

Part Two

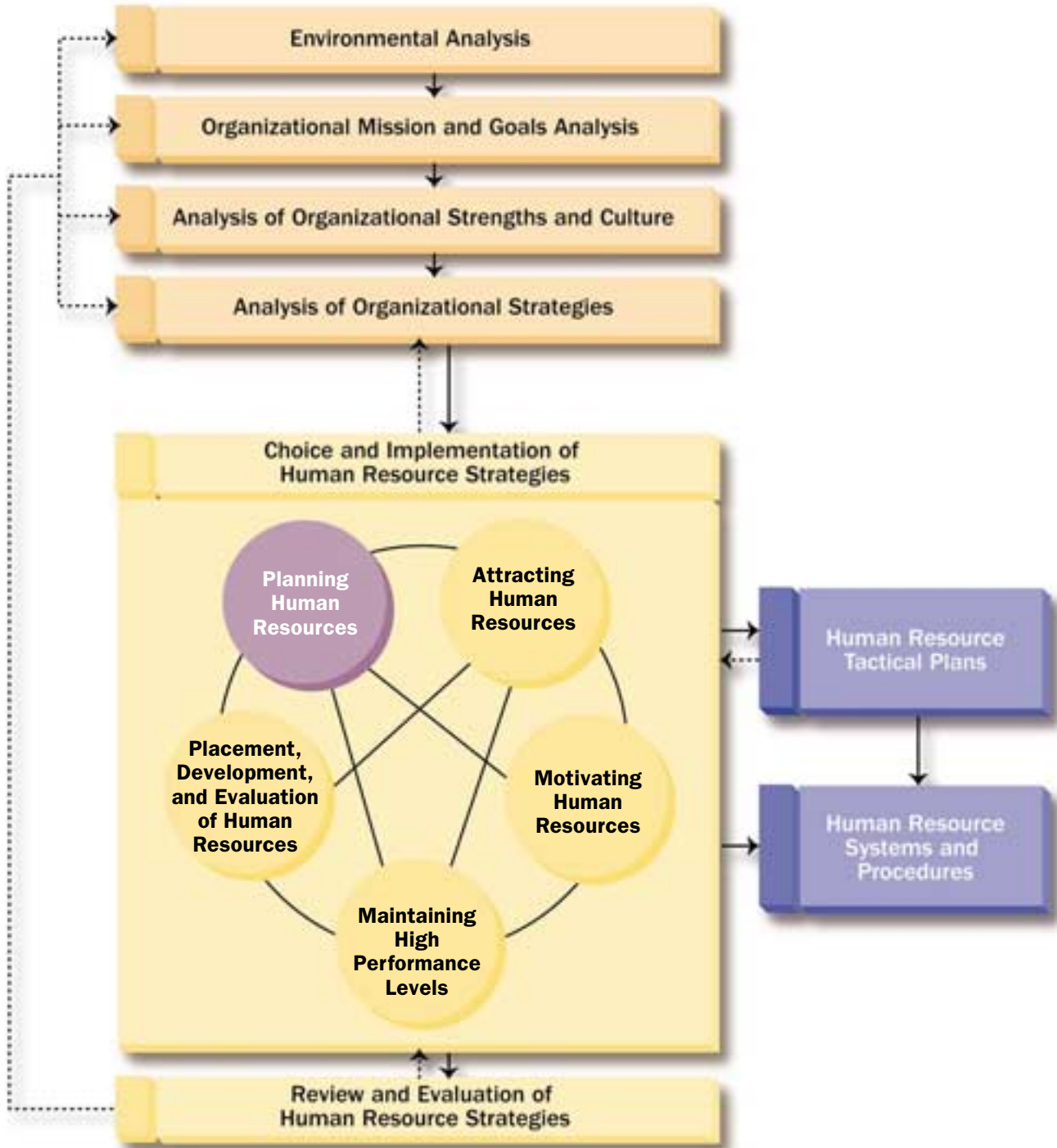
2

Planning Human Resources

This part introduces you to the important task of planning for human resources. Chapter Two discusses the various approaches to conduct a job analysis. Steps to derive valid job descriptions, specifications, and performance standards are outlined in this chapter. Chapter Three discusses the various factors that need to be considered when forecasting the demand for and supply of human resources. It also outlines several popular techniques for making such forecasts. Together, these two chapters help you to identify the type, number, and degree of sophistication of human resources needed by your firm.



Planning Human Resources



Chapter 2

Job Analysis and Design

The data generated by job analyses have significant use in nearly every phase of human resource administration: designing jobs and reward systems; staffing and training; performance control and more. Few other processes executed by organizations have the potential for being such a powerful aid to management decision making.

Philip C. Grant¹

CHAPTER OBJECTIVES

After studying this chapter, you should be able to:

- *Explain* the importance of job analysis information for human resource managers.
- *Discuss* the various steps in conducting job analysis and methods of job data collection.
- *Describe* the contents of a job description and a job specification.
- *Discuss* the various approaches to setting performance standards.
- *Outline* the key considerations in job design.

For a human resource department to be proactive, it needs information about various external challenges facing the organization (e.g., changes in technology, government regulations) and factors internal to the firm. This chapter explains how human resource specialists discover the actual characteristics that presently exist in each job.

Where there is no human resource department, all employee-related matters are handled by individual managers who already should know the characteristics, standards, and human abilities required for each job and who probably do not feel the need for any formal record of this knowledge. After a human resource department is created, however, knowledge about jobs and their requirements must be collected through **job analysis**. This is done by specialists called job analysts. This knowledge is vital to the effective functioning of a HR department as exemplified in the following dialogue:

Job analysis

Systematic study of a job to discover its specifications, skill requirements, etc. for wage-setting, recruitment, training, or job-simplification purposes.

Service Manager: Before we had a human resource department, we took care of people matters pretty well. Now there is too much paperwork on each job. I wonder if it's a help or a hindrance.

HR Manager: I can sympathize. Before the department was set up, you probably had complete authority for people matters. Right?

Service Manager: I sure did! And I did it without a lot of paperwork.

HR Manager: Sure you did. You know every job in your department, in and out. You had all the information you needed stored in your experiences.

Service Manager: That's my point. If I got along without all this paperwork, why can't you?

HR Manager: Why? Because you deal with those jobs every day. You've probably done most of them yourself. But my department is also responsible for jobs in sales, production, warehouse, supervision, and others. Without the paperwork describing these jobs, we would have no idea of their requirements.

Jobs are at the core of every organization's productivity. If they are not well designed and done right, productivity suffers, profits fall, and the organization is less able to meet the demands of society, customers, employees, and other stakeholders. The importance of well-designed jobs is perhaps best illustrated by an example:

Rapid growth in a Calgary construction company led to an increase in the number of invoices and a decrease in the quality and timeliness of its departments' performance. Consultants who were hired to investigate the problems faced by the company conducted workshops and taught employees to apply job diagnostic tools to their activities. The result of all these activities was a 12.3 per cent increase in the number of invoices processed, a saving of \$127 200 in salaries, overtime, and overheads, and a better understanding among the workers of the importance of their work roles.

Not all attempts to restructure jobs succeed as well as this example. However, improvements in productivity, quality, and cost often begin with the jobs employees do. For a human resource department to be effective, its members must have a clear understanding of the jobs found throughout organizations. Without this information base, the human resource department would be less able to redesign jobs, recruit new employees, train present employees, determine appropriate compensation, and perform many other human resource functions.

A job consists of a group of related activities and duties. A **job** may be held by a single employee or several persons. The collection of tasks and responsibilities performed by an individual employee is called a **position**.

In a department with one supervisor, three clerks, and twelve service personnel, there are sixteen positions but only three jobs.

With hundreds—or even thousands—of jobs, it is nearly impossible for the human resource professionals in large companies to know the details of every job. It is, however, unnecessary to collect information on identical jobs separately. Consider this example:

One insurance company has 90 clerical employees who process incoming premium payments. Each job is the same. Therefore, job analysis requires only a random sample of these positions. Data collection on a few of these jobs generates an accurate information base for all 90 positions.



www.hrzone.com/topics/joba.html

Large organizations store information on various jobs using a Human Resource Information System (HRIS). A sophisticated HRIS permits easy retrieval of relevant job details; it also provides a variety of information about the job, job holders, and past performance standards. Further details about designing a HRIS will be discussed in the next chapter.

Even small businesses can benefit from a proper job analysis. Consider the example of this small furniture manufacturing unit in Ontario:

Quality Furniture is a small furniture manufacturing unit that, until recently, employed three full-time and three to four part-time employees. In the last year, however, the demand for the firm's furniture had grown, resulting in the firm hiring four more full-time and eight part-time workers. The growth was also accompanied by some new challenges. In the last eight months, Steve Smith, the owner-manager of the firm, has received a number of complaints about the reliability and quality of the firm's products. On inquiry, Smith found that different assemblers had differing ideas about how best to assemble the various components. The assembly-line type production format also required some workers to speed up their work in case the next person in the assembly chain waited for work. Steve called a meeting of all the workers and everyone eventually agreed on the production process. Work was also rearranged: all the employees now worked on initial product manufacturing in the mornings, while the afternoons were spent on final assembly and finishing. In less than three months, customer complaints were reduced by 45 per cent while production volume increased by 33 per cent.

In the case of Quality Furniture, an improvement in the task definition resulted in fewer customer complaints. Further, even an unsophisticated job analysis helped improve the performance standards.

Figure 2-1 lists major human resource actions that rely on job analysis information. For example, without job analysis information, human resource specialists would find it difficult to evaluate how environmental challenges or specific job

FIGURE 2-1

Major Human Resource Management Activities that Rely on Job Analysis Information

1. Efforts to improve employee productivity levels necessitate careful study of jobs.
2. Elimination of unnecessary job requirements that can cause discrimination in employment.
3. Matching of job applicants to job requirements.
4. Planning of future human resource requirements.
5. Determination of employee training needs.
6. Fair and equitable compensation of employees.
7. Efforts to improve quality of work life.
8. Identification of realistic and challenging performance standards.
9. Redesign of jobs to improve performance and/or employee morale.
10. Fair and accurate appraisal of employee performance.

requirements affect workers' quality of work life. To match job applicants to openings, human resource specialists must understand what each job requires. Similarly, compensation analysts could not be expected to determine a fair salary without detailed knowledge of each job. Even before a human resource department exists, successful managers consider the informal job information they have acquired. Human resource departments formalize the collection, evaluation, and organization of this information.

This chapter describes the specific information sought by job analysis and the techniques used to collect it. The chapter also describes how the data collected are converted into a useful human resource information system.

STEPS IN JOB ANALYSIS PROCESS

JOB ANALYSIS has three phases: preparation, collection of job information, and use of job information for improving organizational effectiveness (see Figure 2-2). Each phase consists of several actions, which are discussed below:

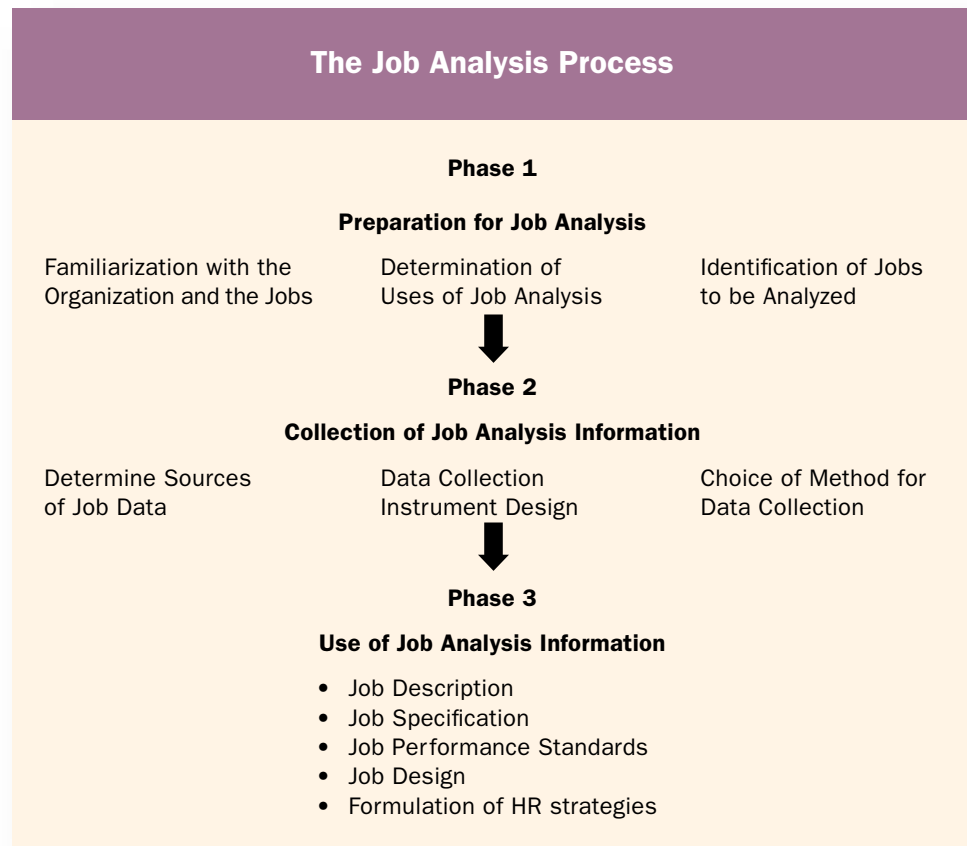
Phase 1: Preparation for Job Analysis

Three key activities are performed in this phase:

1. Familiarization with the Organization and Its Jobs

Before studying jobs, it is important to have an awareness of an organization's objectives, strategies, structure, inputs (people, materials, and procedures), and desired outcomes. Job analysts may also study industry and government reports about the

FIGURE 2-2



jobs to be analyzed. In all instances, the intent is to collect relevant and accurate information about jobs and factors determining job success.

