restrict access to HRM/payroll master data to only those employees who need such access to perform their jobs. It is also important to configure the system to limit employees' ability to use the system's built-in query capabilities to indirectly infer sensitive information. For example, queries about salary averages should be allowed only if the query set is sufficiently large. Otherwise, someone could infer another employee's salary by writing a query that calculates the average salary for two people: the query writer and the employee of interest. Encrypting the database (control 2.2) provides additional protection by making the information unintelligible to anyone who succeeds in obtaining unauthorized access to the database. Encryption also prevents information technology (IT) employees who do not have access to the ERP system from using operating system utilities to view sensitive information.

A third general threat in the HRM/payroll cycle concerns the loss or destruction of master data. The best way to mitigate the risk of this threat is to employ the backup and disaster recovery procedures that were discussed in Chapter 10.

A fourth general threat in the HRM/payroll cycle is hiring unqualified or larcenous employees. Hiring unqualified employees can increase production expenses, and hiring a larcenous employee can result in the theft of assets. Both problems are best dealt with by appropriate hiring procedures. Skill qualifications for each open position should be stated explicitly in the position control report. Candidates should be asked to sign a statement on the job application form that confirms the accuracy of the information being submitted and provides their consent to a thorough background check of their credentials and employment history. Independent verification of an applicant's credentials is important because resumes often contain false or embellished information. For example, in November 2008 the *Wall Street Journal* reported a number of cases where resumes for senior executives at companies contained information that could not be verified. To reduce the risk of hiring larcenous employees, organizations should hire a professional firm to perform thorough background checks of all applicants for positions that involve access to financial data and assets, to identify applicants with a prior criminal record.

The fifth general threat in the HRM/payroll cycle is violation of applicable laws and regulations concerning the proper hiring and dismissal of employees. The government imposes stiff penalties on firms that violate provisions of employment law. In addition, organizations can also be subject to civil suits by alleged victims of employment discrimination. Table 15-1 shows that the best control procedure to mitigate these potential problems is to carefully document all actions relating to advertising for, recruiting, and hiring new employees and to the dismissal of employees; this will demonstrate compliance with the applicable government regulations. Continued training to keep current with employment law is also important.

Payroll Cycle Activities

Figure 15-3 presents a context diagram of the payroll system. It shows that there are five major sources of inputs to the payroll system. The HRM department provides information about hirings, terminations, and pay-rate changes due to raises and promotions. Employees initiate changes in their discretionary deductions (e.g., contributions to retirement plans). The various departments provide data about actual hours employees work. Government agencies provide tax rates and instructions for meeting regulatory requirements. Similarly, insurance companies and other organizations provide instructions for calculating and remitting various withholdings.

Figure 15-3 shows that checks (which may be electronic) are the payroll system's principal output. Employees receive individual *paychecks* in compensation for their services. A *payroll check* is sent to the bank to transfer funds from the company's regular accounts to its payroll account. Checks also are issued to government agencies, insurance companies, and other organizations to meet company obligations (e.g., taxes, insurance premiums). In addition, the payroll system produces a variety of reports, which we discuss later, for internal and external use.

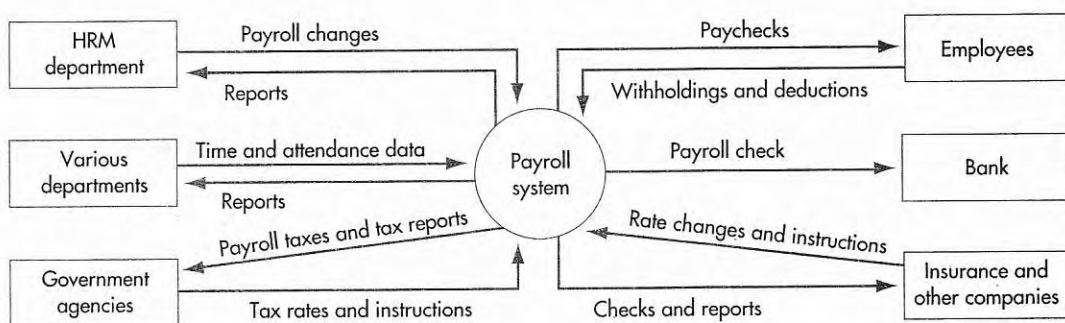


FIGURE 15-3

Context Diagram of the Payroll Portion of the HRM/Payroll Cycle

Figure 15-4 shows the basic activities performed in the payroll cycle. We now discuss each of those activities. For each activity, we describe how the information needed to perform and manage the activity is collected, processed, and stored. We also explain the controls necessary to ensure not only the reliability of that information but also the safeguarding of the organization's resources.

Update Payroll Master Database

The first activity in the HRM/payroll cycle involves updating the payroll master database to reflect various types of internally initiated changes: new hires, terminations, changes in pay rates, or changes in discretionary withholdings (circle 1.0 in Figure 15-4). In addition, periodically the master data needs to be updated to reflect changes in tax rates and deductions for insurance.

PROCESS Figure 15-2 shows that the HRM department is responsible for updating the payroll master database for internally initiated changes related to employment, whereas the payroll department updates information about tax rates and other payroll deductions when it receives notification of changes from various government units and insurance companies. Although payroll is processed in batch mode, the HRM department has online access to update the payroll master database so that all payroll changes are entered in a timely manner and are properly reflected in the next pay period. Records of employees who quit or are fired should not be deleted immediately, however, because some year-end tax reports, including W-2 forms, require data about all employees who worked for the organization at any time during the year.

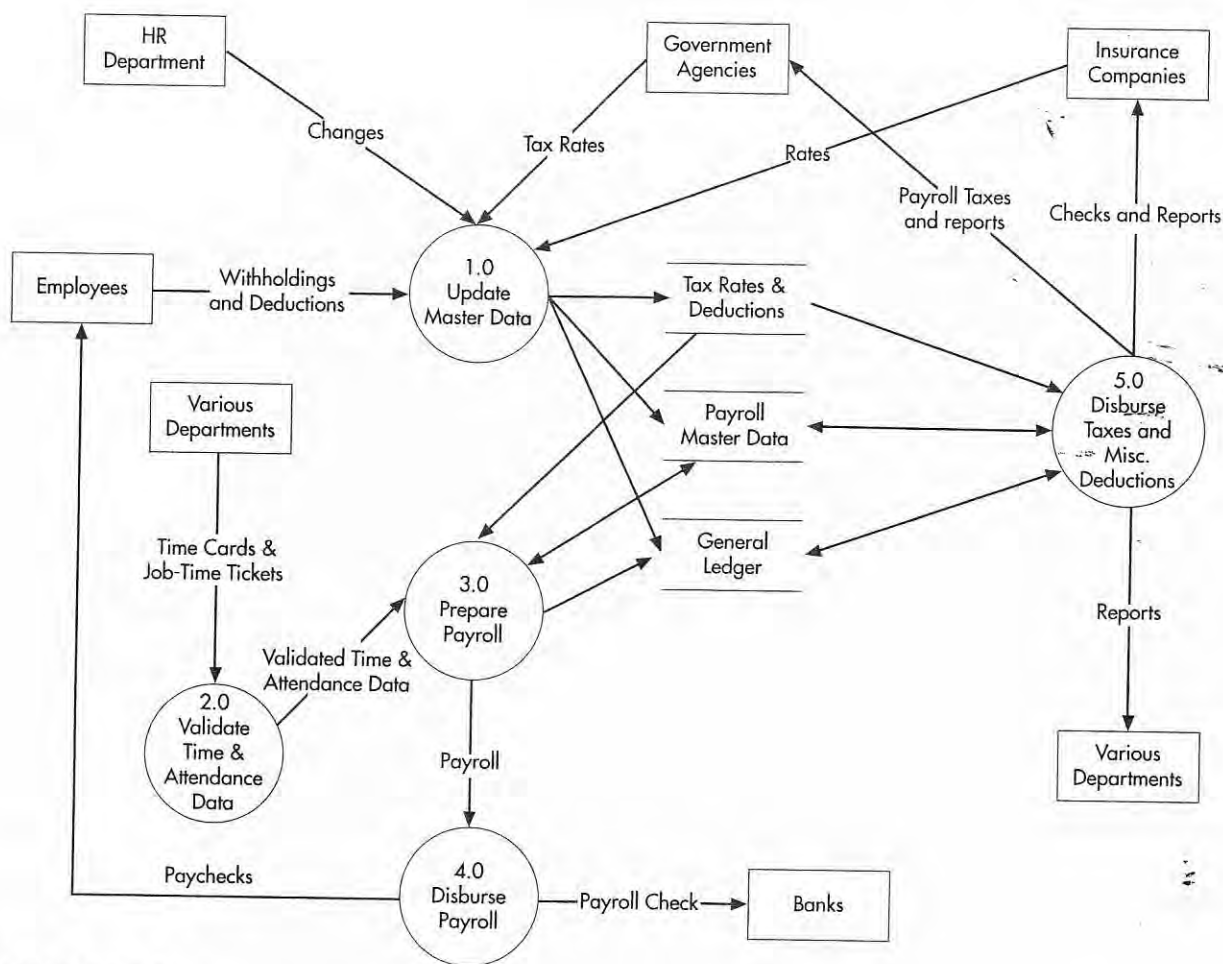


FIGURE 15-4
Level 0 Data Flow Diagram for the Payroll Cycle

THREATS AND CONTROLS Unauthorized changes to payroll master data (threat 6 in Table 15-1) can result in increased expenses from unjustified payments to employees. Proper segregation of duties is the key control procedure for dealing with this threat. As shown in Figure 15-2, only the HRM department should be able to update the payroll master file for hirings, firings, pay raises, and promotions. HRM department employees in turn should not directly participate in payroll processing or paycheck distribution. This segregation of duties prevents someone with access to paychecks from creating fictitious employees or altering pay rates and then intercepting those fraudulent checks. In addition, all changes to the payroll master file should be reviewed and approved by someone other than the person recommending the change. To facilitate this review, the system should be configured to produce a report listing all payroll-related changes and send the report to each affected department supervisor for review.