2. Determination of Uses of Job Analysis Information

As shown in Figure 2-1, job analysis plays a critical role for many HR functions. While the most common uses of job analysis are in human resource selection, and training and designing performance appraisal and compensation systems,² job analysis may also be done to eliminate discrimination against specific employee groups or job redesign. In some cases, job analysis also aids the accomplishment of other objectives such as identifying “non-traditional career” paths for employees as the following example shows:

One job analysis study³ found that the skills, knowledge, and abilities essential for performance in secretarial and clerical positions are very similar to those needed in entry-level management positions. If female or minority employees are concentrated in secretarial or clerical positions, this information can be used to move them into managerial positions. Such employees can also utilize this information to make the best use of their work experience and training and plot future career paths.

The specific details collected during a job analysis are influenced by the objectives of the study; hence, it is critical to crystallize the objectives early on.

3. Identification of Jobs to be Analyzed

While almost all job positions could benefit from an in-depth analysis, resource and time constraints often preclude organizations from this. Likely targets of job analysis are jobs that are critical to the success of an organization; jobs that are difficult to learn or perform (since this determines the extent of training); jobs where the firm continuously hires new employees (since identification of clear job requirements assumes great importance); or jobs that preclude members of the protected classes described in Chapter 4. Jobs should also be analyzed if new technology or altered work environments affect the way the job is performed. If inappropriate job requirements are used, the organization may even be in violation of laws as the following example illustrates:

In the past, the Vancouver Fire Department required that all successful job applicants to the Department be at least five foot nine inches (175 cm) tall. When one of the applicants complained, the Human Rights Board looked into the Department’s selection practices. It could not find any correlation between the height of a fire fighter and injuries or productivity of the employees. The Department was found to be in violation of the Human Rights Act.⁴

In general, senior management and all key supervisors of the firm should be consulted before selecting jobs for in-depth analysis since the jobs selected for analysis can affect the strategic success and overall human resource policies (e.g., hiring, training) of the firm. The type, number, and the geographical dispersion of the jobs selected for analysis also influence the choice of data collection method.

Phase 2: Collection of Job Analysis Information

This phase contains three interrelated activities: determining the source of job data, data collection instrument design, and choosing the method of data collection.

1. Determination of the Source of Job Data

Although the most direct source of information about a job is the job incumbent, various other sources—both human and non-human—may be used for this purpose. Figure 2-3 lists alternate sources of job information.

As long as a person can demonstrate that he or she can do the job, discriminatory practices such as a height restriction for fire fighters are not permissible in Canada.



CP PHOTO ARCHIVE (Ryan Remiorz)

If job analysis has been done before, previous records may be used. Moreover, existing job descriptions, process specifications, and reports relating to individual and work group performance may also help in establishing the nature of the various jobs. Other sources such as equipment design blueprints, maintenance manuals and records, safety manuals, and videos and films from suppliers of machinery also provide valid insights into the manner in which jobs are performed. Several company records including organizational charts and reporting relationships often provide clues on the job outcomes, responsibilities, and interdependencies among jobs.

FIGURE 2-3

Sources of Job Data

Non-Human Sources

- Existing job descriptions and specifications
- Equipment design blueprints
- Equipment maintenance manuals and records
- Training and safety manuals
- Organization charts and other company records
- National Occupational Classification
- Videos/films supplied by appliance/machine manufacturers
- Professional journals/magazines/publications
- Internet research

Human Sources

- Job incumbents
- Supervisors
- Job experts
- Work colleagues
- Subordinates
- Customers



www.ihrim.org
www.hrpa.org
www.entrenet.com
www.hr2000.com

On several occasions, material published in professional journals and magazines provide information about how jobs are performed in other organizations and settings. This information can be valuable when establishing performance standards and benchmarks for quality. Other publications such as *National Occupational Classification* (NOC) in Canada and the U.S. Department of Labor's *Handbook for Analyzing Jobs* provide information on various jobs. The NOC will be discussed in greater detail later in this chapter.

More recently, the Internet is a valuable source for information for various jobs and occupational groups. Web sites of several professional associations and private consulting firms offer a wealth of information relevant in the context of job analysis and design of job descriptions.

The Web sites of professional human resource associations list the job duties of several job categories, while the Internet "want ads" provide clues about the way in which jobs are defined and performed in other similar organizations.

The current job incumbents, their supervisors, and colleagues provide the most valid information about the way jobs are performed in the firm. However, other parties can also provide important information about jobs:

In the case of a salesperson, added insights about job behaviours can be obtained by contacting past customers. In the case of college or university faculty, students may be able to provide important information on in-class behaviours related to effective job performance.

2. Data Collection Instrument Design

To study jobs, analysts most often develop questionnaires that are sometimes called checklists or *job analysis schedules*. These questionnaires seek to collect job information uniformly. They uncover the duties, responsibilities, human abilities, and performance standards of the jobs investigated.

The questionnaires are particularly important when collecting information from human sources; although, even in the case of non-human sources, the quality and comparability of information collected can be enhanced by the use of common checklists. It is important to use the same questionnaire on similar jobs. Analysts want differences in job information to reflect differences in the jobs, not differences in the questions asked. Uniformity is especially hard to maintain in large organizations; where analysts study similar jobs in different departments, only a uniform questionnaire is likely to result in usable data:

After two appliance producers merged, each initially retained its own human resource department and job analysis schedules. As a result, all the production supervisors evaluated by one form had their jobs and pay substantially upgraded. Even though the supervisors in the other plant had identical jobs, they received only modest pay raises.

As this example points out, similar jobs, if not studied with identical lists of questions, can result in confusion and inequity. This does not mean that the human resource department is limited to one questionnaire. Job analysts often find that technical, clerical, and managerial jobs require different checklists. Figure 2-4 shows an abbreviated sample form for conducting job analysis that can be modified to suit the needs of specific situations. Most standardized forms, however, attempt to measure the following items:

Status and Identification. *Status* refers to whether the job is exempt from overtime laws. Other *identification* information includes job title, division, and title of supervisor(s) (and sometimes a unique job identification number). Without these

Job analysis schedules

Checklist that seeks to collect information about jobs in a uniform manner.

entries, users of job analysis data may rely on outdated information or apply it to the wrong job. Since most jobs change over time, outdated information may misdirect other human resource activities:

At Maple Leaf Department Stores, new job analysis information had not been collected for two years for the job of billing clerk. The outdated information indicated that bookkeeping experience was the major skill needed by clerks. However, in the last two years, the store's entire billing system had been computerized, thereby making bookkeeping skills unimportant; instead, billing clerks now needed keying skills to process billing information into the computer.

Duties and Responsibilities. Many job analysis schedules briefly explain the purpose of the job, what the job accomplishes, and how the job is performed. This summary provides a quick overview. The specific duties and responsibilities are also listed to give more detailed insight into the position. Questions on responsibility are expanded significantly when the checklist is applied to management jobs. Additional questions map areas of responsibility for decision-making, controlling, organizing, planning, and other management functions.

Human Characteristics and Working Conditions. Besides information about the job, analysts need to uncover the particular skills, abilities, training, education, experience, and other characteristics that jobholders need. This information is invaluable when filling job openings or advising workers about new job assignments. Information about the job environment improves understanding of the job. Working conditions may explain the need for particular skills, training, knowledge, or even a particular job design. Likewise, jobs must be free from recognizable health and safety hazards. Knowledge of hazards allows the human resource department to redesign the job or protect workers through training and safety equipment. Unique working conditions also influence hiring, placement, and compensation decisions:

During the Second World War, one airplane manufacturer had problems installing fuel tanks inside the wings of the bombers, which had extremely narrow and cramped crawl space. These tight conditions caused considerable production delays. When the human resource department learned about this situation, it recruited welders who were less than five feet (152 cm) tall and weighed less than 100 pounds (45.5 kg).

Performance Standards. The job analysis questionnaire also seeks information about job standards, which are used to evaluate performance. This information is collected on jobs with obvious and objective standards of performance. When standards are not readily apparent, job analysts may ask supervisors or industrial engineers to develop reasonable standards of performance.

Various standardized forms are currently available for job analysis. Two of the more popular ones are Functional Job Analysis and Position Analysis Questionnaire.

Functional Job Analysis (FJA). The FJA classifies tasks using three functional scales related to data, people, and things.⁵ Each functional scale lists behaviours hierarchically. For example, the lowest level in "people" dimension is "taking instruction" while the highest is "mentoring others." Similarly, "comparing data" is the simplest of the behaviours in dealing with data ("synthesizing" is the most complex). The job analyst, when studying a job, indicates the level at which the employee is operating for each of the three categories. For example, the job might involve "50 per cent copying"). This is done for each of the three areas. The result is a quantitatively evaluated job.



[mime1.marc.gatech.edu/
mm_tools/JCAT.html](http://mime1.marc.gatech.edu/mm_tools/JCAT.html)

FIGURE 2-4

Job Analysis Questionnaire

Maple Leaf Department Stores Job Analysis Questionnaire (Form 18-JAQ)

A. Job Analysis Status

1. Job analysis form revised on _____
2. Previous revisions on _____
3. Date of job analysis for specified job _____
4. Previous analysis on _____
5. Job analysis is conducted by _____
6. Verified by _____

B. Job Identification

1. Job title _____
2. Other titles _____
3. Division(s) _____
4. Department(s) _____
5. Title of supervisor(s) _____

C. Job Summary

Briefly describe purpose of job, what is done, and how. _____

D. Duties

1. The primary duties of this job are best classified as:

Managerial _____ Technical _____
Professional _____ Clerical _____

2. List **major** duties and the proportion of time each involves:

a. _____ %
b. _____ %
c. _____ %

3. List other duties and the proportion of time each involves:

a. _____ %
b. _____ %
c. _____ %

4. What constitutes successful performance of these duties? _____

5. How much training is needed for normal performance of these duties? _____

E. Responsibility

1. What are the responsibilities involved in this job and how great are these responsibilities?

Extent of Responsibility

Responsibility for:

Minor

Major

- | | | |
|-----------------------------|-------|-------|
| a. Equipment operation | _____ | _____ |
| b. Use of tools | _____ | _____ |
| c. Materials usage | _____ | _____ |
| d. Protection of equipment | _____ | _____ |
| e. Protection of tools | _____ | _____ |
| f. Protection of materials | _____ | _____ |
| g. Personal safety | _____ | _____ |
| h. Safety of others | _____ | _____ |
| i. Others' work performance | _____ | _____ |
| j. Other (Specify _____) | _____ | _____ |

F. Human Characteristics

1. What physical attributes are necessary to perform the job? _____

FIGURE 2-4 CONTINUED

2. Of the following characteristics, which ones are needed and how important are they?

Characteristic	Unneeded	Helpful	Essential
1. Vision	_____	_____	_____
2. Hearing	_____	_____	_____
3. Talking	_____	_____	_____
4. Sense of smell	_____	_____	_____
5. Sense of touch	_____	_____	_____
6. Sense of taste	_____	_____	_____
7. Eye-hand coordination	_____	_____	_____
8. Overall coordination	_____	_____	_____
9. Strength	_____	_____	_____
10. Height	_____	_____	_____
11. Health	_____	_____	_____
12. Initiative	_____	_____	_____
13. Ingenuity	_____	_____	_____
14. Judgment	_____	_____	_____
15. Attention	_____	_____	_____
16. Reading	_____	_____	_____
17. Arithmetic	_____	_____	_____
18. Writing	_____	_____	_____
19. Education (Level ____)	_____	_____	_____
20. Other (Specify _____)	_____	_____	_____

3. Experience for this job:
 _____ a. Unimportant
 _____ b. Includes _____ (months) as (job title) _____

4. Can training be substituted for experience?
 _____ Yes How: _____
 _____ No Why: _____

G. Working Conditions

- Describe the physical conditions under which this job is performed.
- Are there unusual psychological demands connected with this job?
- Describe any unusual conditions under which the job is performed.

H. Health or Safety Features

- Describe fully any health or safety hazards associated with this job.
- Is any safety training or equipment required?

I. Performance Standards

- How is the performance of this job measured?
- What identifiable factors contribute most to the successful performance of this job?

J. Miscellaneous Comments

Are there any aspects of this job that should be especially noted? _____

Job Analyst's Signature

Date Completed



harvey.psyc.vt.edu/

Position Analysis Questionnaire (PAQ). The PAQ⁶, designed to apply to all types of jobs, offers an even more quantitative and finely tuned description of jobs than FJA. Using a five-point scale, the PAQ aims to determine the degree to which 194 different task elements are involved in performing a particular job (the five-point scale measures a continuum of “nominal or very infrequent” at the lowest level to “very substantial” at the highest). The PAQ allows grouping of job elements in a logical and quantitative manner and the number of job elements covered under various categories are large (e.g., there are 36 different elements that measure “relationships with other people”). This, in turn, is claimed to make job comparison easy. Past research, however, has indicated PAQ to be more useful for lower-level jobs.⁷

3. Choice of Data Collection Method

There is no one best way to collect job analysis information. Analysts must evaluate the trade-offs between time, cost, and accuracy associated with each method.⁸ Once they decide which trade-offs are most important, they use interviews, questionnaires, employee logbooks, observations, or some combination of these techniques.

Interview

Approach to collecting job and performance-related information by face-to-face meeting with job holder, typically using a standardized questionnaire.

Interviews. Face-to-face *interviews* are an effective way to collect job information. The analyst has the questionnaire as a guide, but can add other questions where needed. Although the process is slow and expensive, it allows the interviewer to explain unclear questions and probe into uncertain answers. Both jobholders and supervisors typically are interviewed. The analyst usually talks with a limited number of workers first and then interviews supervisors to verify the information. This pattern ensures a high level of accuracy. The validity of the information received depends on the representativeness of the sample of the respondents and the type of questions used.

Mailed questionnaires

Surveying employees using standardized questionnaires to collect information about jobs, working conditions, and other performance-related information.

Mailed Questionnaires. A fast and less costly option is to survey employees using a *mailed questionnaire*. This can be done using internal (or interoffice) mail or Canada Post (or by fax). This approach allows many jobs to be studied at once and at little cost. However, there is less accuracy because of misunderstood questions, incomplete responses, and unreturned questionnaires. Supervisors can also be given questionnaires to verify employee responses. Given today's technology, electronic surveys are also a viable option.

Employee log

Approach to collecting job and performance-related information by asking the jobholder to summarize tasks, activities, and challenges in a diary format.

Employee Log. An *employee log* or diary is a third option. Workers periodically summarize their tasks and activities in the log. If entries are made over the entire job cycle, the diary can prove quite accurate. It may even be the only feasible way to collect job information:

The 35 account executives at New Brunswick Brokers each handled a bewildering array of activities for clients. Since interviews and questionnaires often overlooked major parts of the job, the human resource department suggested a logbook. Most account executives initially resisted the idea, but eventually agreed to a one-month trial. The human resource department obtained the information it wanted, and account executives learned how they actually spent their days.

Logs are not a popular technique. They are time-consuming for jobholders and human resource specialists. This makes them costly. Managers and workers often see them as a nuisance and resist their introduction. Moreover, after the novelty wears off, accuracy tends to decline as entries become less frequent.

Observation

An approach to collecting job and performance-related information by direct observation of job holder by a specialist.

Observation. Another approach is direct *observation*. It is slow, costly, and potentially less accurate than other methods. Accuracy may be low because the analysts may miss irregularly occurring activities. But observation is the preferred method

in some situations. When analysts question data from other techniques, observation may confirm or remove doubts. The existence of language barriers may also necessitate the observation approach, especially in cases involving foreign-language workers.

Combinations. Since each method has its faults, analysts often use two or more techniques concurrently:

A lumber company had six facilities scattered across Canada and the United States. To interview a few workers and supervisors at each facility was considered prohibitively expensive; to rely only on questionnaire data was thought to be too inaccurate. Therefore, the human resource department interviewed selected employees at the home office and sent questionnaires to other facilities.

Combinations

Concurrent use of two or more job analysis techniques (e.g., interviews and observation).

Combinations can ensure high accuracy at minimum cost, as the example implies. Human resource departments may even use combined methods when all employees are at the same location. Regardless of the technique used, the job analysis information is of little value until analysts convert it into more usable forms.

Past research studies indicate that different job analysis methods better suit varying human resource management purposes.⁹ Figure 2-5 provides a scheme for using job analysis information. It should be noted that the figure highlights only the relative strength of each method for each purpose. For example, information collected through observation is most useful for selection and appraisal of employees. Key considerations in the choice of job analysis method should include method-purpose fit, practical feasibility, cost, and reliability of the data collected for making valid decisions. Job analysis information enables an organization to take the proactive actions discussed.

Phase 3: Use of Job Analysis Information

The information collected about various jobs is put into such usable forms as job descriptions, job specifications, and job standards. Together, these applications of job analysis information provide a minimum human resource information system and data necessary for formulating various HR strategies. The remainder of this chapter discusses these applications.

FIGURE 2-5

Different Job Analysis Methods Best Suit Different HR Goals

Method of Data Collection	Job Description and Design	Selection	Training	Compensation	Counselling
Interviews	*	*	*	*	*
Questionnaires	*	*	*	*	
Employee log	*				*
Observation	*	*	*		

Source: Based on several past writings including: E.L. Levine, R.A. Ash, and N. Bennett. "Explorative Comparative Study of Four Job Analysis Methods." *Journal of Applied Psychology*, Vol. 65, 1980. pp. 524–35 and E.L. Levine, R.A. Ash, H. Hall, and F. Sistrunk, "Evaluation of Job Analysis Methods by Experienced Job Analysts," *Academy of Management Journal*, Vol. 26, No. 2, 1983, pp. 339–48.

JOB DESCRIPTION

Job description

A recognized list of functions, tasks, accountabilities, working conditions, and competencies for a particular occupation or job.



www.salarysource.com/description.cfm

A JOB DESCRIPTION is a written statement that explains the duties, working conditions, and other aspects of a specified job.

Contents of a Typical Job Description

Within a firm, all the job descriptions follow the same style, although between organizations, form and content may vary. One approach is to write a narrative description that covers the job in a few paragraphs. Another typical style breaks the description down into several subparts, as shown in Figure 2-6. This figure shows a job description that parallels the job analysis checklist that originally generated the data.

FIGURE 2-6

A Job Description	
Maple Leaf Department Stores Job Description	
Job Title: _____	Job Code: _____
Date: _____	Author: _____
Job Location: _____	Job Grade: _____
Report to: _____	Status: _____
Job Summary:	Interacts with customers on a daily basis, promptly responding to all inquiries in a courteous and efficient manner. Encourages the sale of company products at every opportunity and applies exemplary customer relation skills that promote a superior company image. Provides information to customers about product features and substitutes when asked.
Responsibilities:	<p>Responds to customer inquiries on product features, prices, services, and delivery terms.</p> <p>Takes customer orders for products and communicates these accurately to supply and servicing personnel in the company.</p> <p>Accepts returns of merchandise by customers and gives them credit for the same.</p> <p>Displays and stocks merchandise on shelves.</p> <p>Appropriately prices items based on instructions received from the supervisor.</p> <p>Prepares necessary documents and transmits/files copies to relevant offices within the company.</p> <p>Responds to other miscellaneous inquiries especially those related to warranties, delivery terms, servicing frequencies (in the case of equipment).</p> <p>Undertakes other tasks assigned by the supervisor.</p> <p>Operates cash register and balances accounts at the end of the shift.</p>
Working Conditions:	<p>Works in a well-ventilated office.</p> <p>Must be able to work shifts.</p>
The above information is correct as approved by:	
(Signed) _____	(Signed) _____
Customer Service Representative	Customer Service Supervisor



www.spb.ca.gov/
wwwcp1rd.cfm

Job identity

Key part of a job description, including job title, location, and status.

Job code

A code that uses numbers, letters, or both to provide a quick summary of the job and its content.

National Occupational Classification (NOC)

An occupational classification by federal government, using skill level and skill type of jobs.

The key parts of a job description are: job identity, job summary, job duties and working conditions. Most job descriptions also identify the author, the work supervisor, and the date on which it was prepared.

Job Identity

The section on *job identity* typically includes job title, job location, job code, job grade, and its status (whether or not exempted from overtime laws). *Job codes* use numbers, letters, or both to provide a quick summary of the job. These codes are useful for comparing jobs. Figures 2-7 and 2-8 explain the coding used in the *National Occupational Classification (NOC)*. The two major attributes of jobs that were used as classification criteria in developing the NOC were *skill level* (amount and type of education and training) and *skill type* (type of work performed). Other factors, such as industry and occupational mobility, were also taken into consideration.¹⁰

Skill Level. Four skill level categories are identified in the NOC, describing the educational and training requirements of occupations (see Figure 2-7).

Skill Type. Skill type is defined generally as the type of work performed. Ten broad occupational categories (0 to 9) are identified in the NOC. Figure 2-8 describes these in detail.

FIGURE 2-7

NOC Skill Level Criteria		
	Education/Training	Other
Skill Level A	University degree (Bachelor's, Master's, or postgraduate)	
Skill Level B	Two to three years of post-secondary education at community college, institute of technology, or CEGEP <i>or</i> Two to four years of apprenticeship training <i>or</i> Three to four years of secondary school and more than two years of on-the-job training, training courses or specific work experience	Occupations with supervisory responsibilities are assigned to skill level B. Occupations with significant health and safety responsibilities (e.g., firefighters, police officers, and registered nursing assistants) are assigned to skill level B.
Skill Level C	One to four years of secondary school education Up to two years of on-the-job training, training courses or specific work experience	
Skill Level D	Up to two years of secondary school and short work demonstration or on-the-job training	

FIGURE 2-8

NOC Skill Type Categories	
When the first digit is ... the Skill Type Category is	
1	Business, Finance, and Administrative Occupations
2	Natural and Applied Sciences and Related Occupations
3	Health Occupations
4	Occupations in Social Science, Education, Government Service, and Religion
5	Occupations in Art, Culture, Recreation, and Sport
6	Sales and Service Occupations
7	Trades, Transport and Equipment Operators, and Related Occupations
8	Occupations Unique to Primary Industry
9	Occupations Unique to Processing, Manufacturing, and Utilities
When the second digit is ... the Skill Level Category is	
1	Skill Level A (Professional Occupations)
2 or 3	Skill Level B (Technical, Paraprofessional, and Skilled Occupations)
4 or 5	Skill Level C (Intermediate Occupations)
6	Skill Level D (Labouring and Elemental Occupations)

Important Note: This applies to all occupations except management occupations. For management, the first digit is “0” and the second digit represents the skill type categories, from 1 to 9, as above.

Source: Human Resources Development Canada, National Occupation Classification. Reproduced with permission of the Minister of Public Works and Government Services Canada, 1998.



(Website: www.cthrb.ca)

An even more refined job classification for certain jobs is provided by Canadian Technology Human Resources Board. It is particularly useful for applied science and engineering disciplines.

Job Summary and Duties

After the job identification section (in Figure 2-6), the next part of the description is the job summary. It is a written narrative that concisely summarizes the job in a few sentences. It tells what the job is, how it is done, and why. Most authorities recommend that job summaries specify the primary actions involved. Then, in a simple, action-oriented style, the job description lists the job duties.

This section is important to human resource specialists. A well-developed job description helps an organization to define clearly the required duties and responsibilities associated with a position.¹¹ In essence, it explains what the job requires. The effectiveness of other human resource actions depends upon this understanding because each major duty is described in terms of the actions expected. Tasks and activities are identified. Performance is emphasized. Even responsibilities are implied

or stated within the job duties. If employees are members of a union, the union may want to narrow the duties associated with specific jobs:

Before the union organized, the employee job descriptions contained the phrase “or other work as assigned.” The union believed supervisors abused this clause by assigning idle workers to do unrelated jobs. With the threat of a strike, management removed the phrase, and supervisors lost much of their flexibility in assigning work.

Working Conditions

Working conditions
Includes physical environment, hours, hazards, travel requirements, etc. associated with a job.

A job description also explains *working conditions*. It may go beyond descriptions of the physical environment. Hours of work, safety and health hazards, travel requirements, and other features of the job expand the meaning of this section.

Approvals

Since job descriptions affect most human resource decisions, their accuracy should be reviewed by selected jobholders and their supervisors. Then supervisors are asked to approve the description. This approval serves as a further test of the job

FIGURE 2-9

Examples of NOC Unit Groups

NOC Coding System. A two-digit code is assigned at the major group level. A third digit is added at the minor group level, and a fourth digit is added at the unit group level. For example:

- Major Group 31 — Professional Occupations in Health
- Minor Group 314 — Professional Occupations in Therapy and Assessment
- Unit Group 3142 — Physiotherapists

Using the above coding system, the following codes are identified:

0211	Engineering Managers
0212	Architecture and Science Managers
0721	Facility Operation Managers
0722	Maintenance Managers
2231	Civil Engineering Technologists and Technicians
2234	Construction Estimators
3223	Dental Technicians
3412	Dental Laboratory Bench Workers
4164	Social Policy Researchers, Consultants, and Program Officers
4165	Health Policy Researchers, Consultants, and Program Officers
4214	Early Childhood Educators
6473	Early Childhood Educator Assistants
6443	Amusement Attraction Operators and Other Amusement Occupations
6671	Attendants in Recreation and Sport
7265	Welders
9515	Welding, Brazing, and Soldering Machine Operators

Source: Human Resources Development Canada, National Occupation Classification. Reproduced with permission of the Minister of Public Works and Government Services Canada, 1998.

description and a further check on the collection of job analysis information. Neither human resource specialists nor managers should consider approval lightly. If the description is incorrect, the human resource department will become a source of problems, not assistance:

In explaining the job of foundry attendant to new employees, human resource specialists at one firm relied on an inaccurate job description. Many new employees quit the job during the first two weeks. When asked why, most said the duties were less challenging than they were led to believe. When analysts checked, it was found that the job description had never been verified by the supervisors.

JOB SPECIFICATIONS

Job specification

A written statement that explains what a job demands of job holders and the human skills and factors required.

THE DIFFERENCE between a job description and a job specification is one of perspective. A job description defines what the job does; it is a profile of the job. A **job specification** describes what the job demands of employees who do it and the human factors that are required. It is a profile of the human characteristics needed by the job. These requirements include experience, training, education, physical demands, and mental demands.

Since the job description and job specification both focus on the job, they are often combined into one document. The combination is simply called a job description. Whether part of a job description or a separate document, job specifications include the information illustrated in Figure 2-10. The data to compile specifications also come from the job analysis checklist.

Job specifications contain a job identification section if they are a separate document. The subheadings and purpose are the same as those found in the job identification section of the job description.

A job specification should include specific tools, actions, experiences, education, and training (i.e., the individual requirements of the job). For example, it should describe “physical effort” in terms of the special actions demanded by the job. “Lifts 40-kilogram bags” is better than “Lifts heavy weights.” Clear behaviour statements give a better picture than vague generalities.¹² Specifications of mental effort help human resource experts to determine the intellectual abilities that are needed to perform the job. Figure 2-10 contains several examples of the kind of information about physical and mental efforts needed by customer service representatives working for a department store.

The job specification for these Hydro workers should clearly state that working outdoors under extreme conditions is a regular part of the job.



FIGURE 2-10

A Job Specification Sheet	
Maple Leaf Department Stores Job Specification	
Job Title: _____	Job Code: _____
Date: _____	Author: _____
Job Location: _____	Job Grade: _____
Report to: _____	Status: _____
SKILL FACTORS	
Education:	Ten years of general education or equivalent.
Experience:	Prior selling experience in a consumer-goods industry is desirable.
Communication:	Strong interpersonal skills a must. Ability to empathize with customer needs when communicating. Knowledge of French highly desirable. Should have strong oral communication skills.
EFFORT FACTORS	
Physical Demands:	Normally limited to those associated with clerical jobs although long periods of standing may be required in some instances. Should be able to lift products weighing 10 kilograms or less. Finger dexterity to operate a computer keyboard and cash register is essential.
Mental Demands:	Ability to respond to customer inquiries regarding prices, service terms, etc. a must. This requires good short term memory. Ability to learn and remember product codes of popular items.
Working Conditions:	Works in a well-ventilated office. May have to work outdoors in the case of lawn/gardening-related equipment.
The above information is correct as approved by:	
(Signed) _____	(Signed) _____
Customer Service Representative	Customer Service Supervisor

Do the working conditions make any unusual demands on jobholders? The working conditions found in job descriptions may be translated by job specifications into demands faced by workers. Figure 2-11 provides examples for the job of hospital orderly. It shows that a simple statement of working conditions found in the job description can hold significant implications for jobholders. For example, compare points 2 and 3 under the job description column with points 2 and 3 under job specifications.