Controlling access to the payroll system (control 6.2) is also important. The system should be configured to compare user IDs and passwords with an access control matrix that (1) defines what actions each employee is allowed to perform and (2) confirms what files each employee is allowed to access.

Another threat is inaccurate updating of payroll master data, which can result in errors in paying employees and fines for not remitting proper amounts of payroll taxes to the government. To mitigate this threat, appropriate processing integrity controls discussed in Chapter 10, such as validity checks on employee number and reasonableness tests for the changes being made, should be applied to all payroll change transactions. In addition, having department managers review reports of all changes to employees in their department provides a timely way to detect errors.

Validate Time and Attendance Data

The second step in the payroll cycle is to validate each employee's time and attendance data (circle 2.0 in Figure 15-4).

PROCESS How employee time and attendance data is collected differs depending on the employee's pay status. For employees paid on an hourly basis, many companies use a *time card* to record the employee's daily arrival and departure times. Employees who earn a fixed salary (e.g., managers and professional staff) seldom record their labor efforts on time cards. Instead, their supervisors informally monitor their presence on the job.

As discussed in Chapter 14, manufacturing companies also use job-time tickets to record detailed data about how employees use their time (i.e., which jobs they perform). The job-time ticket data are used to allocate labor costs among various departments, cost centers, and production jobs. Professionals in such service organizations as accounting, law, and consulting firms similarly track the time they spend performing various tasks and for which clients, recording that data on *time sheets* (see Figure 15-5 for an example of a data entry screen to track time). Their employers use the time sheets to assign costs and accurately bill clients for services provided.

Sales staff often are paid either on a straight commission or on a salary plus commission basis. This requires the staff to carefully record the amount of their sales. In addition, some sales staff are paid bonuses for exceeding targets. An increasing number of companies in the United States are extending such incentive bonuses to employees other than sales staff, to motivate employees to improve their productivity and work quality. For example, Nucor Corporation, one of the largest steel producers in the United States, pays its steelworkers an hourly rate set at approximately 60% of the industry average, plus a bonus based on the tons of steel they produce and ship. Companies have long used stock options to reward executives; in recent years, many companies have extended this practice to their nonexecutive employees as well. The argument is that stock options motivate employees to actively look for ways to improve service and cut costs so that the value of their compensation package rises.

Using incentives, commissions, and bonuses requires linking the payroll system and the information systems of sales and other cycles to collect the data used to calculate bonuses. Moreover, the bonus/incentive schemes must be properly designed with realistic, attainable goals that can be objectively measured. It is also important that goals be congruent with corporate objectives and that managers monitor goals to ensure that they continue to be appropriate. Indeed, poorly designed incentive pay schemes can result in undesirable behavior. For example, Sears Automotive experienced unintended negative effects from implementing a new incentive plan in

FIGURE 15-5
Example of Data Entry
Screen to Track Time
(Time Sheet)

The screenshot displays the NetSuite Time Tracking interface. At the top, there's a navigation bar with options like Home, Activities, Transactions, Lists, Reports, Accounts, Setup, Help, Network, Support, Sales, and Knowledge Base. The main content area is titled 'Time Tracking' and contains a form with the following fields:

- Employee: [Dropdown]
- Date: 9/7/2011
- Customer: [Dropdown]
- Service Item: [Dropdown]
- Department: [Dropdown]
- Case: [Dropdown]
- Location: [Dropdown]
- Duration: [Text Input]

Below the form is a table with the following structure:

Customer	Service Item	Sun, 8	Mon, 9	Tue, 10	Wed, 11	Thu, 12	Fri, 13	Sat, 14	Total
Totals		0:00	0:00	0:00	0:00	0:00	0:00	0:00	

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the early 1990s that paid its repair staff a commission based on the amount of parts sold and number of hours worked. The intent was to focus employees' attention on how their efforts affected the company's bottom line. The result, however, was a scandal in which it was alleged that Sears employees recommended unnecessary repairs to boost their own pay. The alleged abuses reduced public trust in Sears Automotive and led to lower revenues. Although Sears discontinued use of this incentive system, it took years to fully regain the consumer trust it had lost. Besides the possibility of creating unintended and undesirable behaviors, poorly designed incentive pay schemes can also run afoul of legal, tax, and regulatory requirements. Thus, as Focus 15-2 explains, accountants should be involved in reviewing a company's compensation practices.

THREATS AND CONTROLS The main threat to this payroll activity is inaccurate time and attendance data. Inaccuracies in time and attendance records can result in increased labor expenses and erroneous labor expense reports. Moreover, inaccuracies can either hurt employee morale (if paychecks are incorrect or missing) or result in payments for labor services not rendered.

Source data automation can reduce the risk of *unintentional* errors in collecting time and attendance data. For example, badge readers can be used to collect job-time data for production employees and automatically feed the data to the payroll processing system. Using technology to capture time and attendance data can also improve productivity and cut costs. For example, the retail chain Meijer, Inc., installed fingerprint readers at its cash registers so that employees could log in and immediately begin working. The company estimates that this eliminated several minutes of wasted time spent walking from the time clock in the back of the store to the register. Saving a few minutes per employee may not sound dramatic, but when multiplied across thousands of employees in an industry with a profit margin of less than 1%, the effect on the bottom line can be significant. Source data automation can also be used to collect time and attendance data for professional service staff. For example, AT&T's internal service staff uses touch-tone telephones to log in time spent on various tasks, thereby eliminating the use of paper time sheets. Various data processing integrity checks discussed in Chapter 10, such as a limit check on hours worked and a validity check on employee number, ensure the accuracy of that information.

Information technology can also reduce the risk of *intentional* inaccuracies in time and attendance data. For example, some manufacturing companies now use biometric authentication techniques (control 8.2), such as hand scans, to verify the identity of the employee who is clocking in and out of work. The objective is to prevent an employee from leaving work early but having a friend falsely record that person as being at work. Segregation of duties is also important. Time card data, used for calculating payroll, should be reconciled to the job-time ticket data, used for

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15-2

Accountants and Compensation Policies

Recent revelations of multimillion-dollar bonuses and large severance packages for top executives of companies with declining financial performance have created the impression that some top executives are more concerned about their own compensation than shareholders' interests. As a result, regulators and Congress have begun to scrutinize executive compensation practices more closely. In particular, the use of stock options attracted a great deal of attention. The Financial Accounting Standards Board (FASB) issued new rules requiring that stock options be expensed, and the major U.S. stock exchanges now require companies to obtain shareholder approval of all equity-based compensation.

In the past, top executives often were involved indirectly in crafting their own compensation packages by hiring the consultants who designed those packages. Now, in response to recent scandals, the role of board compensation committees is increasing. Accountants can help these committees improve their company's compensation plans by providing advice concerning the financial and tax effects of proposed changes in executive compensation. One area where accounting expertise can be especially helpful is in identifying the

appropriate metrics to use when linking compensation to performance. To be useful, those metrics need to be linked to the factors most important to a particular company's success. Obviously, this varies from company to company. For example, the key measures for a retail organization such as Walmart or Home Depot will be different from those used by an insurance company such as Prudential, which will differ from those that are important to a basic manufacturer such as Alcoa.

Accountants can also help board compensation committees comply with legal and regulatory requirements. For example, members of compensation committees may not understand all the details of tax regulations, such as the Employee Retirement Income Security Act (ERISA), which limit the allowable differences between benefit packages offered to executives and those made available to other employees. Accountants can review proposed changes for compliance with such rules. Finally, accountants can help companies improve shareholder relations by suggesting the best ways to go beyond minimum disclosure rules concerning executive compensation without revealing information vital to continued competitive success.

costing and managerial purposes, by someone not involved in generating that data. The total time spent on all tasks, as recorded on the job-time tickets, should not exceed the attendance time indicated on an employee's time card. Conversely, all time spent at work should be accounted for on the job-time tickets.