FIGURE 2-11

Calgary General Hospital Hospital Orderly	
Job Description Statement of Working Conditions	Job Specifications Interpretation of Working Conditions
1. Works in physically comfortable surroundings.	1. (Omitted. This item on the job description makes no demands on jobholders.)
2. Deals with physically ill and diseased patients.	2. Exposed to unpleasant situations and communicable diseases.
3. Deals with mentally ill patients.	3. May be exposed to verbal and physical abuse.

When preparing specifications, it is critical not to include needless job requirements, as the following example illustrates:

In one instance, an employer required a high-school diploma for nearly all jobs within the company except those in the labour pool. When the need for a diploma was challenged, the employer could not show that it was absolutely necessary to perform many of the jobs for which it was officially required, and although this requirement was applied equally to all applicants, it had an unequal impact on applicants from minority groups. As a result, many persons belonging to such groups were offered labour-pool jobs only.

Further, needless job requirements exclude potentially qualified individuals from consideration, which may reduce the effectiveness not only of hiring, but also of other human resource activities.

More recently, competency-based job descriptions and specifications have become increasingly popular. A *competency* is a knowledge, skill, ability, or characteristic associated with high performance on a job, such as problem solving, analytical thinking, or leadership.¹³ Others have defined the concept “an attribute bundle,” consisting of task competencies, results competencies, and knowledge, skills, behaviours, and attitude competencies.¹⁴ Whatever the precise definition, the objective in most cases is to identify characteristics that are associated with superior job performance.

Competencies are identified after a careful analysis of the work of high performers. This may be done through observation, listings of critical behaviours or incidents at work, interviews, employee logs, or otherwise. Some organizations have used competencies as the foundation for job design, new performance management systems, selection and career pathing, compensation, training and development, and in a few cases, a highly integrated human resource management system called “competency-based management.”

A survey of 219 Canadian organizations by The Conference Board of Canada found that 45 per cent of the responding firms used a competency framework for training and development activities. A large number of the respondents had also used it for hiring, compensation, and performance management. According to 85 per cent of the respondents, the adoption of a competency framework had enabled their training programs to become more strategic, while facilitating decision making. This was because a competency framework allowed employees to quickly identify the success factors in their organizational and personal work.¹⁵

Competency

A knowledge, skill, ability, or characteristic associated with superior job performance.



[www.wiso.uni-augsburg.de/
sozio/hartmann/psycho/
journals.html](http://www.wiso.uni-augsburg.de/sozio/hartmann/psycho/journals.html)



SPOTLIGHT ON HRM

EVERYTHING YOU WANTED TO KNOW ABOUT COMPETENCY MODELLING

A current hot topic in HRD is competency modelling. For the record, the idea of testing for competence rather than intelligence was first proposed in the early 1970s by David McClelland, a former Harvard psychologist. McClelland was asked by the U.S. Foreign Service to find new research methods that could predict human performance and reduce the bias of traditional intelligence and aptitude testing. Thus, the notion of competence measurement was born. . . .

Let's start with a glossary of terms used by most proponents of competency modelling.

Ability. This refers to a talent, such as manual dexterity, visual or spatial acuity, or conceptual thinking. The premise is that though abilities may be taught, learned, or enhanced, there's a natural predisposition to them.

Behaviour. This is the observable demonstration of some competency, skill, ability, or characteristic. It is a set of actions that, presumably, can be observed, taught, learned, and measured.

Behavioural anchors. These are more specific than behaviours, which are descriptive but independent of each other. Anchors are built in levels; each level of description is more complex than the previous one.

Cluster. This is a group of competencies, skills, or behaviours, organized for the purpose of simplification. An example might be a technical cluster under which various behaviours describe the cluster for a job or group of jobs. Cluster can also refer to a group of jobs connected by a common knowledge base or by organizational structure.

Competency. This is a knowledge, skill, ability, or characteristic associated with high performance on a job, such as problem solving, analytical thinking, leadership. Some definitions of a competency include motives, beliefs, and values.

Competency model. This term describes the output from analyses that differentiate high performers from average and low performers. Competency models are represented in different formats, depending on the methods used to collect the data, customers' requirements, and the particular biases of the people creating the model.

Core competency. This term refers to organizational capabilities or strengths—what an organization does best. A core competency might be product development or customer service.

Criticality. This is a measure of how important a particular competency is for a job or group of jobs.

Constructing the Model

Here are some tools for building a competency model.

Job-analysis interviews. Job-analysis interviews can be conducted in person or on the phone, and one-on-one or in focus groups. Interviews are probably the best method of data collection because the interviewer can probe and ask follow-up questions. It is, however, time-consuming.

Focus groups. Focus groups are useful for collecting information ... when it's not practical to conduct one-on-one interviews. Focus groups also stimulate dialogue, though the information can be biased in favour of dominant participants.

Questionnaires. These are useful when it's necessary to interview many.. experts.. and when there are time constraints. It's imperative to have appropriate questions, a sufficient sample returned, and the results analyzed and interpreted accurately.

Job descriptions. These can be useful sources of information, assuming that they are up-to-date and supplemented with some data from interviews or questionnaires.

Competency-model formats. The best way to explain the different formats for building a competency model is to give examples. Some models use statistical data to describe the competency requirements in specific detail and use less detail in the competency descriptions. Others reverse the balance.

In a competency model for a district sales manager, the approach might be to identify success factors (competencies), provide a behavioural description of each one, rank-order the factors by criticality, and establish a proficiency level for each factor. Success factors might include "leadership," "integrity," "self-motivation," and "tenacity."

Such models are useful for identifying job or role requirements at the competency level and for matching jobs with people.

A cluster-type model of leadership success factors for manufacturing managers might list behavioural descriptors under broad categories or themes, such as “developing oneself” and “working with others.” For example, under the category “taking initiative,” the behavioural descriptions might include “finds innovative paths to effective results” and “takes risks.” No criticality or proficiency is established for the clusters or descriptors. These types of models are useful for capturing information in groups and for grouping jobs in such horizontal categories as “managers” or “executives.” . . .

The most important point about competency models is that the formats be governed by the collective wisdom of the people that need and build them. Still, if those people have only one way of producing output, a second opinion might be desirable. The decision to use a particular type of competency model should be determined by the desired applications.

For example, if the model’s intended purpose is performance management, it’s best to have more detail or specificity in the model.

If the applications are to be succession planning, staffing, or 360 feedback, it might not be necessary to have a high level of detail, depending on how the competencies or success factors are defined.

Remember: Applications that seem unnecessary at first may prove useful down the road. . . .

Competency models provide potentially valuable information, but they’re useless if there’s no coherent and systemic implementation strategy for leveraging the information....

Content. Process. Structure. Those make up the foundation for successful change. No matter what anyone tells you, implementing a competency model is a change effort. For instance, new information will be used to modify HRD efforts or introduce new ones. The model will also affect the way people do their jobs, and it will affect decisions on employees’ careers, their perceptions of their competence, their potential for advancement, and other job and career issues.

On an administrative level, a competency model requires someone to manage the new information to ensure confidentiality, accuracy, and relevance to current circumstances. Therefore, it’s crucial that the “drivers” of the model implementation maintain an appropriate perspective. Without that, the changes and the organization’s complexities can become obstacles to success.

Source: Richard J. Mirabile, “Everything You Wanted to Know About Competency Modeling,” *Training & Development*, August 1997, pp. 73-77. Copyright August 1997, The American Society for Training and Development. Reprinted with permission. All rights reserved.

JOB PERFORMANCE STANDARDS

Job performance standards

The work performance expected from an employee on a particular job.

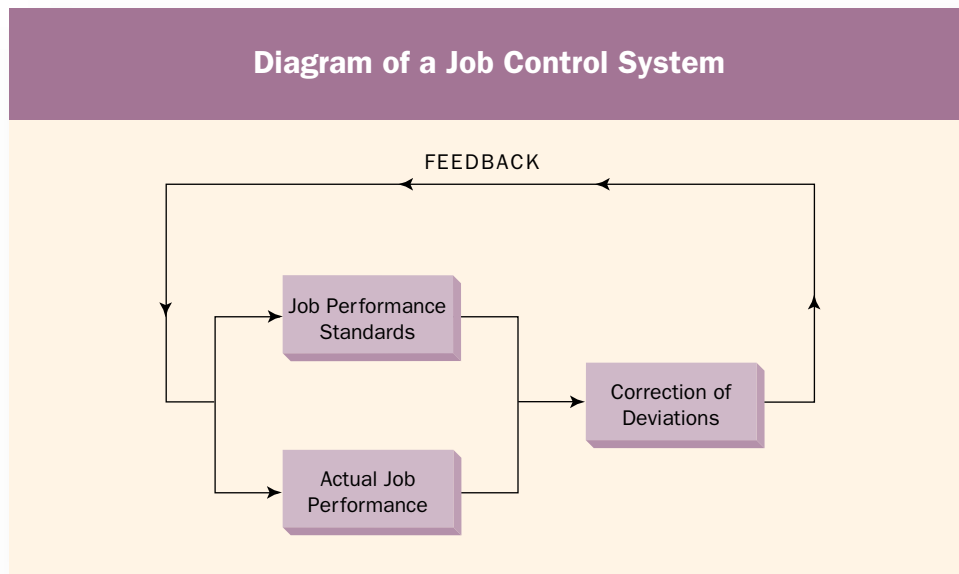
JOB ANALYSIS has a third application, *job performance standards*. These standards serve two functions. First, they become objectives or targets for employee efforts. The challenge or pride of meeting objectives may serve to motivate employees. Once standards are met, workers may feel accomplishment and achievement. This outcome contributes to employee satisfaction. Without standards, employee performance may suffer.

Second, standards are criteria against which job success is measured. They are indispensable to managers or human resource specialists who attempt to control work performance. Without standards, no control system can evaluate job performance.

All control systems have four features: standards, measures, correction and feedback. The relationship among these four factors is illustrated in Figure 2-12. Job performance standards are developed from job analysis information, and then actual employee performance is measured. When measured performance strays from the job standard, corrective action is taken. The corrective action, in turn, may result in changes in either the standards (if they were inappropriate) or actual job performance:

In the Calgary Trust Company, current standards dictated that each loan supervisor review 350 mortgage-loan applications per month. Yet the actual output averaged 290. When more recent job information was collected, analysts discovered that since

FIGURE 2-12



the standards had been first set, several new duties had been added for each supervisor. Corrective action resulted in new job designs, revised job descriptions, and more realistic standards.

When the standards are wrong, as in the trust company example, they alert managers and human resource specialists to problems that need correction. The example also underscores the need for keeping job analysis information current.

Job standards are obtained either from job analysis information or from alternative sources. For example, industry standards may be used as benchmarks for performance in certain jobs (especially service functions such as human resource management function).¹⁶ Job analysis information is usually sufficient for jobs that have the following features:

- performance is quantified;
- performance is easily measurable;
- performance standards are understood by workers and supervisors;
- performance requires little interpretation.

Jobs with short work cycles often exhibit these features. An example is an assembly-line job. For these jobs, questions on the job analysis checklist may generate specific, quantitative answers. When confirmed by supervisors, this information becomes the job performance standard. In the case of some service jobs, quantifiable “outputs” may not be readily available; but even here, performance can be appraised by looking at the behaviours of the job holders. More details of behaviourally oriented performance appraisals will be discussed in Chapter Nine.

Alternative Sources of Standards

Although job analysis information does not always provide a source of job standards, it is necessary even if analysts use other means to develop reasonable standards. The most common alternative sources of job standards are work measurement and participative goal setting.

Work Measurement

Work measurement

Methods for evaluating what a job's performance standards should be.

Historical data

Use of past production records to understand jobs and their performance standards.

Time studies

Identification and timing of each element in a job to find out how long the entire job takes to be performed.

Work sampling

Process by which a particular job and its elements are observed on many occasions to identify the rated and standard time needed to carry out various job elements.

Participative goal setting

A process of goal setting where managers develop performance standards through discussions with subordinates.

Work measurement techniques estimate the normal performance of average workers; the results dictate the job performance standard. Such techniques are applied to non-managerial jobs and are created from historical data, time study, and work sampling. They may be used by the human resource department, line management, or industrial engineering. Regardless of who applies work measurement techniques, however, job analysis information is also needed.

Historical Data. *Historical data* can be obtained from past records if job analysis does not supply performance standards. For example, the number of shirts produced per month by a clothing manufacturer indicates how many sleeves, collars, and buttons should be sewn on by each worker. One weakness of this approach is that it assumes past performance is average performance. Another weakness is that historical data are useless on new jobs. However, if production records are reviewed for longstanding jobs, historically based standards may be more accurate than standards drawn from a job analysis checklist.

Time Study. *Time studies* produce standards when jobs can be observed and timed. Time studies identify each element within a job. Then each element is timed while being repeated by an average worker using the standard method of doing the job. The average times for each element of the job are summed up to yield the *rated job time*. Allowances for rest breaks, fatigue, or equipment delays are added to produce a *standard time*. The standard time allows human resource specialists to compute performance standards:

Assume an administrative assistant can key a page of straight copy in an average of four minutes, based on several direct observations. To this rated job time of four minutes, allowances for changing disks, replacing printer paper, taking rest breaks, and so on, are added. The total is a standard time of five minutes. This means that the administrative assistant's standard of performance should be an average of one page of keying per five minutes, or 12 pages an hour.

Work Sampling. How does the analyst know the number of minutes to add for allowances? Allowances are usually set through *work sampling*.

By making 300 observations of clerks at different times during the day over a two-week period, for example, analysts might discover that the clerks were actually keying two-thirds of the time. If eight minutes of uninterrupted keying are required to key a page, then the standard time can be computed by dividing the rated time of eight minutes by the fraction of time spent working, or two-thirds in this example. The result is a standard time of twelve minutes. Mathematically, the computation is:

Rated time ÷ observed proportion of work time used = standard time
OR 8 minutes ÷ 2/3 = 12 minutes

Standards for some jobs cannot be determined by either job analysis information or work measurement. In service or managerial jobs, output may reflect changing trade-offs. For example, the number of customers handled by a grocery checkout clerk depends on how busy the store is and on the size of each customer's purchases. But standards are still useful, even though they are difficult to set. In some cases, mutual agreement between the worker and the manager—participative goal setting—is more likely to be effective.

Participative Goal Setting

When a job lacks obvious standards, managers may develop them participatively through discussions with subordinates. These conversations discuss the purpose of the job, its role in relation to other jobs, the organization's requirements, and the

employee's needs. The employee gains insight into what is expected. Implicit or explicit promises of future rewards may also result. From these discussions, the manager and the employee reach some jointly shared objectives and standards. The process may even lead to greater employee commitment, morale, satisfaction, and motivation. Since objectives are usually for individual positions (instead of jobs), they are seldom included in job descriptions.

Performance standards sometimes are set participatively with union leaders. Labour leaders understand the important role of job analysis information, and they may insist on negotiating performance standards for jobs. These negotiated agreements are written into legally enforceable contracts:

In one paper products company, management decided to increase production rates by five per cent to meet customer demand. After this was done, the union threatened legal action because the new standards conflicted with those in the labour contract. Management was forced to retain the old standard.

Today, several organizations identify competencies associated with specific job positions, which are then used for hiring, training, and other human resource functions. While alternate approaches to designing performance standards under a competency approach exist, an example of one approach is shown in Figure 2-13. In this type of model, the key clusters and competencies are first identified. A *cluster* is a group of competencies, skills, or behaviours organized for the purpose of simplification, while competencies themselves (as defined earlier in this chapter) refer to the knowledge, skill, ability, and other characteristics associated with high performance on a job. The clusters and competencies are typically listed with the definitions on the left side and the possible performance behaviours for establishing a level of proficiency for each competency on the right side.

Other competency formats for describing performance exist. Some formats identify competencies, provide a behavioural description of each one, rank-order the competencies by criticality, and establish a proficiency level for each factor. Success competencies might include “leadership,” “integrity,” “tenacity,” and so on. Such competency models are useful for identifying job or role requirements at the competency level and for matching jobs with people. Competency models in the context of job training will be discussed in Chapter Eight.

Cluster

A group of job competencies, skills, or behaviours organized for ease of description.

JOB DESIGN

WORLDWIDE competition, complex technology, and increasing worker expectations have necessitated redesign of many jobs. Computerization, which barely existed 50 years ago, has brought about a revolution changing millions of jobs—if not every job today. While some jobs have grown more challenging, others are increasingly being automated or eliminated altogether. And yet, despite this vast increase in automation and computerization, human resources have become more, not less, important in today's organizations:

For example, the cost of a human error in a nuclear plant or in flying a supersonic jet can be enormous. Whether it is the high-speed computers or the traditional auto assembly plant now run by robots, the contribution of the human beings continues to be critical. Indeed, new technologies may be dangerous or unforgiving when operated by uncommitted or poorly skilled persons.

How well people perform is shaped, at least in part, by the characteristics designed into their jobs.¹⁷ Not only is productivity affected, but quality of work life is also tied to *job design*. Jobs are the central link between employees and the organization. Poorly designed jobs not only lead to low productivity, but they can also

Job design

Identification of job duties, characteristics, competencies, and sequences taking into consideration technology, work force, organization's character, and environment.

FIGURE 2-13

Competency Model for a University or College Instructor

The key clusters for a university or college instructor include course design, use of appropriate teaching methods and aids, choice of pedagogy, evaluation of learning, knowledge of material, student counseling, and maintenance of learning climate. Competencies in each of these clusters will have to be defined clearly and different levels of proficiency indicated to assess the instructor's performance. The above clusters reflect only the "teaching" dimension of an instructor's job. Other performance dimensions such as research, administrative activities, and community service will have to be detailed in a similar manner. Below is a sample cluster for course design.

Cluster: Course Design

Course Objectives

Ability to provide clear course objectives and expectations to the students in simple and easy to understand language

Proficiency Rating

- 0 Is unable to perform basic task.
- 1 Can adapt an existing course outline, making slight changes.
- 2 Can make major adaptations to an existing course outline, including new objectives.
- 3 Can make up own course outline without any help from outside or without referring to any existing outlines.
- 4 Is considered an expert in this area; can advise junior instructors on how to develop outlines that clearly communicate course objectives to the students.

Responsiveness to Students

Ability to incorporate student needs and desires into the course design

Proficiency Rating

- 0 Does not include any student needs or desires when designing the course; uses the same outline irrespective of the audience (e.g., inexperienced students, mature students).
- 1 Can make minimal adaptations to the course to meet student needs.
- 2 Can survey student needs and incorporate some of their needs or desires if consistent with own objectives.
- 3 Can survey students and modify own course in light of suggestions emerging from them.
- 4 Considered an expert in designing student-responsive courses and can advise and train others.

Course Structure

Ability to provide detailed guidelines for various course requirements, including datelines for these.

Proficiency Rating

- 0 Does not provide any date or guidelines for various course requirements; no well-thought out course sequencing.
- 1 Can design outlines that provide datelines for key assignments and some guidance for major course requirements. The course is fairly well sequenced.
- 2 Can design outlines that provide clear guidelines for all course requirements. The course material is well sequenced.
- 3 Can design course outlines clearly explaining requirements and course sequencing; communicates these to the students and ensures that there are no misunderstandings.
- 4 Considered an expert instructor who can design comprehensive and clear course outlines with all necessary guidelines; can train or coach others in this area.

cause employee turnover, absenteeism, complaints, sabotage, unionization, resignations, and other problems and require job redesign at a later time, which can be a time-consuming and often unnecessary exercise. One insurance firm's experience of redesigning jobs is noteworthy in this context:

In General Life and Home Insurance Company, each clerk had narrowly defined responsibilities. Each clerk performed a specific function and moved the “paperwork” on to someone else. The result was that no one was responsible for handling an application for a policy conversion. In fact, no one department had responsibility since activities were spread over three departments. In a job redesign effort, clerks were grouped into teams of five to seven employees and each team was trained to do the functions of all three departments. Members learned new skills, job satisfaction went up, and pay improved since each team member now had greater skills and responsibilities.

In this case, the company had to consider the various environmental, organizational, and employee-related factors before redesigning the jobs. Typically, job redesign results in some trade-offs. Under the new structure in General Life and Home Insurance Company, each clerk needs to have knowledge of several activities. Therefore, more training for these clerks is necessary. And, as they become more qualified, the company will need to pay them higher salaries.

Figure 2-14 illustrates four critical elements that deserve consideration when designing jobs: organizational considerations, ergonomic considerations, employee considerations and environmental considerations. Each element will be discussed below.

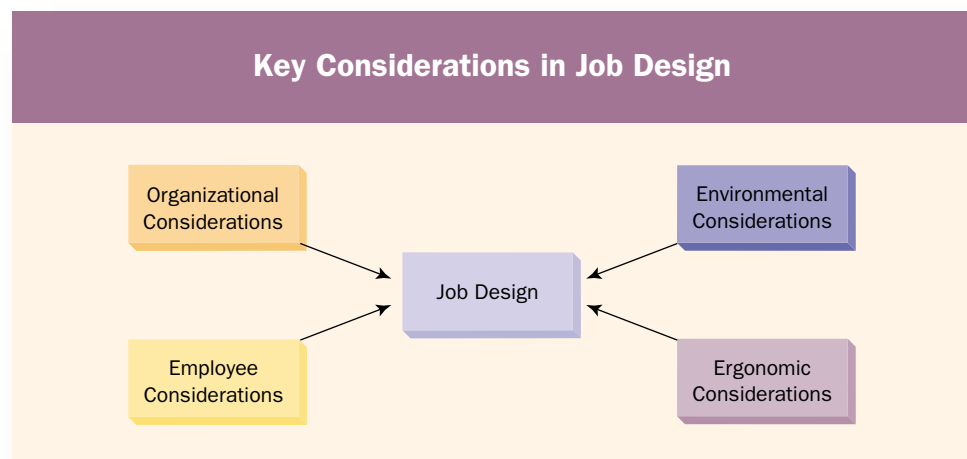
Organizational Considerations of Job Design

Simply put, each job should contribute to the overall organizational objectives effectively and efficiently. The overall organizational mission is accomplished through a series of interrelated tasks or activities. If the organization is to remain successful and grow, these tasks and activities should be performed in a timely, effective, and efficient manner. This involves focus on two interrelated concepts: efficiency and work flow.

Efficiency

Concern for high task efficiency or achieving maximum output with minimum expenditure of time, effort or other resources was first underscored by *scientific management* (see Appendix to Chapter One) around the turn of the century. *Industrial engineering*, which evolved from this movement, focuses on analyzing work methods and establishing optimal time standards by finding the best ways to do jobs.¹⁸ As discussed earlier, time standards are established by recording the time needed (typically

FIGURE 2-14



using a stop-watch or more recently video monitors) to complete each element in a work cycle. These industrial engineers study work cycles to determine which, if any, job elements can be combined, modified, or eliminated to reduce the overall time needed to perform the task. **Task specialization** was suggested as a key strategy to improve efficiency. According to these engineers, when workers are limited to a few repetitive tasks, output is usually higher. This is because specialized jobs lead to short *job cycles*. The automotive industry is a good example of such industrial engineering practices:¹⁹

For example, an assembly-line worker in Windsor, Ontario, might pick up a headlight, plug it in, twist the adjustment screws, and pick up the next headlight within 30 seconds. Completing these tasks in 30 seconds means this worker's job cycle takes one-half a minute. The job cycle begins when the next headlight is picked up.

Headlight installation is a specialized job. It is so specialized that training takes only a few minutes. And the short job cycle means that the assembler gains much experience in a short time. Said another way, short job cycles require small investments in training and allow the worker to learn the job quickly. Training costs remain low because the worker needs to master only one job.

The above approach stresses efficiency in effort, time, labour costs, training, and employee learning time. Today, this technique is still widely used in assembly operations. It is especially effective when dealing with poorly educated workers or workers who have little industrial experience. But the efficient design of jobs also considers such organizational elements as work flow, ergonomics, and work practices.

Work flow

The sequence of and balance between jobs in an organization needed to produce the firm's goods or services.

Work Flow

The flow of work in an organization is strongly influenced by the nature of the product or service. The product or service usually suggests the sequence of, and balance between, jobs if the work is to be done efficiently. For example, the frame of a car must be built before the fenders and doors can be added. Once the sequence of jobs is determined, then the balance between jobs is established:

Suppose it takes one person 30 seconds to install each headlight. In two minutes, an assembler can put on four headlights. If, however, it takes four minutes to install the necessary headlight receptacles, then the job designer must balance these two inter-related jobs by assigning two people to install the receptacles. Otherwise, a production bottleneck results. Since the work flow demands two receptacle installers for each headlight installer, one worker specializes on the right-side receptacle and another specializes on the left side.

These car frames are constructed on a suspended assembly line so employees work in ergonomically correct positions and do not become fatigued.



Ergonomics

The study of relationships between physical attributes of workers and their work environment to reduce physical and mental strain and increase productivity and quality of work life.

Ergonomic Considerations

Optimal productivity requires that the physical relationship between the worker and the work be considered in designing jobs. Derived from the Greek words “ergo” meaning work and “nomos” meaning laws, *ergonomics* in a general sense means the “laws of work” and focuses on how human beings physically interface with their work.²⁰ The study of ergonomics is multi-disciplinary, using principles drawn from biology (especially anatomy and physiology), the behavioural sciences (psychology and sociology), as well as physics and engineering. Although the nature of job tasks may not vary when ergonomic factors are considered, the locations of tools, switches, and the work product itself are evaluated and placed in a position for ease of use. In other words, ergonomics focuses on fitting the task to the worker in many instances rather than simply forcing employees to adapt to the task.²¹

On an automobile assembly line, for example, a car frame may actually be elevated at a work station so the worker does not become fatigued from stooping. Similarly, the location of dashboard instruments in a car is ergonomically engineered to make driving easier.

Attention to details of work settings can lead to significant improvements in efficiency and productivity as exemplified in the case of Saturn Corporation, a General Motors subsidiary that produces Saturn cars:

Saturn uses state-of-the art manufacturing and job design techniques—including industrial engineering, ergonomics, and behavioural considerations. Cars pass through the assembly line on hydraulic lifts that allow employees to raise or lower the cars to suit their own height. Employees are allowed to ride the platform and take up to six minutes to finish the tasks correctly (traditional assembly lines allot less than one minute). Industrial engineers videotape employee actions and simplify operations to minimize motion. In one instance, employees saved one-third of the steps walking to and from cars, thereby conserving energy.²²

Ergonomic considerations are also important to maintain safety at the workplace. Ignoring a proper fit between workstation and worker can be catastrophic.²³

Workplace accidents cost Canadian firms about \$31 billion annually. A significant percentage of these accidents stem from poor workplace or task design.²⁴

Ergonomics will become more important in the future when the Canadian workforce gets older:

By 2015, the 45- to 54-year-old segment of the Canadian population will grow by 155 per cent (compared to the figures in the mid-1990s). Those of pre-retirement age (55 to 64 years) will grow by 194 per cent. Since aging results in a decrease in several hand functions (e.g., grip strength, precision), lowered muscular strength, and reduced vision and hearing loss, the need for ergonomic-based work improvements to reduce physical demands will be higher than ever before. Items such as mechanical assists for lifting (e.g., tilters, vacuum lifts) and for assembly (e.g., screwguns, adjustable tables) will be essential. Such improvements will also be needed for lighting arrangements and size of character displays in terminals to respond to older workers' diminished visual capabilities.²⁵

Employee considerations

Jobs cannot be designed by using only those elements that aid efficiency. To do so overlooks the human needs of the people who are to perform the work. Instead, job designers draw heavily on behavioural research to provide a work environment that helps satisfy individual needs. Later chapters on employee motivation (Chapter Twelve) and employee relations (Chapter Thirteen) deal with specific task arrangements that maximize challenge and autonomy for employees. This section briefly dis-

cusses the importance of high autonomy, variety, task identity, feedback, and task significance in job design context.²⁶

Autonomy

Autonomy

Independence; in a job context, having control over one's work and one's response to the work environment.