In addition, requiring departmental supervisors to review and approve time cards and job-time tickets (see Figure 15-6, which illustrates one way to implement control 8.4) provides a

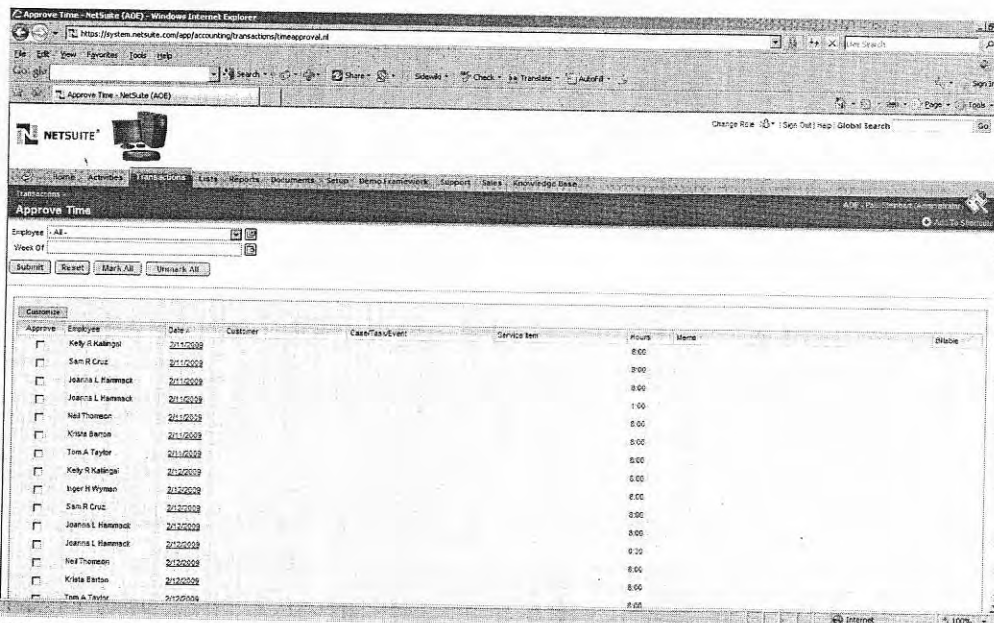


FIGURE 15-6
Example of Supervisory Approval of Time Worked Screen

detective control on the accuracy of time and attendance data. Supervisory review is particularly important for employees who telecommute. Analysis of system logs can provide assurance that telecommuters are truly working the amount of time for which they are getting paid and that they are not operating a personal business on the side, using company-provided assets.

Prepare Payroll

The third step in the payroll cycle is preparing payroll (circle 3.0 in Figure 15-4).

PROCESS Figure 15-7 shows the sequence of activities in processing payroll. First, payroll transaction data is edited, and the validated transactions are then sorted by employee number. If the organization is processing payrolls from several divisions, each of these payroll transaction files must also be merged. The sorted payroll transactions file is then used to prepare employee paychecks. For each employee, the payroll master file record and corresponding transaction record are read, and gross pay is calculated. For hourly employees, the number of hours worked is multiplied by the wage rate, and then any applicable premiums for overtime or bonuses are

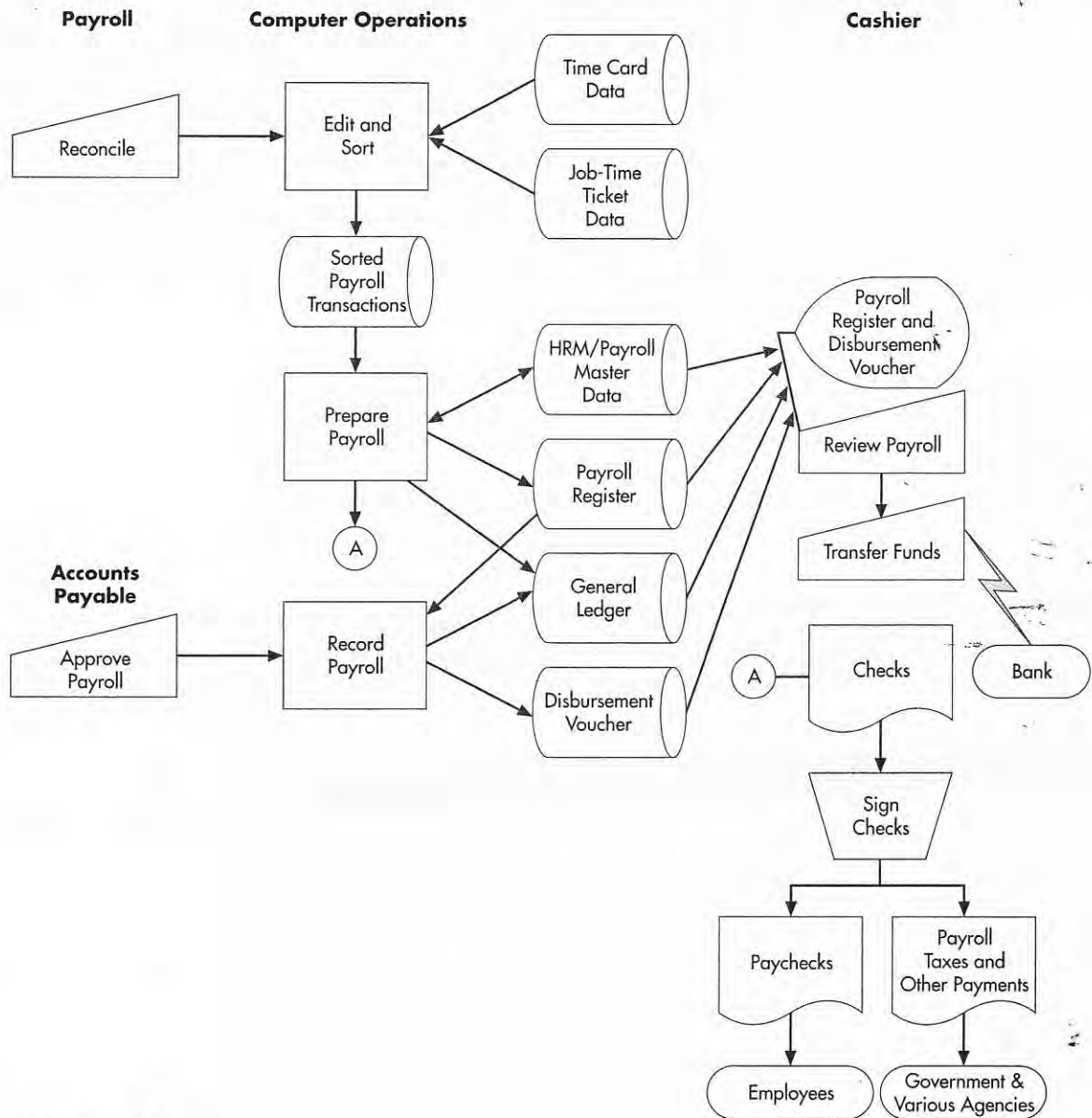


FIGURE 15-7
Flowchart of Payroll Batch Processing

added. For salaried employees, gross pay is a fraction of the annual salary, where the fraction reflects the length of the pay period. For example, salaried employees paid monthly would receive one-twelfth of their annual salary each pay period. Any applicable commissions, bonuses, and other incentives are also included in calculating gross pay.

Next, all payroll deductions are summed, and the total is subtracted from gross pay to obtain net pay. Payroll deductions fall into two broad categories: payroll tax withholdings and voluntary deductions. The former includes federal, state, and local income taxes, as well as Social Security taxes. Voluntary deductions include contributions to a pension plan; premiums for group life, health, and disability insurance; union dues; and contributions to various charities.

Once net pay is calculated, the year-to-date fields for gross pay, deductions, and net pay in each employee's record in the payroll master file are updated. Maintaining accurate cumulative earnings records is important for two reasons. First, because Social Security tax withholdings and other deductions have cutoffs, the company must know when to cease deductions for individual employees. Second, this information is needed to ensure that the appropriate amounts of taxes and other deductions are remitted to government agencies, insurance companies, and other organizations (such as the United Way). This information also must be included in the various reports filed with those agencies.

Next, the payroll and deduction registers are created. The *payroll register* lists each employee's gross pay, payroll deductions, and net pay in a multicolumn format. It also serves as the supporting documentation to authorize transferring funds to the organization's payroll checking account. The *deduction register* lists the miscellaneous voluntary deductions for each employee. Figure 15-8 presents examples of these two reports.

Finally, the system prints employee paychecks (or facsimiles, in the case of direct deposit). These also typically include an *earnings statement*, which lists the amount of gross pay, deductions, and net pay for the current period and year-to-date totals for each category.

As each payroll transaction is processed, the system also allocates labor costs to the appropriate general ledger accounts by checking the code on the job-time ticket record. The system maintains a running total of these allocations until all employee payroll records have been processed. These totals, and the column totals in the payroll register, form the basis for the summary journal entry, which is posted to the general ledger after all paychecks have been printed.

The payroll system also produces a number of detailed reports. Table 15-2 describes the content of the most common reports. Some of these are for internal use, but many are required by various government agencies. Consequently, as Figure 15-9 shows, the HRM/payroll portion of ERP systems provides extensive support for meeting the reporting requirements of federal, state, and local governments.

Alpha Omega Electronics					PAYROLL REGISTER				Period Ended 12/03/2011	
					Deductions					
Employee No.	Name	Hours	Pay Rate	Gross Pay	Fed. Tax	FICA	State Tax	Misc.	Net Pay	
37884	Jarvis	40.0	6.25	250.00	35.60	18.75	16.25	27.60	151.80	
37885	Burke	43.6	6.50	295.10	42.40	22.13	19.18	40.15	171.24	
37886	Lincoln	40.0	6.75	270.00	39.20	20.25	17.55	27.90	165.10	
37887	Douglass	44.2	7.00	324.10	46.60	24.31	21.07	29.62	202.50	

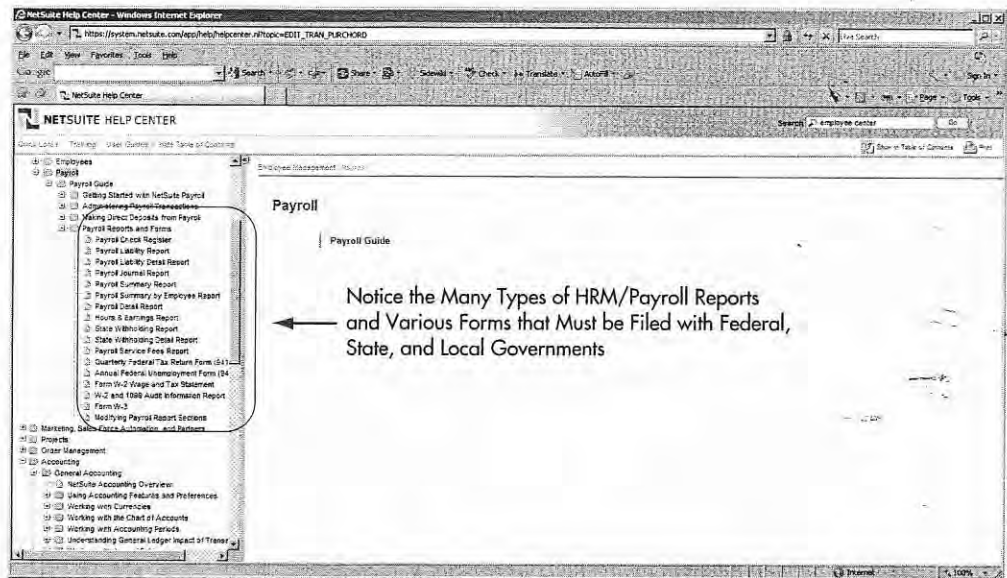
Alpha Omega Electronics		DEDUCTION REGISTER					Period Ended 12/03/2011	
		Miscellaneous Deductions						
Employee No.	Name	Health Ins.	Life Ins.	Retirement	Union Dues	Savings Bond	Total Misc.	
37884	Jarvis	10.40	5.50	7.50	4.20	0.00	27.60	
37885	Burke	11.60	5.50	8.85	4.20	10.00	40.15	
37886	Lincoln	10.40	5.20	8.10	4.20	0.00	27.90	
37887	Douglass	10.20	5.50	9.72	4.20	0.00	29.62	

FIGURE 15-8
Examples of Payroll and Deduction Registers

TABLE 15-2 Contents and Purpose of Commonly Generated HRM/Payroll Reports

Report Name	Contents	Purpose
Cumulative earnings register	Cumulative year-to-date gross pay, net pay, and deductions for each employee	Used for employee information and annual payroll reports
Workforce inventory	List of employees by department	Used in preparing labor-related reports for government agencies
Position control report	List of each authorized position, job qualifications, budgeted salary, and position status (filled or vacant)	Used in planning future workforce needs
Skills inventory report	List of employees and current skills	Useful in planning future workforce needs and training programs
Form 941	Employer's quarterly federal tax return (showing all wages subject to tax and amounts withheld for income tax and FICA)	Filed quarterly to reconcile monthly tax payments with total tax liability for the quarter
Form W-2	Report of wages and withholdings for each employee	Sent to each employee for use in preparing individual tax returns; due by January 31
Form W-3	Summary of all W-2 forms	Sent to federal government along with a copy of all W-2 forms; due by February 28
Form 1099-Misc.	Report of income paid to independent contractors	Sent to recipients of income for use in filing their income tax returns; due by January 31
Various other reports to government agencies	Data on compliance with various regulatory provisions, state and local tax reports, etc.	To document compliance with applicable regulations

FIGURE 15-9
Screenshot Showing Typical ERP System Support for Payroll-Related Reports Required for Federal, State, and Local Governments



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THREATS AND CONTROLS The complexity of payroll processing, especially the various tax law requirements, makes it susceptible to errors (threat 9 in Table 15-1). Errors obviously can hurt employee morale, particularly if paychecks are late. In addition to incorrect payroll expense records and reports, processing errors can lead to penalties if the errors result in failure to remit the proper amount of payroll taxes due the government. Similarly, failure to accurately garnishments on employees' wages and remit those funds to the appropriate party can also lead to financial penalties.

Table 15-1 lists three types of data processing integrity controls that can mitigate the threat of payroll errors:

1. **Batch totals.** Even advanced HRM/payroll systems will continue to use batch processing for payroll. Consequently, batch totals should be calculated at the time of data entry and then

checked against comparable totals calculated during each stage of processing. Hash totals of employee numbers, for example, are particularly useful. If the original and subsequent hash totals of employee numbers agree, it means that (1) all payroll records have been processed, (2) data input was accurate, and (3) no bogus time cards were entered during processing. If the batch totals do not agree, the organization has timely evidence of a payroll error (most likely a failure to generate a paycheck for an employee) so that the problem can be promptly corrected.

2. **Cross-footing the payroll register.** The total of the net pay column should equal the total of gross pay less total deductions. If it does not, an error occurred in processing that needs to be promptly investigated and corrected.
3. **A payroll clearing account.** The *payroll clearing account* is a general ledger account that is used in a two-step process to check the accuracy and completeness of recording payroll costs and their subsequent allocation to appropriate cost centers. First, the payroll clearing account is debited for the amount of gross pay; cash is credited for the amount of net pay, and the various withholdings are credited to separate liability accounts. Second, the cost accounting process distributes labor costs to various expense categories and credits the payroll clearing account for the sum of these allocations. The amount credited to the payroll clearing account should equal the amount that was previously debited when net pay and the various withholdings were recorded. This particular internal check is an example of a *zero-balance check* (discussed in Chapter 10), because the payroll clearing account should equal zero once both entries have been posted.

In addition, supervisory review of the payroll register and other reports serves as a detective control to identify payroll processing errors. Issuing employees an earnings statement provides another layer of detective controls, because employees are likely to report obvious errors.

It is also important to properly classify workers as either employees or independent contractors, because misclassification can cause companies to owe substantial back taxes, interest, and even penalties. This issue often arises when department managers attempt to circumvent a general hiring freeze by using independent contractors. The HRM department always should review any decisions to hire temporary or outside help. The IRS provides a checklist of questions that can be used to determine whether a worker should be classified as an employee or an independent contractor.

Disburse Payroll

The next step is the actual disbursement of paychecks to employees (circle 4.0 in Figure 15-4). Most employees are paid either by check or by direct deposit of the net pay amount into their personal bank account. Unlike cash payments, both methods provide a means to document the amount of wages paid.

PROCESS After paychecks have been prepared, accounts payable reviews and approves the payroll register. A disbursement voucher is then prepared to authorize the transfer of funds from the company's general checking account to its payroll bank account. The disbursement voucher is then used to update the general ledger.

After reviewing the payroll register and disbursement voucher, the cashier then prepares and signs a check (or initiates an EFT transaction) transferring funds to the company's payroll bank account. If the organization still issues paper checks, the cashier also reviews, signs, and distributes the employee paychecks. The cashier promptly redeposits any unclaimed paychecks in the company's bank account. A list of unclaimed paychecks is then sent to the internal audit department for further investigation.

Direct deposit is one way to improve the efficiency and reduce the costs of payroll processing. Employees who are paid by direct deposit generally receive a copy of the paycheck indicating the amount deposited along with an earnings statement. The payroll system must generate a series of payroll deposit files, one for each bank through which payroll deposits are made. Each file contains a record for each employee whose account is maintained at a particular bank. Each record includes the employee's name, Social Security number, bank account number, and net pay amount. These files are sent electronically, using electronic data interchange (EDI), to each participating bank. The funds are then electronically transferred from the employer's bank account to the employee's account. Direct deposit thus eliminates the need for the cashier to sign individual payroll checks. The cashier does, however, still have to authorize the release of funds from the organization's regular checking account.