Autonomy refers to assuming responsibility for what one does. It is the freedom to control one's response to the environment. While employee personality influences the relationship between autonomy and specific task performance,²⁷ in most instances, jobs that give workers the authority to make decisions tend to increase employees' sense of recognition, self-esteem, job satisfaction, and performance. The absence of autonomy, on the other hand, can cause employee apathy or poor performance:

A common problem in many production operations is that employees develop an indifferent attitude because they believe they have no control over their jobs. On the bottling line of a small brewery, however, teams of workers were allowed to speed up or slow down the rate of the bottling line as long as they met daily production goals. Although total output per shift did not change, there were fewer cases of capping machines jamming or breaking down for other reasons. When asked about this unexpected development, the supervisor concluded, "Employees pride themselves on meeting the shift quota. So they are more careful to check for defective bottle caps before they load the machine."

Variety

Variety

An attribute of jobs wherein the worker has the opportunity to use different skills and abilities, or perform different activities.

A lack of **variety** may cause boredom. Boredom in turn leads to fatigue, and fatigue causes errors. By injecting variety into jobs, human resource specialists can reduce fatigue-caused errors.

Being able to control the speed of the bottling line in the brewery example added variety to the pace of work and probably reduced both boredom and fatigue.

Past research studies have found that variety in work may be related to effective performance and can be a major contributor to employee satisfaction.

Task Identity

Task identity

The feeling of responsibility and pride that results from doing an entire piece of work, not just a small part of it.

One problem with some jobs is that they lack any **task identity**. Workers cannot point to some complete piece of work. They have little sense of responsibility and may lack pride in the results. After completing their job, they may have little sense of accomplishment. When tasks are grouped so that employees feel they are making an identifiable contribution, job satisfaction may be increased significantly.

In the earlier General Life and Home Insurance Company example, we saw that productivity and satisfaction increased when employees became responsible for an identifiable and sensible group of tasks.

Feedback

Feedback

Information that helps evaluate the success or failure of an action or system.

When jobs do not give the workers any **feedback** on how well they are doing, there is little guidance or motivation to perform better.

For example, by letting employees know how they are doing relative to the daily production quota, the brewery gives workers feedback that allows them to adjust their efforts. Providing feedback leads to improved motivation.

Task Significance

Task significance

Knowing that the work one does is important to others in the organization or to outsiders.

Closely related to the above dimensions is **task significance**. Doing an identifiable piece of work makes the job more satisfying for employees. Task significance, knowing that the work is important to others in the organization or outside it, makes the

job even more meaningful for incumbents. Their personal sense of self-importance is enhanced because they know that others depend on what they do. Pride, commitment, motivation, satisfaction, and better performance are likely to result.

How Much Job Specialization Is Optimal?

In general, as jobs are made more specialized, productivity climbs until behavioural elements such as boredom offset the advantages of further specialization. Additional specialization beyond this point causes productivity to drop. It should be pointed out that jobs without any specialization take longer to learn; frustration is decreased and feedback is increased by adding some specialization. However, when specialization is extreme, employee satisfaction drops because of a lack of autonomy, variety, and task identification. This raises an important question: how much specialization is optimal? What level of specialization reduces employee satisfaction and productivity?

There is no simple answer to this question. Instead, human resource experts often make trade-offs between efficiency and behavioural elements. Using their expertise, they match degree of job specialization to the situational needs. When human resource specialists believe jobs are not specialized enough, they engage in work simplification. That is, the job is further simplified by assigning tasks of one job to two or more jobs. Unneeded tasks are identified and eliminated. What is left are jobs that contain fewer tasks:

When the Yukon Weekly Newspaper operated with its old press, Guy Parsons could catch the newspapers as they came off the press, stack them, and wrap them. But when a new high-speed press was added, he could not keep up with the output. So the circulation manager simplified Guy's job by making him responsible for stacking the newspapers. Two part-time high-school students took turns catching and wrapping.

The risk with work simplification is that jobs may be so specialized that boredom causes errors or resignations. This potential problem is more common in advanced industrial countries that have a highly educated workforce. In less developed countries, highly specialized factory jobs may be acceptable and even appealing because they provide jobs for workers with limited skills.

As workers become more educated and affluent, routine jobs that are very specialized, such as assembly-line positions, hold less and less appeal for many people. These jobs seldom offer opportunities for accomplishment, recognition, psychological growth, or other sources of satisfaction. To increase the quality of work life for those who hold such jobs, human resource departments often use a variety of methods, the more popular among them being job rotation, job enlargement, and job enrichment.

Job Rotation

Job rotation moves employees from job to job. Jobs themselves are not actually changed; only the workers are rotated. Rotation breaks the monotony of highly specialized work by calling on different skills and abilities. The organization benefits because workers become competent in several jobs rather than only one. Knowing a variety of jobs helps the worker's self-image, provides personal growth, and makes the worker more valuable to the organization.

Human resource experts should caution those who desire to use job rotation. It does not improve the jobs themselves; the relationships between tasks, activities, and objectives remain unchanged. It may even postpone the use of more effective techniques while adding to training costs. Implementation should occur only after other techniques have been considered.

Job rotation

Moving employees from one job to another to allow them more variety and to learn new skills.

Job enlargement

Adding more tasks to a job to increase the job cycle and draw on a wider range of employee skills.

Job Enlargement

Job enlargement expands the number of related tasks in the job. It adds similar duties to provide greater variety. Enlargement reduces monotony by expanding the job cycle and drawing on a wider range of employee skills.

IBM reported job enlargement led to higher wages and more inspection equipment, but improved quality and worker satisfaction offset these costs. Maytag Company claimed that production quality was improved, labour costs declined, worker satisfaction and overall efficiency were increased, and management production schedules became more flexible.²⁸

Job enrichment

Adding more responsibilities and autonomy to a job, giving the worker greater powers to plan, do, and evaluate job performance.

Job Enrichment

Job enrichment adds new sources of needs satisfaction to jobs. It increases responsibility, autonomy, and control. Adding these elements to jobs is sometimes called *vertical loading*. (*Horizontal loading* occurs when the job is expanded by simply adding related tasks, as with job enlargement). Job enrichment views jobs as consisting of three elements: plan, do, and control. Job enlargement (or horizontal loading) adds more things to do. Enrichment (or vertical loading) attempts to add more *planning* and *control* responsibilities. These additions to the job coupled with rethinking the job itself often lead to increased motivation and other improvements:

In a pilot project with one unit of the data capture section of Statistics Canada, job enrichment and other changes resulted in increased employee satisfaction, lower absentee rates, increases in the quality and quantity of work done, and improved relationships between the union and management. One employee recalled that prior to the changes, “We were watched every second. We weren’t able to talk. We had no responsibility or variety in our work. We’d just go to the basket and take the job that was on top.” The changes implemented included more variety and more worker responsibility, both for completing the work and for attendance, hiring, training, appraisals, and discipline. Aside from the success indicators already mentioned, when the rest of the section was asked whether they were interested in being involved in similar changes for their units, 171 of the remaining 177 employees were in favour.²⁹

Job enrichment, however, is not a cure-all; if it were, this book could end here. Job enrichment techniques are merely tools, and they are not applicable universally. When the diagnosis indicates jobs are unchallenging and limit employee motivation and satisfaction, human resource departments may find job enrichment to be the most appropriate strategy. Even then, however, job enrichment faces problems.

Several potential challenges face the manager who is attempting to introduce job enrichment. The most compelling points are the existence of union resistance, the cost of design and implementation, and the scarcity of research on long-term effects. Another criticism of job enrichment is that it often does not go far enough. To enrich the job and ignore other variables that contribute to the quality of work life may simply increase dissatisfaction with the unimproved aspects of the job environment. The cultural values and social expectations surrounding the organization also have to be carefully considered before any job enrichment attempts are made.

Employee Involvement and Work Teams

More recently, other approaches such as employee involvement groups, quality circles, employee teams, and so on, have been introduced to increase employee involvement at the workplace. Work itself is increasingly being organized around teams and processes rather than activities or functions. Over 40 per cent of the respondents in a national survey by Conference Board of Canada reported use of teams in their workplaces.³⁰ Self-managed and autonomous work teams and quality circles have become a normal part of several organizations. These and other employee involvement

approaches are discussed in detail in Chapter Twelve. The intent of all such approaches, however, is to provide more autonomy, feedback, and task significance to workers.

At Compaq Computers, nearly a quarter of its 16 000 employees work in teams. A cross-section of other organizations, including CIBC, Xerox Canada, and Vancouver City Savings, have found that employee teams result in better quality, lower turnover and absenteeism and a sense of accomplishment for their workforce.³¹

As in the case of job enrichment, employee involvement and teams may not be appropriate for all organizations or all situations. The complexity of the task involved, the prevalence of shift system and the skill levels of employees involved may moderate the applicability of such systems in a particular situation.³² Introduction of team management, if not accompanied by changes in other systems (e.g., performance appraisal, compensation), may cause frustration in some cases. To be successful, the management should also be truly committed to the notion of employee empowerment, that is, granting employees the power to initiate change and take charge of what they do.

Use of Job Families in HR Decisions

Often, in the context of job design, the human resource manager looks at job families rather than single jobs. Job families are groups of jobs that are closely related by similar duties, responsibilities, skills, or job elements.

The jobs of clerk, word processor, clerk-typist, and secretary constitute a job family, for example.

Job families can be constructed in several ways. One way is by careful study of existing job analysis information. Matching of the data in job descriptions can identify jobs with similar requirements. A second method is to use the codes in the *National Occupational Classification* discussed earlier. Similarities in the job codes indicate similarities in the jobs. A third approach is to use the *Position Analysis Questionnaire* discussed earlier in this chapter and statistically analyze information on tasks and worker traits to identify clusters of similar jobs.

Job families allow human resource managers to plan job rotation programs and make employee transfer decisions. The compensation levels of jobs that form a family should also be comparable; this means that equitable compensation strategies cannot be formed without considering the entire job family. In some instances, it may also be economical to use similar recruitment methods and sources to hire individuals who belong to the same job family.

Environmental Considerations in Job Design

The environments within which the firm and job exist also need to be considered when redesigning jobs. As with most human resource activities, job designers cannot ignore the influence of the external environment, which affects workforce availability, values, and practices.

Workforce Availability

Efficiency considerations must be balanced against the abilities and availability of the people who are to do the work. Thought must be given as to who will actually do the work. An extreme example underlines this point:

Governments of less developed countries often think they can “buy” progress. To be “up-to-date,” they seek the most advanced equipment they can find. Leaders of one country ordered a computerized oil refinery. This decision dictated a level of technology

that exceeded the abilities of the country's available workforce. As a result, these government leaders have now hired Europeans to operate the refinery.

In less developed nations, the major risk is jobs that are too complex. Jobs that are too simple can produce equally disturbing problems in industrialized nations with highly educated workers.

For example, even when unemployment rates are high, many simple and overly specialized jobs are sometimes hard to fill, as longstanding newspaper want ads for janitors attest.

Social Expectations

The acceptability of a job's design is also influenced by the expectations of society. For example, working conditions that would have been acceptable to some early Canadian immigrants are no longer suitable to our present generation.

At the time when rail lines were being laid across Canada, many persons had to work long hours of hard labour. Often, they had fled countries where jobs were unavailable. This made a job—any job—acceptable to them. Today, industrial workers are much better educated and have higher expectations about the quality of work life.

Even where work flow may suggest a particular job design, the job must meet the expectations of workers. Failure to consider these social expectations can create dissatisfaction, poor motivation, and low quality of work life.

Work Practices

Work practices are set ways of performing work. These methods may arise from tradition or the collective wishes of employees. Either way, the human resource department's flexibility to design jobs is limited, especially when such practices are part of a union-management relationship. Failure to consider work practices can have undesired outcomes:

General Motors decided to increase productivity at one of its American plants by eliminating some jobs and adding new tasks to others. These design changes caused workers to stage a strike for several weeks because traditional practices at the plant had required a slower rate of production and less work by the employees. The additional demands on their jobs by management were seen as an attempt by the company to disregard past work practices.

JOB ANALYSIS IN TOMORROW'S "JOBLESS" WORLD

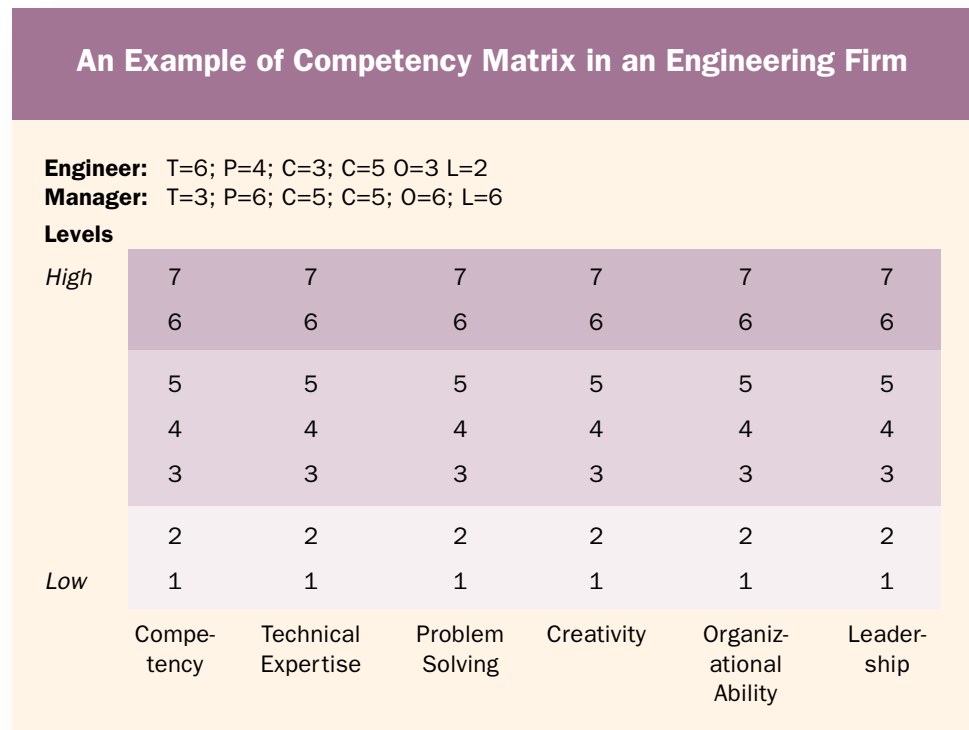
GLOBAL COMPETITION, fast technological obsolescence, changing worker profile, and rapid increases in knowledge requirements for various jobs have made accurate and timely job descriptions difficult. Indeed, some writers have gone as far as to say that jobs as we see them today may not exist in the future.³³ Today's global village has resulted in "boundary-less" and "de-jobbed" organizations where traditional boundaries between a firm, its suppliers, customers, and even competitors have disappeared and where "jobs" as we knew them in the past have begun to disappear.³⁴ Many employees no longer are responsible for producing specific outcomes; rather they are members of teams that are entrusted with many responsibilities. In tomorrow's world, a firm may be valued by its ideas rather than its assets or products.³⁵ How do organizations that operate in such fast-changing environments conduct valid job analysis? How can the task and person requirements identified today be relevant for an unknown tomorrow?