Direct deposit provides savings to employers by eliminating the cost of purchasing, processing, and distributing paper checks. It also reduces bank fees and postage expenses. Consequently, most companies now offer their employees the option of direct deposit payment and encourage them to elect this form of payment. Some employees, however, may not have bank accounts and, therefore, cannot elect direct deposit. Organizations can still eliminate the need to issue paper payroll checks by paying such employees with payroll debit cards. Employees can use payroll debit cards to make purchases and can withdraw available cash at ATM machines. Payroll debit cards are stored value cards that cannot be overdrawn, but they can be replenished with additional funds each payday.

THREATS AND CONTROLS As Table 15-1 indicates, another major threat in the payroll process is the theft of paychecks or the issuance of paychecks to fictitious or terminated employees. This can result in increased expenses and the loss of cash.

Applying to payroll the controls related to other cash disbursements, discussed in Chapter 13, can mitigate this threat. Specifically:

- Access to blank payroll checks and to the check signature machine should be restricted. Similarly, ability to authorize electronic funds transfer (EFT) transactions should be restricted and controlled through the use of strong multifactor authentication.
- All payroll checks should be sequentially prenumbered and periodically accounted for. If payroll is made via direct deposit, all EFT transactions should be reviewed.
- The cashier should sign all payroll checks only when supported by proper documentation (the payroll register and disbursement voucher).

In addition, payroll checks should not be drawn on the organization's regular bank account. Instead, for control purposes, a separate payroll bank account should be used (control 10.5). Doing so limits the company's loss exposure to the amount of cash in the separate payroll account. It also makes it easier to reconcile payroll and to detect paycheck forgery. Like petty cash, the payroll account should be operated as an imprest fund. Each payday, the amount of the check written (or EFT funds transfer) to replenish the payroll checking account should equal the amount of net pay for that period. Thus, when all paychecks have been cashed, the payroll account should have a zero balance. A separate payroll checking account also makes it easier to spot any fraudulent checks when the account is reconciled. As with the other cash disbursements discussed in Chapter 13, segregation of duties is another important control. Thus, accounts payable has responsibility for recording payroll, but the cashier is responsible for distributing paychecks. It is also important that the person who distributes paychecks or authorizes EFT transactions for direct deposit has no other HRM-related duties. To see why this segregation of duties is so important, assume that the person responsible for hiring and firing employees also distributes paychecks. This combination of duties could enable that person to conveniently forget to report an employee's termination and subsequently keep that employee's future paychecks. In addition, the payroll bank account should be reconciled by someone who performs no other payroll or HRM duties.

Use of multifactor authentication and other controls to restrict access to the payroll master database (control 10.7) reduces the risk of creating checks for non-existent employees. In addition, the person responsible for distributing paychecks should be required to positively identify each person picking up a paycheck. Further control is provided by having the internal audit department periodically observe, on a surprise basis, the paycheck distribution process to verify that all paychecks are picked up by valid employees.

Special procedures should be used to handle unclaimed paychecks because they indicate the possibility of a problem, such as a nonexistent or terminated employee. Unclaimed paychecks should be returned to the treasurer's office for prompt redeposit. They should then be traced back to time records and matched against the employee payroll master file to verify that they are indeed legitimate.

Calculate and Disburse Employer-Paid Benefits Taxes and Voluntary Employee Deductions

The final payroll activity is to calculate and remit payroll taxes and employee benefits to the appropriate government or other entity (circle 5.0 in Figure 15-4).

PROCESS Employers must pay Social Security taxes in addition to the amounts withheld from employee paychecks. Federal and state laws also require employers to contribute a specified

percentage of each employee's gross pay, up to a maximum annual limit, to federal and state unemployment insurance funds.

In addition to mandatory tax-related disbursements, employers are responsible for ensuring that other funds deducted from employee paychecks are correctly calculated and remitted in a timely manner to the appropriate entity. Such deductions include court-ordered payments for alimony, child support, or bankruptcy. Many employers also contribute some or all of the amounts to pay for their employees' health, disability, and life insurance premiums as well as making matching contributions to retirement plans.

Many employers also offer their employees *flexible benefit plans*, under which each employee chooses some minimum coverage in medical insurance, retirement plans, and charitable contributions. Flexible benefit plans place increased demands on a company's HRM/payroll system. For example, the HRM staff of a large company with thousands of employees can spend a considerable amount of time just responding to 401(k) plan inquiries. Moreover, employees want to be able to make changes in their investment decisions on a timely basis. Organizations can satisfy employee demands for such services without increasing costs by providing access to HRM/payroll information on the company's intranet.

THREATS AND CONTROLS The primary threats in this activity are failing to make the necessary remittances, untimely remittances, or errors in those remittances (threats 11-13 in Table 15-1). These problems can result in fines from government agencies and employee complaints if the errors adversely affect their retirement or other benefits.

Circular E, *Employer's Tax Guide*, published by the IRS, provides detailed instructions about an employer's obligations for withholding and remitting payroll taxes and for filing various reports. To mitigate the threats of omitted or untimely remittances, the information in Circular E should be used to configure the payroll system to automatically disburse the funds when payroll is processed. Processing integrity controls, such as cross-footing checks and batch totals, minimize the risk of inaccuracies. Regular supervisory review of payroll reports provides a detective control. In addition, providing employees with earnings statements enables them to timely detect and report any problems.

Outsourcing Options: Payroll Service Bureaus and Professional Employer Organizations

In an effort to reduce costs, many organizations are outsourcing their payroll and HRM functions to payroll service bureaus and professional employer organizations. A *payroll service bureau* maintains the payroll master data for each of its clients and process payroll for them. A *professional employer organization (PEO)* not only processes payroll but also provides HRM services such as employee benefit design and administration. Because they provide a narrower range of services, payroll service bureaus are generally less expensive than PEOs.

When organizations outsource payroll processing, they send time and attendance data along with information about personnel changes to the payroll service bureau or PEO at the end of each pay period. The payroll service bureau or PEO then uses that data to prepare employee paychecks, earnings statements, and a payroll register. The payroll processing service also periodically produces employee W-2 forms and other tax-related reports.

Payroll service bureaus and PEOs are especially attractive to small and midsized businesses for the following reasons:

- **Reduced costs.** Payroll service bureaus and PEOs benefit from the economies of scale associated with preparing paychecks for a large number of companies. They can charge fees that are typically less than the cost of doing payroll in-house. A payroll service bureau or PEO also saves money by eliminating the need to develop and maintain the expertise required to comply with the constantly changing tax laws.
- **Wider range of benefits.** PEOs pool the costs of administering benefits across all their clients. Consequently, a PEO enables smaller companies to offer the same wide range of benefits that large companies typically provide.

- **Freeing up of computer resources.** A payroll service bureau or PEO eliminates one or more AIS applications (payroll and benefits management). The freed-up computing resources can then be used to improve service in other areas, such as sales order entry.

As the basis for competitive advantage increasingly hinges on employees' skills and knowledge, the effective and efficient management of the payroll and HRM functions becomes increasingly important. Outsourcing may provide a way to reduce costs. However, companies need to be sure to carefully monitor service quality to ensure that the outsourced system effectively integrates HRM and payroll data in a manner that supports effective management of employees.

Summary and Case Conclusion

The HRM/payroll cycle information system consists of two related, but separate, subsystems: HRM and payroll. The HRM system records and processes data about the activities of recruiting, hiring, training, assigning, evaluating, and discharging employees. The payroll system records and processes data used to pay employees for their services.

The HRM/payroll system must be designed to comply with a myriad of government regulations related to both taxes and employment practices. In addition, adequate controls must exist to prevent (1) overpaying employees due to invalid (overstated) time and attendance data and (2) disbursing paychecks to fictitious employees. These two threats can be best minimized by proper segregation of duties, specifically by having the following functions performed by different individuals:

1. Authorizing and making changes to the payroll master file for such events as hirings, firings, and pay raises
2. Recording and verifying time worked by employees
3. Preparing paychecks
4. Distributing paychecks
5. Reconciling the payroll bank account

Although the HRM and payroll systems have traditionally been separated, many companies, including AOE, are trying to integrate them to manage their human resources more effectively and to provide employees with better benefits and service. Elizabeth Venko and Ann Brändt showed Peter Wu how AOE's new ERP system would facilitate integrating these two functions. Peter was impressed with how easily he could retrieve data about employee skills and attendance at training classes from this database. He agreed that this would satisfy the needs of department managers for quick and easy access to such information. Peter also realized that the HRM staff could similarly use this query capability to provide quick response to employee requests for information about their benefits, deductions, or retirement plans. He was even more impressed when Elizabeth and Ann explained that another recently implemented add-on feature would also allow employees to make direct changes in their retirement savings allocations, medical plan choices, and other benefit options. Peter realized that freeing the HRM staff from these routine clerical tasks would allow them to devote more time to helping him organize the information needed to make strategic decisions, such as planning for future workforce needs, career counseling, employee development, and negotiations with service providers to improve benefits.