Of course, there are no simple solutions. A few attempts have been made to meet the new-found challenges. A first strategy is to adopt a future-oriented style when describing job activities and specifications. Rather than asking what the current job incumbent *does*, the focus now will be on what the job incumbent *must do* to effectively carry out and further organizational strategies and the new competencies required of the job holder. Thus present and future requirements rather than past actions guide job descriptions and the hiring and training of employees. A second strategy utilizes the competency approach discussed earlier in the chapter. The focus, once again, is on the tasks and competencies that are needed to match an organization's strategy, structure, and culture. Rather than simply looking at the purely functional skills of today, this approach focuses on the many competencies (e.g., decision making, conflict resolution, adaptiveness) that are required of employees if the firm is to prosper in the future. Figure 2-15 shows an example of this approach in a civil engineering firm. In this organization, each of the six competencies are measured at seven levels (Level 1 being the lowest and 7 being the highest). For successfully executing the corporate strategies, all employees may be expected to possess all competencies, though to varying degrees. Thus an engineer may be expected to possess high technical expertise and medium-problem solving abilities while a manager is expected to possess higher problem-solving and lower technical expertise. Both are expected to have adequate communication abilities. Use of a competency matrix shifts the focus from performing specific duties to developing broader skills that are necessary to successfully execute corporate strategies. It also empowers employees to assume new responsibilities. To be effective, such a system must be supported by effective training and development strategy and a competency-based compensation system. These will be discussed in detail in later chapters.

Further, job analysis will continue to be relevant for legal compliance and defensibility in the event of a court action.³⁶ Traditional sources of information (such as job incumbents, supervisors), may, however, need to be supplemented by data emerging from customers, peers, and technical experts to incorporate the ever-changing job demands.

FIGURE 2-15



SUMMARY

Job analysis information provides the foundations of an organization's human resource information system. Analysts seek to gain a general understanding of the organization and the work it performs. Then they design job analysis questionnaires to collect specific data about jobs, jobholder characteristics, and job performance standards. Job analysis information can be collected through interviews, mailed questionnaires, employee logs, direct observation, or some combination of these techniques. Once collected, the data are converted into such useful applications as job descriptions, job specifications, and job standards.

Job analysis information is important because it tells human resource specialists what duties and responsibilities are associated with each job. This information is then used when human resource specialists undertake other human resource management activities such as job design, recruiting, and selection. Jobs are the link between organizations and their human resources. The combined accomplishment of every job allows the organization to meet its objectives. Similarly, jobs represent not only a source of income to workers, but also a means of fulfilling their needs. However, for the organization and its employees to receive these mutual benefits, jobs must provide a high quality of work life. This means that when designing jobs, organizational priorities (e.g., efficiency) alone should not play the decisive role. The needs of employees as well as environmental realities also play critical roles in job design efforts. This is especially true with the emergence of a "de-jobbed" and boundary-less work world where employees are expected to take initiative and solve problems creatively.

TERMS FOR REVIEW

Job	(p.60)
Position	(p.60)
Job analysis	(p.62)
Job analysis schedules	(p.65)
Job analysis questionnaire	(p.65)
Functional job analysis	(p.66)
Interviews	(p.69)
Mailed questionnaires	(p.69)
Employee log	(p.69)
Observation	(p.69)
Position analysis questionnaire	(p.69)
Combinations	(p.70)
Job description	(p.71)
Job identity	(p.72)
National Occupational Classification (NOC)	(p.72)
Working conditions	(p.74)
Job specification	(p.75)
Cluster	(p.78)
Job performance standards	(p.79)
Work measurement	(p.81)
Time studies	(p.81)
Work sampling	(p.81)
Participative goal setting	(p.81)
Competency	(p.82)
Job design	(p.82)

Elements of job design	(p.84)
Ergonomics	(p.86)
Autonomy	(p.87)
Variety	(p.87)
Task identity	(p.87)
Feedback	(p.87)
Task significance	(p.87)
Specialization	(p.88)
Job rotation	(p.88)
Job enlargement	(p.89)
Job enrichment	(p.89)
Job families	(p.90)

REVIEW AND DISCUSSION QUESTIONS

1. Suppose you work for an organization that does not conduct job analysis. What arguments will you make to introduce it? What method(s) of collecting job analysis information will you recommend and why?
2. Define job descriptions and job specifications, illustrating how the two are related yet different.
3. Why are clear job specifications important? What are the costs of imprecise specifications?
4. How can performance standards be set for production jobs when job analysis information is insufficient? How would you set standards of performance for a research scientist if you were chief scientist?
5. What factors need to be considered when redesigning jobs? Of these, which is (are) most important?

CRITICAL THINKING QUESTIONS

1. Suppose that you were assigned to write the job descriptions for a shirt factory in British Columbia employing mostly Chinese immigrants who spoke little English. What methods would you use to collect job analysis data?
2. You work in the human resource department of a large brewery in Atlantic Canada. You are in the process of writing job descriptions for all managerial and supervisory staff. One manager who is in the production division of the brewery refuses to complete a job analysis questionnaire.
 - (a) What reasons would you use to persuade that individual to complete it?
 - (b) If, after your best efforts at persuasion failed, you still wanted job analysis information on the manager's job, how would you get it?
3. Suppose you have been assigned to design the job of ticket clerk for a regional airline in Ontario. How would you handle the following trade-offs?
 - (a) Would you recommend highly specialized job designs to minimize training or very broad jobs with all clerks cross-trained to handle multiple tasks? Why?
 - (b) Would you change your answer if you knew that employees tended to quit the job of ticket clerk within the first six months? Why or why not?
4. Assume you are told to evaluate a group of jobs in a boat-building business. After studying each job for a considerable amount of time, you identify the

following activities associated with each job. What job redesign techniques would you recommend for these jobs, if any?

- (a) Sailmaker. Cuts and sews materials with very little variety in the type of work from day to day. Job is highly skilled and takes years to learn.
 - (b) Sander. Sands rough wood and fibreglass edges almost continuously. Little skill is required in this job.
 - (c) Sales representative. Talks to customers, answers phone inquiries, suggests customized additions to special-order boats.
 - (d) Boat preparer. Cleans up completed boats, waxes fittings, and generally makes the boat ready for customer delivery. Few skills are required for this job.
5. What are the key performance dimensions of the instructor who is teaching this course? How will you go about setting performance standards for the individual? Establish performance standards and associated time-bound, specific objectives in any two areas of your choice.

WEB RESEARCH

Select any job position (e.g., a financial accountant) of your choice. Consider various recruiters on the Web (the chapter on recruitment provides some Web site addresses for you to begin your search). Are there any differences in the job specifications listed by different recruiters? Are any patterns visible across industry groups?

INCIDENT 2-1

Hillary Home Appliances Corporation

Hillary Home Appliances and Furnishings Corporation (HHAC) is a medium-sized manufacturer of home appliances. Historically, the firm had followed a low-cost strategy to successfully operate in a highly competitive industry. In the recent past, increasing global competition had made it necessary for the firm to revise its strategy in favour of improved customer service. Historically, the organization had paid virtually no attention to the human resource function. While there was a human resource department (called “personnel and staffing department”), it focused primarily on compensation administration and staffing. Currently, the top management of the firm is convinced of the need for strategic use of its human resources. An indication of this new thrust is the hiring of Leslie Wong, who has a reputation as a results-oriented HR manager (in two previous organizations) and the renaming of the department to “Human Resources.” However, progressive HR practices have been slow to find acceptance at lower levels. In a recent meeting with two work supervisors, Jeff Gidoe and Mike Tarson, Leslie Wong, the newly hired human resource manager faced these arguments:

Jeff Gidoe: I agree that good employee relations are important. But, I simply cannot afford to let the HR staff interrupt our daily work with job analysis. Already, with the arrival of two new competitors, we have lost most of our cost advantage. Spending time on activities such as this further reduces our production and increases our costs.

Mike Tarson: Your plan to invite ideas from employees for product improvement is good; however, I should warn you that many of the workers in my section are school

dropouts. They simply cannot accept responsibility. They care only for the wages they get and are constantly looking at the clock for quitting time.

Jeff Gidoe: At least a few of my employees will object to the time spent on job analysis. As you know, we have a production bonus plan in this plant. Every minute they spend on activities such as this costs them money. Already, several of them feel that the production standards are too high.

Mike Tarson: Your new idea of employee involvement teams is also likely to create problems. Already, they waste a fair bit of time each day jesting and horse-playing. If you put them into groups, things will only get worse; not better.

Leslie Wong: I value your comments. As supervisors, you know your employees best. I recognize that you are experts in your production areas. However, I can tell you this: the facts you have provided have simply reconfirmed the need for job analysis. Even more, it tells me that HR has a key role to play in this firm. I'll tell you why....

1. *What prompted the HR manager to make the statement?*
2. *If you were the HR manager, what arguments will you provide to convince the two supervisors of the desirability of job analysis and employee involvement teams?*

INCIDENT 2-2

Job Design at Marketing Newsletters Inc.

Marketing Newsletters Inc. is a small Montreal company that produces several different types of newsletters that are sold to companies and individual salespeople. Although each series of letters has a different market, they all provide readers with useful tips on how to be more effective at selling.

Pierre Martel, president of Marketing Newsletters, discovered he could sell these letters by carefully tailoring them to the concerns of different types of specialized salespeople. For example, one letter was directed at sellers of new cars. Another was directed at sellers of industrial supplies. Although the sales of each letter were modest, Pierre succeeded in developing a new newsletter market about every three months.

In Pierre's firm there were two developmental editors, two copy editors, and two marketing editors. The developmental editors sought out likely authors to write and develop newsletters. The copy editors were responsible for editing each newsletter before it was printed and mailed. The marketing editors were responsible for advertising and for building the circulation of each newsletter.

Whenever a newsletter did not meet its sales goal, the marketing editors blamed the copy editors for not producing a quality product. In turn, the copy editors would complain that they could only improve so much on the quality of the contributions, and they blamed the developmental editors for not finding better writers.

Suppose Pierre asked you to help him solve the problem of identifying responsibility for the success or failure of each newsletter.

1. *What suggestions would you make to Pierre about the way editors' jobs are designed?*
2. *If each editor were made responsible for developing, editing, and selling selected newsletters, what advantages would result for the firm? For the editors?*
3. *If each editor were completely responsible for several newsletters, what kinds of favourable trade-offs might be encountered in the newly designed jobs?*

EXERCISE 2-1

A Good Work Environment

Think of some work-related situation that you have found enjoyable. Think of the job and identify the features that made it more enjoyable than other jobs that you have held. The job need not have been a formal, full-time job. It may simply have been some temporary job or even some chore you have had to perform. Make a list of those characteristics of the job that made it so enjoyable.

1. *In reviewing your answers with others, do you find any similarities between your list and the lists of others who did different jobs?*
2. *Do these characteristics indicate what job features provide a good work situation?*

EXERCISE 2-2

Preparation of a Job Description

As discussed in this chapter, there are several ways to collect job analysis information. One way is through observation. Using the form in Figure 2-4, complete parts C through J for the job of an instructor in this institution. After you have completed those sections of the job analysis questionnaire, use the format in Figure 2-6 and write a job description for the job of an instructor. When you are finished, look up the definition of professor provided in the National Occupational Classification in your library.

1. *How does the description in the NOC vary in format and content from the one you wrote?*
2. *What parts of the instructor's job are most important, in your opinion?*

CASE STUDY

Maple Leaf Shoes Ltd.-2 An Exercise in Job Analysis¹

Maple Leaf Shoes Ltd. is a medium-sized manufacturer of leather and vinyl shoes located near Wilmington, Ontario. It began operations in 1969 and currently employs about 400 persons in its Ontario plant and some 380 more in offices and warehouses throughout Canada and internationally. In recent months, the company has experienced a number of challenges and problems (see the Case Study in Chapter One for further background). Added to these problems was the departure of John

McAllister, the company's human resource manager. McAllister had been with the company for a little over three years and was reputed to have "run a tight ship."

Robert Clark, president and a major shareholder of Maple Leaf Shoes, decided to re-evaluate the role of the company's human resource manager before hiring a new person. Tim Lance, a graduate of the University of Manitoba and now the chief executive and owner of Productivity Systems, a management consulting operation located in Saskatoon, was hired to "look into the present and future role of Maple Leaf's human resource department and suggest

¹ Case written by Professor Hari Das of Department of Management, Saint Mary's University. All rights reserved by the author ©2000.

appropriate action plans to improve its contribution to the organization and help the company meet its future challenges.”

VIEWS OF THE SENIOR MANAGERS

Lance began his assignment by interviewing the senior managers of Maple Leaf Shoes. He made a short checklist of questions to prepare for his interview with the managers (see Figure 1). He was, however, determined not to restrict his interview to these questions. By keeping an informal and free-flowing format, he felt that he could gain a better understanding of the structure, processes, and culture of the organization. His intent, therefore, was to use these questions as a springboard for letting the interviewee speak out and pursue any point that he or she might consider relevant. Lance was able to meet three of the five “key” managers in the company. Figure 2 shows an approximate chain of command in the company. At the time Lance conducted his study, André Cardin, manager (Design & Research), was away on holidays. Lance was also unable to have an interview with the production manager since he was away on trips to Montreal and Winnipeg investigating the potential of expanding the company’s operations to those cities.