Elizabeth explained that payroll processing itself could continue to be performed in batch mode, because there is no need for online processing (employees would continue to be paid only at periodic intervals). However, she wants to require employees to either sign up for direct deposit of their paychecks or receive payroll debit cards, thereby eliminating the need to issue paychecks. An access control matrix would be created to maintain adequate segregation of duties in the new system and protect the integrity of the HRM/payroll database. For example, only HRM employees would add new employees, and only from terminals located in the HRM department.

Linda Spurgeon was pleased with Elizabeth and Ann's work on improving the company's HRM/payroll systems. She indicated that their next task would be to work with Stephanie Cromwell, AOE's chief financial officer, to improve the financial closing process and to help develop reports that would provide better insight into AOE's performance.

Key Terms

human resource management (HRM)/payroll cycle 455	time sheet 463	flexible benefit plans 471
knowledge management systems 457	payroll register 467	payroll service bureau 471
time card 463	deduction register 467	professional employer organization (PEO) 471
	earnings statement 467	
	payroll clearing account 469	

AIS IN ACTION

Chapter Quiz

- Traditionally, accountants have been most involved with which portion of the HRM/payroll cycle?
 - hiring
 - payroll
 - training
 - performance evaluation
- Which of the following statements is true?
 - Financial statements report the value of employee knowledge and skills.
 - Turnover and absenteeism are costly.
 - All employees must fill out time cards.
 - Default configurations of ERP packages typically provide good segregation of duties.
- Which document lists the current amount and year-to-date totals of gross pay, deductions, and net pay for one employee?
 - payroll register
 - time card
 - paycheck
 - earnings statement
- Online processing is most useful for which of these tasks?
 - preparing payroll checks
 - reconciling job-time tickets and time cards
 - paying payroll tax obligations
 - making changes in employee benefit choices
- Use of a payroll service bureau or a PEO provides which of the following benefits?
 - fewer staff needed to process payroll
 - lower cost of processing payroll
 - less need for developing and maintaining payroll tax expertise
 - all of the above
- Which control procedure would be most effective in detecting the failure to prepare a paycheck for a new employee *before* paychecks are distributed?
 - validity checks on the employee number on each time card
 - record counts of time cards submitted and time cards processed
 - zero-balance check
 - use of a separate payroll bank account
- Which department should have responsibility for authorizing pay-rate changes?
 - timekeeping
 - payroll
 - HRM
 - accounting
- To maximize effectiveness of internal controls over payroll, which of the following persons should be responsible for distributing employee paychecks?
 - departmental secretary
 - payroll clerk
 - controller
 - departmental supervisor

9. Where should unclaimed paychecks be returned?
 - a. HRM department
 - b. cashier
 - c. payroll department
 - d. absent employee's supervisor
10. Which of the following is an important supporting document to authorize the transfer of funds to the payroll bank account?
 - a. earnings statement
 - b. time card
 - c. payroll register
 - d. W-2 form

Discussion Questions

- 15.1. This chapter noted many of the benefits that can arise by integrating the HRM and payroll databases. Nevertheless, many companies maintain separate payroll and HRM information systems. Why do you think this is so? (*Hint*: Think about the differences in employee background and the functions performed by the HRM and payroll departments.)
- 15.2. Some accountants have advocated that a company's human assets be measured and included directly in the financial statements. For example, the costs of hiring and training an employee would be recorded as an asset that is amortized over the employee's expected term of service. Do you agree or disagree? Why?
- 15.3. You are responsible for implementing a new employee performance measurement system that will provide factory supervisors with detailed information about each of their employees on a weekly basis. In conversation with some of these supervisors, you are surprised to learn they do not believe these reports will be useful. They explain that they can already obtain all the information they need to manage their employees simply by observing the shop floor. Comment on that opinion. How could formal reports supplement and enhance what the supervisors learn by direct observation?
- 15.4. One of the threats associated with having employees telecommute is that they may use company-provided resources (laptop, printer, etc.) for a side business. What are some other threats? What controls can mitigate the risk of these threats?
- 15.5. How would you respond to the treasurer of a small charity who tells you that the organization does not use a separate checking account for payroll because the benefits are not worth the extra monthly service fee?
- 15.6. This chapter discussed how the HR department should have responsibility for updating the HRM/payroll database for hiring, firing, and promotions. What other kinds of changes may need to be made? What controls should be implemented to ensure the accuracy and validity of such changes?

Problems

- 15.1. Match the terms in the left column with the appropriate definition from the right column.

<p>___ 1. Payroll service bureau</p> <p>___ 2. Payroll clearing account</p> <p>___ 3. Earnings statement</p> <p>___ 4. Payroll register</p>	<p>a. A list of each employee's gross pay, payroll deductions, and net pay in a multicolumn format</p> <p>b. Used to record the activities performed by a salaried professional for various clients</p> <p>c. Used to record time worked by an hourly-wage employee</p> <p>d. An organization that processes payroll and provides other HRM services</p>
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- 5. Time card
- 6. Time sheet
- e. An organization that processes payroll
- f. A list of all the deductions for each employee
- g. A document given to each employee that shows gross pay, net pay, and itemizes all deductions both for the current pay period and for the year-to-date
- h. Special general ledger account used for payroll processing

- 15.2. What internal control procedure(s) would be most effective in preventing the following errors or fraudulent acts?
- a. An inadvertent data entry error caused an employee's wage rate to be overstated in the payroll master file.
 - b. A fictitious employee payroll record was added to the payroll master file.
 - c. During data entry, the hours worked on an employee's time card for one day were accidentally entered as 80 hours, instead of 8 hours.
 - d. A computer operator used an online terminal to increase her own salary.
 - e. A factory supervisor failed to notify the HRM department that an employee had been fired. Consequently, paychecks continued to be issued for that employee. The supervisor pocketed and cashed those paychecks.
 - f. A factory employee punched a friend's time card in at 1:00 P.M. and out at 5:00 P.M. while the friend played golf that afternoon.
 - g. A programmer obtained the payroll master file and increased his salary.
 - h. Some time cards were lost during payroll preparation; consequently, when paychecks were distributed, several employees complained about not being paid.
 - i. A large portion of the payroll master file was destroyed when the disk pack containing the file was overwritten when used as a scratch file for another application.
 - j. The organization was fined \$5,000 for making a late quarterly payroll tax payment to the IRS.
- 15.3. You have been hired to evaluate the payroll system for the Skip-Rope Manufacturing Company. The company processes its payroll in-house. Use Table 15-1 as a reference to prepare a list of questions to evaluate Skip-Rope's internal control structure as it pertains to payroll processing for its factory employees. Each question should be phrased so that it can be answered with either a yes or a no; all "no" answers should indicate potential internal control weaknesses. Include a third column listing the potential problem that could arise if that particular control were not in place. (*CPA Examination, adapted*)
- 15.4. Although most medium and large companies have implemented sophisticated payroll and HRM systems like the one described in this chapter, many smaller companies still maintain separate payroll and HRM systems that employ many manual procedures. Typical of such small companies is the Kowal Manufacturing Company, which employs about 50 production workers and has the following payroll procedures:
- The factory supervisor interviews and hires all job applicants. The new employee prepares a W-4 form (Employee's Withholding Exemption Certificate) and gives it to the supervisor. The supervisor writes the hourly rate of pay for the new employee in the corner of the W-4 form and then gives the form to the payroll clerk as notice that a new worker has been hired. The supervisor verbally advises the payroll department of any subsequent pay raises.
 - A supply of blank time cards is kept in a box near the entrance to the factory. All workers take a time card on Monday morning and fill in their names. During the week they record the time they arrive and leave work by punching their time cards in the time clock located near the main entrance to the factory. At the end of the week the workers drop the time cards in a box near the exit. A payroll clerk retrieves the completed time cards from the box on Monday morning. Employees are automatically removed from the payroll master file when they fail to turn in a time card.
 - The payroll checks are manually signed by the chief accountant and then given to the factory supervisor, who distributes them to the employees. The factory supervisor arranges for delivery of the paychecks to any employee who is absent on payday.
 - The payroll bank account is reconciled by the chief accountant, who also prepares the various quarterly and annual tax reports.

Required

- a. Identify weaknesses in current procedures, and explain the threats that they may allow to occur.
 - b. Suggest ways to improve the Kowal Manufacturing Company's internal controls over hiring and payroll processing.
(CPA Examination, adapted)
- 15.5. Arlington Industries manufactures and sells engine parts for large industrial equipment. The company employs over 1,000 workers for three shifts, and most employees work overtime when necessary. Figure 15-10 depicts the procedures followed to process payroll. Additional information about payroll procedures follows:
- The HRM department determines the wage rates of all employees. The process begins when a form authorizing the addition of a new employee to the payroll master file is sent to the payroll coordinator for review and approval. Once the information about the new employee is entered in the system, the computer automatically calculates the overtime and shift differential rates for that employee.
 - A local accounting firm provides Arlington with monthly payroll tax updates, which are used to modify the tax rates.
 - Employees record their time worked on time cards. Every Monday morning, the previous week's time cards are collected from a bin next to the time clock, and new time cards are left for employees to use. The payroll department manager reviews the time cards to ensure that hours are correctly totaled; the system automatically determines whether overtime has been worked or a shift differential is required.
 - The payroll department manager performs all the other activities depicted in Figure 15-10.
 - The system automatically assigns a sequential number to each payroll check. The checks are stored in a box next to the printer for easy access. After the checks are printed, the payroll department manager uses an automatic check-signing machine to sign the checks. The signature plate is kept locked in a safe. After the checks have been signed, the payroll manager distributes the paychecks to all first-shift employees. Paychecks for the other two shifts are given to the shift supervisor for distribution.
 - The payroll master file is backed up weekly, after payroll processing is finished.

Required

- a. Identify and describe at least three weaknesses in Arlington Industries' payroll process.
- b. Identify and describe at least two different areas in Arlington's payroll processing system where controls are satisfactory.
(CMA Examination, adapted)



15.6. Excel Problem

Objective: Learn how to find and correct errors in complex spreadsheets used for payroll.

Required (Continues on next two pages)

- (a) Read the article "Ferret Out Spreadsheet Errors" by Mark G. Simkin, in the *Journal of Accountancy* (February 2004). You can find a copy online by accessing www.aicpa.org.
- (b) Download the worksheet referenced in the article.
- (c) Disable data validation on the hours worked column in order to input the following erroneous data:
 - Change hours worked for Adams to 400.
 - Change hours worked for Englert to 4.
 - Change hours worked for Hartford to -40.
 - Create a chart like that shown in Exhibit 2 of the article. Which of the errors are easily found by the chart? What are the strengths and limitations of creating such charts to detect errors? Print out your chart and save your work.
- (d) Create the three data validation rules described in the article (Exhibits 4-7 in the article illustrate how to create the first rule). Print out screen shots of how you create

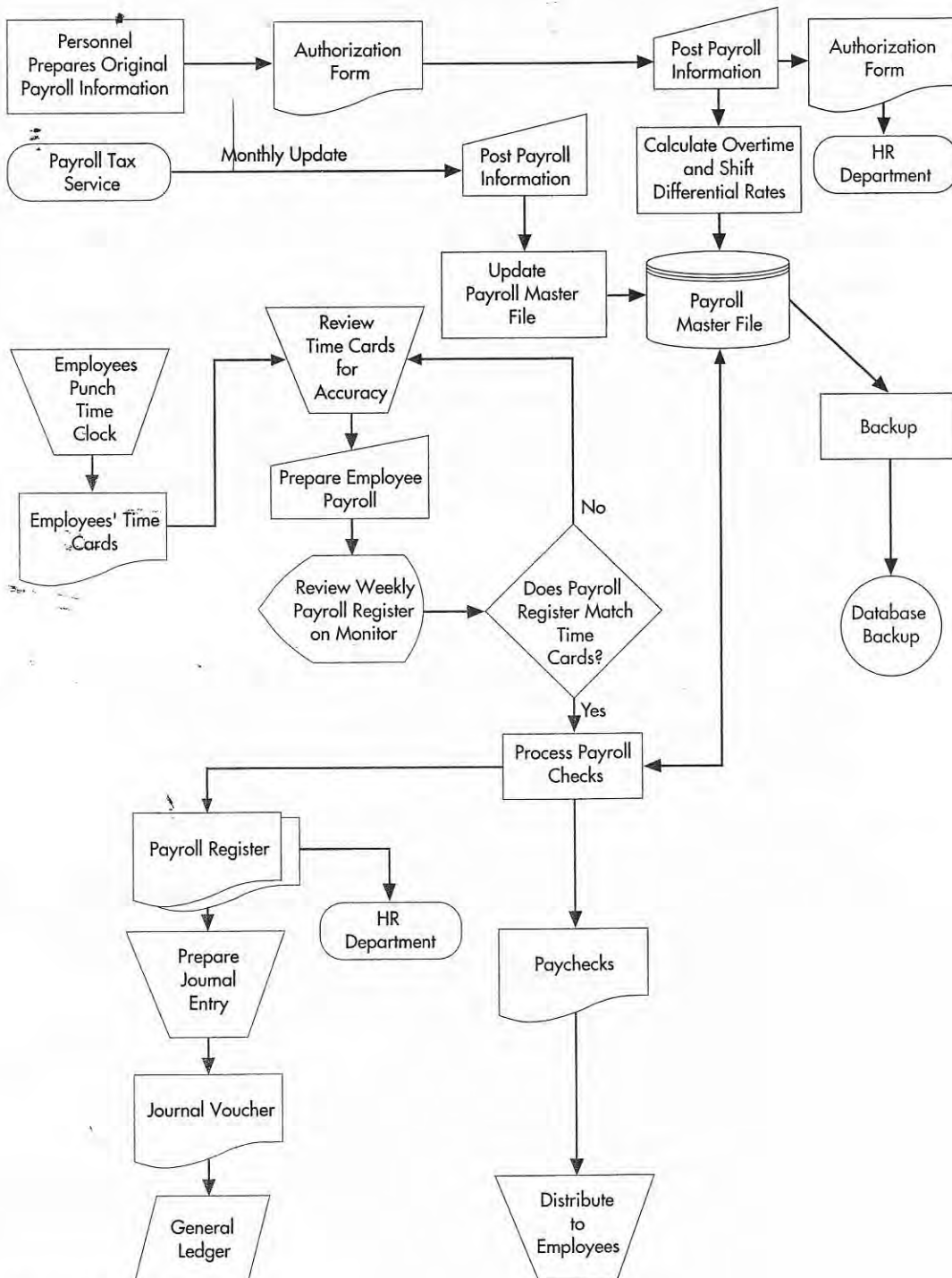


FIGURE 15-10
Arlington Industries Flowchart for Problem 15.4

each rule, and save your work. (Note: The article “Block That Spreadsheet Error” by Theo Callahan, in the *Journal of Accountancy* (August 2002) provides additional examples of data validation rules.)

- (e) Follow the instructions for using the formula auditing tool. Print out a screen shot showing use of the tool to circle invalid data (yours should be similar to Exhibit 9 in the article).
- (f) Follow the article’s instructions to run the “trace precedents” audit tool. Print screen shots that show the results, and save your work. How useful is this tool? What are its limitations, if any?

(g) Enter the following data for new employees (insert new rows in the proper order to maintain the alphabetical listing of employees):

- Name = Able, pay rate = 11.11, regular hours = 40, overtime hours = 5
- Name = Easton, pay rate = 10.00, regular hours = 40, overtime hours = 0
- Name = Johnson, pay rate = 12.00, regular hours = 35, overtime hours = 10

Which audit tests and validation rules change? Why? Print screen shots, and save your work.



15.7. Excel Problem

Objective: Learn how to use the VLOOKUP function for payroll calculations.

Required

- a. Read the article “Make Excel a Little Smarter” by Lois S. Mahoney and Charles Kelliher in the *Journal of Accountancy* (July 2003). You can find a copy at www.aicpa.org.
- b. Read the section titled “Data in Different Places,” and create the spreadsheet illustrated in Exhibit 6. Print a screen shot of your work, and save your spreadsheet.
- c. Create a formula that calculates total bonuses. Also create a cell entry that indicates what that number represents. Print a screen shot of your work, and save it.
- d. Add the following data validation controls to your spreadsheet, including explanatory error messages. Save your work.
 - Sales must be positive.
 - Sales cannot exceed 125.
 - Amount of bonus must be non-negative.
 - Amount of bonus cannot exceed 20% of unit sales.
- e. Modify your worksheet by placing the sales data and resulting bonus on a different worksheet from the bonus table. Name your table array, and modify the VLOOKUP function accordingly. Then add another employee: Johnson, who sold 115 units. Print a screen shot of your new worksheet showing the bonuses for each employee, including Johnson. Save your work.

- 15.8. The local community feels that secondary school education is a necessity and that lack of education leads to a number of social problems. As a result, the local school board has decided to take action to reverse the rising dropout rate. The board has voted to provide funds to encourage students to remain in school and earn their high school diplomas. The idea is to treat secondary education like a job and pay students. The board, however, could not agree on the details for implementing this new plan. Consequently, you have been hired to devise a system to compensate students for staying in school and earning a diploma.

As you devise your compensation scheme, be sure it meets the following general control objectives for the payroll cycle:

- All transactions are properly authorized.
- Everyone is assigned to do productive work, and they do it efficiently and effectively.
- All transactions are accurately recorded and processed.
- Accurate records are maintained.
- All disbursements are proper.

Required

Write a proposal that addresses these five questions:

- a. How should the students be compensated (e.g., for attendance, grades)?
- b. How and by whom will the payments be authorized?
- c. How will the payments be processed?
- d. How should the payments be made (e.g., in cash or other means)?
- e. When will the payments be made?

(Adapted from Carol F. Venable, “Development of Diversity Awareness and Critical Thinking,” Proceedings of the Lilly Conference on Excellence in College and University Teaching—West (Lake Arrowhead, Calif., March 1995); and American Accounting Association Teaching and Curriculum Demonstration Session (Orlando, Fla., August 1995). Reprinted with permission of Dr. Carol Venable.)

- 15.9. What is the purpose of each of the following control procedures (i.e., what threats is it designed to mitigate)?
- Comparison of a listing of current and former employees to the payroll register.
 - Reconciliation of labor costs (based on job-time ticket data) with payroll (based on time card data).
 - Direct deposit of paychecks.
 - Validity checks on Social Security numbers of all new employees added to the payroll master file.
 - Cross-footing the payroll register.
 - Limit checks on hours worked for each time card.
 - Use of a fingerprint scanner for employees to record the time they started and the time they quit working each day.
 - Encryption of payroll data both when it is electronically sent to a payroll service bureau and while at rest in the HR/payroll database.
 - Establishing a separate payroll checking account and funding it as an imprest account.
 - Comparison of hash totals of employee numbers created prior to transmitting time-worked data to payroll provider with hash totals of employee numbers created by payroll provider when preparing paychecks.
 - Periodic reports of all changes to payroll database sent to each department manager.
 - Providing employees with earnings statements every pay period.

15.10. Excel Problem

Objective: Learn how to use text and array formulas to locate potential payroll problems.



Required

- Download the spreadsheet for this problem from the course Web site.
- In column I, under the label “Ghost Employee?” write a function that compares the employee# in the time cards column to the employee# in the payroll master data column and displays the message: “Time card employee# does not exist in master data” for any employee in the time cards column who is not listed in the payroll master data column. The function should leave the cell blank if the employee# in the time cards worksheet does exist in the payroll master file worksheet. (*Hint: Use the ISNA and MATCH functions.*)
- In column L, titled “Invalid SSN?” write a function to identify invalid Social Security numbers. Assume that Social Security numbers that begin with the digit 9 or that have the digits 00 for the middle two numbers are invalid. Your function should display a message that flags either of these two conditions or that displays nothing otherwise. (*Hint: There are text functions that examine specific portions of a string, such as the left three characters, and there are also functions that convert text to numeric values.*)
- In column P, titled “Missing Paycheck?” write a function to check whether a time card exists for each employee in the master payroll data section of the worksheet. The formula should either return the message “No paycheck created for this employee” or display nothing.

Case 15-1 Research Report: HRM/Payroll Opportunities for CPAs

Payroll has traditionally been an accounting function, and some CPAs have provided payroll processing services to their clients. Today, CPAs are finding additional new lucrative opportunities to provide not only payroll processing but also various HR services. Write a brief report that compares the provision of payroll and HR services by CPAs with that of national payroll providers. Perform the following research to collect the data for your report:

1. Read the articles “Be an HR Resource for Your Clients,” by Michael Hayes and “Hired Help: Finding the Right

Consultant,” by Joanne Sammer, both of which were published in the November 2006 issue of the *Journal of Accountancy*.

2. Contact a local CPA firm that provides payroll and HR services, and find out what types of services they perform and what types of clients they serve.

AIS IN ACTION SOLUTIONS

Chapter Quiz Key

1. Traditionally, accountants have been most involved with which portion of the HRM/ payroll cycle?
 - a. hiring (Incorrect. This has traditionally been handled by the HR department.)
 - ▶ b. payroll (Correct. The payroll system has traditionally been the part of the HRM/ payroll system used by accountants.)
 - c. training (Incorrect. This has traditionally been handled by the HR department.)
 - d. performance evaluation (Incorrect. This has traditionally been handled by supervisors.)
2. Which of the following statements is true?
 - a. Financial statements report the value of employee knowledge and skills. (Incorrect. Costs associated with acquiring the use of employees' skills and knowledge have traditionally been recognized as an expense on the income statement.)
 - ▶ b. Turnover and absenteeism are costly. (Correct. Turnover costs 1.5 times the departing employee's salary, and absenteeism increases overtime and short-term hiring costs.)
 - c. All employees must fill out time cards. (Incorrect. Hourly employees typically fill out time cards to record hours worked. Salaried professionals, however, do not because their periodic pay is a set fraction of their annual salary. Salaried employees in professional services firms, however, do record the time spent performing various activities for different clients on time sheets so that their employers can accurately assign costs and bill clients for services rendered.)
 - d. Default configurations of ERP packages typically provide good segregation of duties. (Incorrect. Default configurations of ERP systems typically provide users with far too much authority.)
3. Which document lists the current amount and year-to-date totals of gross pay, deductions, and net pay for one employee?
 - a. payroll register (Incorrect. The payroll register lists this information for all employees.)
 - b. time card (Incorrect. Time cards collect data about time worked during a specific pay period.)
 - c. paycheck (Incorrect. The paycheck is a means of transferring funds.)
 - ▶ d. earnings statement (Correct. The earnings statement attached to each paycheck provides the information listed.)
4. Online processing is most useful for which of these tasks?
 - a. preparing payroll checks (Incorrect. Because paychecks are issued only periodically, batch processing is appropriate.)
 - b. reconciling job-time tickets and time cards (Incorrect. Because this occurs only when payroll is calculated, batch processing is appropriate.)
 - c. paying payroll tax obligations (Incorrect. Payment is periodic, so batch processing is appropriate.)
 - ▶ d. making changes in employee benefit choices (Correct. Employees want to be able to have access to this information and make changes whenever desired.)
5. Use of a payroll service bureau or a PEO provides which of the following benefits?
 - ▶ a. fewer staff needed to process payroll (Incorrect. Outsourcing not only typically reduces staffing requirements, but also lowers costs (answer b) and reduces the need for in-house expertise (answer c).)
 - b. lower cost of processing payroll (Incorrect. Outsourcing usually not only reduces costs, but also requires fewer staff (answer a) and reduces the need for in-house expertise (answer c).)

- c. less need for developing and maintaining payroll tax expertise (Incorrect. Outsourcing does reduce the need to maintain in-house payroll tax expertise, but it also provides the benefits listed in answers a and b.)
- d. all of the above (Correct.)
6. Which control procedure would be most effective in detecting the failure to prepare a paycheck for a new employee before paychecks are distributed?
- a. validity checks on the employee number on each time card (Incorrect. This control is designed to ensure that only valid employees are paid.)
- ▶ b. record counts of time cards submitted and time cards processed (Correct. Batch totals, such as record counts, would identify failure to process all transaction records.)
- c. zero-balance check (Incorrect. This control is designed to verify the accuracy of payroll disbursements.)
- d. use of a separate payroll bank account (Incorrect. This control is designed to limit the amount of cash that could be lost as a result of forged or altered paychecks.)
7. Which department should have responsibility for authorizing pay-rate changes?
- a. timekeeping (Incorrect. Timekeeping is a recording function.)
- b. payroll (Incorrect. Payroll calculates the pay for the current period and should not also authorize changes.)
- ▶ c. HRM (Correct. HRM has no other role in the payroll process.)
- d. accounting (Incorrect. Accounting maintains records related to payroll and should not authorize changes in pay rates.)
8. To maximize effectiveness of internal controls over payroll, which of the following persons should be responsible for distributing employee paychecks?
- ▶ a. departmental secretary (Correct. This person has no other payroll duties so cannot conceal theft of paychecks.)
- b. payroll clerk (Incorrect. The payroll clerk prepares and records the checks and so could create checks for nonexistent employees and cash them.)
- c. controller (Incorrect. The controller is in charge of the recording function and should not have custody of checks.)
- d. departmental supervisor (Incorrect. The supervisor authorizes payment by reviewing time cards and should not also have custody of assets.)
9. Where should unclaimed paychecks be returned?
- a. HRM department (Incorrect. Unclaimed checks should be returned to the cashier for redeposit.)
- ▶ b. cashier (Correct. This permits funds to be quickly redeposited.)
- c. payroll department (Incorrect. Unclaimed checks should be returned to the cashier for redeposit.)
- d. absent employee's supervisor (Incorrect. Unclaimed checks should be returned to the cashier for redeposit.)
10. Which of the following is an important supporting document to authorize the transfer of funds to the payroll bank account?
- a. earnings statement (Incorrect. This is the stub attached to each paycheck, providing the employee with YTD information about pay and various deductions.)
- b. time card (Incorrect. This document records time worked.)
- ▶ c. payroll register (Correct. This document summarizes the amount to be paid to each employee and is sent to the accounts payable department for use in preparing a disbursement voucher to authorize the transfer of funds to the payroll account.)
- d. W-2 form (Incorrect. This is a year-end statement given to each employee summarizing net pay, taxes withheld, and other deductions.)