FIGURE 1

Checklist Prepared by Lance for Interviewing the Senior Managers

- *What do you expect from the human resource department in this company?*
- *What is your evaluation of the human resource department’s contributions in the past?*
- *What activities should the human resource department of this company carry out?*
- *Which of these are done now? How well are you satisfied with the performance of the department in those fields?*
- *Overall, are you happy with the human resource staff? Why?*
- *What are the major challenges facing Maple Leaf Shoes in the next five years?*
- *What are the unique needs of your department?*
- *What new services or information should the human resource department provide you?*

Lance felt that the half-hour interview with Robert Clark (interrupted by three or four phone calls “on urgent matters that unexpectedly arose”) was totally inadequate for his purpose. However, Clark was due to leave town the next day and Lance could not wait until Clark’s return to proceed with his study.

After going through his notes, Lance realized that the human resource function was viewed very differently by the three senior managers to whom he spoke. Clark had told him:

I believe that we need a mover and shaker here. McAllister was all right, but he did not have the time or inclination to have a good system in place. He made most of the human resource decisions himself. I’m not saying that they weren’t the correct decisions for those occasions; but he wasn’t a popular man with either the employees or several managers. And as you know, this is one job where you need a lot of rapport with people at all levels.

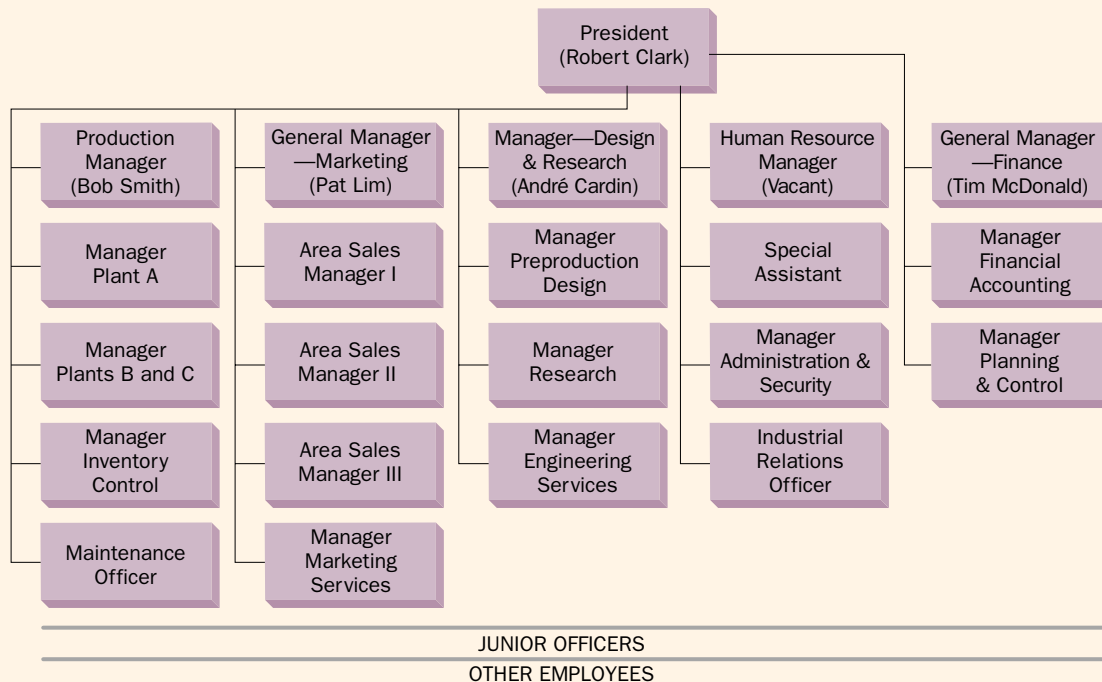
Some of the excerpts from Lance’s interview with Clark are given below:

I believe that the new person should be able to work with the people. In fact, not simply working with the people, but leading them. He or she should be able to look beyond today’s needs ... into the technological and other challenges that face this company and our managers in the new millennium....

The future of Maple Leaf Shoes? I have mixed feelings on this. On the one hand, shoes are something that everyone needs—every day, every week, and throughout their lives. Also, most persons don’t mind buying an extra pair if the price is right. But there’s the catch. It’s a pretty competitive market and what we do here and how well we do it depends quite a bit on how good our competitors are. To succeed, we need to have a clear market segment, control our costs, and meet our customers’ needs. Two of our brands, which were leaders in the western Canada shoe market, are facing intense competition from products manufactured in China, Indonesia, and Korea....The currency crisis in Asia (especially in Korea and Indonesia) can both hurt and help us. On the one hand, the prices of the imported shoes are getting lower by the day, thus cutting into our markets. The other side is that western investments in these countries may

FIGURE 2

An Approximate Chain of Command in Maple Leaf Shoes Limited



slow down—at least in the short run. This means that we have a breathing time to cope with this onslaught.. So, all in all.... who knows?

The most immediate problem? I should say we have two pressing issues: first, we must upgrade our production processes if we are to improve our efficiency and competitiveness. I personally believe that we have more employees than we need. If we could automate many of the production processes, we could improve the efficiency and reduce costs. But that is easier said than done. We have strong unions, and firing someone is going to be awfully hard in the future. At the same time, the reality is that no customer is going to pay 15 or 20 per cent extra for our shoes if we cannot give a damn good reason for that. With the free trade worldwide, the market is flooded with Asian and South American products. We simply cannot compete with the Chinese and the Mexicans on the labour costs... Our survival may very well depend on technological upgrading and improving worker productivity.

A second and related issue is dealing with unions. We have four major unions and I would term two of them as militant. Actually, our workers are pretty good—many of them have been with us for several years now—it's the union leadership that's causing much of the problem. The new human resource manager hired must be tough with the unions, yet caring and understanding. In the last three or four years, union-management relations have gone from bad to worse. We have to turn a new leaf now or else all of us will sink.

The responses to Lance's questions from the other two senior managers at Maple Leaf Shoes were varied. Excerpts from his interview with Tim McDonald, general manager, finance, are provided below:

I don't think human resource management is the most critical activity in the management of a shoe company. True, we have to pay the employees adequately and there must be a system for keeping employee records. But, beyond that, I don't think that the human resource department has

anything major to offer that has a significant impact on an organization's working. What we really should focus on now is how to control our costs and come out with a sound marketing program. We especially need a good advertising campaign; we need to hire competent sales staff and upgrade the skills of the present sales force....

The human resource department here hasn't done much, if you ask me. They haven't had any input into job design or organizational planning. Part of the problem stems from the fact that there has been little continuity in that department. A typical manager in the human resource department stays for about three years before he moves out. Neither McAllister nor his predecessor stayed in the company for five years. Tony Rezkov, the manager in charge of administration and security, is new; so are several of the other junior officers and staff in the department.... I do believe that there is a problem there....

Oh, don't get me wrong. The human resource department staff are very friendly and cooperative. McAllister had a few rough edges, but overall, he was someone whom I grew to like. He was one of those tough guys—straight out of an old John Wayne movie. He made fast decisions and was sort of a trouble-shooter here....

The big challenge? Global competition, of course. We'd better be prepared to meet the Koreans, the Chinese, and the Mexicans. Unless we maintain our competitiveness, we are just not going to survive. It's as simple as that....

Of course, global free trade also brings with it a great opportunity. NAFTA gave us access to a market now that is several times the size of our local market. Freer trade in Asia and Eastern Europe will do the same... But can we make use of this opportunity? That's the big question.

Pat Lim, general manager, marketing, had a somewhat different vision of the role of the human resource department:

It's probably one of the most important functions in this company. In my university days, I was taught that human resources are the single most important asset of any organization. After working for nearly 25 years in the management area, I've grown to realize how true that statement is. In my mind, people make all the difference. You can have all the resources you want, but in the absence of good employees, all those resources

are worthless. The human resource department is the backbone of our employee relations....

What do I expect from the human resource department? Quite a lot, I should say. I believe that the department can play a leadership and developmental role. Until now, it has played a somewhat low-key, record-keeping, staff role. It's time that the department becomes involved seriously in employee planning, job redesign, career planning, organizational design, and other development activities. Gone are the times when it could simply play a support role. Look at all the successful companies in this country and the United States, especially those that are listed in books such as *In Search of Excellence*. It's the people and people management that differentiate them from the common crop....

The new human resource manager should be an expert—an expert on systems and people. We need new ideas here, and with a growing workforce we need more formal procedures and systems, whether it's orientation or performance appraisal. Right now, many of the human resource activities are done on an ad-hoc basis.

Above everything else, I believe that the new human resource manager needs to bring a new philosophy to deal with the unions. In the last several months, there has been an increasing degree of hostility between the unions and management. I'm not blaming anyone for this. But I do believe that we, as part of the management team, have the responsibility to solve some of these problems. It's up to us to take the initiative to improve the situation. Isn't that the essence of good management?

VIEW FROM THE HUMAN RESOURCE DEPARTMENT

As part of the study, Lance met with the three key staff members in the human resources department: Jane Reynolds, special assistant to the human resource manager; Tony Rezkov, manager of administration and security; and Joseph McDonald, the industrial relations officer (no relation to Tim McDonald). Rezkov, being new on the job, was unable to tell Lance much about his position or the human resources function. In Lance's opinion, his two meetings (lasting approximately an hour each) with Jane Reynolds were more productive.

Lance studied the various comments made by Reynolds:

The possibilities here are simply enormous. With a little determination and the right type of resources, we can make this one of the best human resource departments in this country. To be really effective, I believe that human resources management must be well integrated with the strategic and operational planning in a firm. That has not occurred here yet....

When I joined this company two years ago, it didn't have any system—at least, not anything that is worth mentioning. My job since I arrived has been to introduce new procedures and decision support systems. For example, recently, we started a formal orientation program for all plant workers. We are also in the process of developing two performance appraisal instruments—one for the plant employees and the other for administrative staff. We are beginning to provide absenteeism and turnover data to various department and section managers. But I want to emphasize that these are just the beginnings. With the right support, we can do wonders here....

Why do I sound pessimistic? Well, look at our department's staff strength compared to human resource departments in similar-sized organizations in this part of the country. We probably employ less than 50 per cent of the number you would see elsewhere. As a cost-cutting strategy, when we downsized the organization, we lost two positions in our department. We also do not have the computer hardware or software support and the necessary number of PCs to do an adequate job....

Sure, despite everything, we could have still done better if we had the will to do it. I will be totally frank with you—you will keep my obser-

vations confidential, won't you? Not that I mind too much if someone comes to know about it. It's as if we are a poor cousin here. Being in human resources is just not considered to be important or very useful. We're looked at by many others as an unnecessary appendage.

Lance found that Joseph McDonald (*"Call me Joe, everyone does"*), the industrial relations officer, was the toughest to handle. McDonald was very friendly and supportive, but did not give a direct or coherent answer to any of Lance's questions. Lance felt that McDonald was one of those people who talked to you for hours at a time nonstop without giving any useful information. Lance realized that he got only two points of information out of his 45-minute meeting with McDonald. First, one of the unions in the company was very militant and might go on strike when its contract expired in the next few months, and second, McDonald's son was planning to go to medical school—Lance knew the former fact already and didn't care to know about the latter.

In less than 10 days, Lance was scheduled to meet Robert Clark to give a summary of his findings and recommendations. Already, Lance had received a call from his office in Saskatoon informing him that one of his consultants had been injured in an automobile accident and would not be returning to work for the next several weeks. This meant that Lance had to return to his office soon to complete that project himself. Given the time constraints, Lance was wondering how he should proceed from here.

Discussion Questions

1. What is your evaluation of Lance's approach to the project?
2. What would you do if you were in Lance's position right now?

CASE STUDY

Canadian Pacific and International Bank-2 *Redefining Jobs for Future²*

Canadian Pacific and International Bank (CPIB) is a premier Canadian financial institution with assets over \$150 billion and operations across Canada and internationally. Today, its over 25 000 employees provide personal, commercial, corporate, and investment banking services to individuals and businesses

in 33 countries. More details of the bank are given at the end of Chapter One (see page 47).

² Case written by Professor Hari Das of Department of Management, Saint Mary's University, Halifax, N.S. All rights reserved by the author @2000

CPIB, through its strategic initiatives, was successful in building long-term value for its shareholders while providing regular returns on their investments. A vital component of its recent strategy is growth through acquisition of smaller banks and other financial institutions in this country and internationally. The passage of the bill relating to bank mergers in June 2000 in Parliament is expected to accelerate this process for CPIB.

Last month, the bank acquired Central Canadian Trust Company (CCTC), a trust company located in Ontario employing over 3000 employees. While the trust company was a very successful player in the financial industry in Ontario and Quebec, CPIB management felt that the human resource practices in the firm were inferior to those of the bank.

Initially, the identity of CCTC will be maintained; however, over the next year or so, all branches will be converted into CPIB branches. This means that, with immediate effect, CCTC staff must be trained to offer the highest quality of customer service that CPIB customers have come to expect. Compared to CPIB, CCTC is also far behind in electronic and telephone banking. CPIB expects all its managers to be able to offer extensive counselling (including in areas such as portfolio management, margin trading, and the establishment of Internet banking accounts) to their customers; in contrast, CCTC being a trust company, historically had underplayed this role and concentrated on pension fund management and loan/mortgage services. CPIB also has a culture of transferring its employees to help them gain international experience whereas CCTC is primarily a regional institution where staff transfers are less common.

During the pre-acquisition survey, Mary Keddy, senior vice president—human resources of CPIB, observed that CCTC did not have any regular job analysis procedure built into its HR systems. Since CPIB was contemplating the installation of a bank-wide electronic job data system (called “Job Bank”) in the next six months, Keddy decided to use the present opportunity to test the new system. Given the relatively small number of employees involved in CCTC (compared to CPIB), it was easier to fix all the “bugs” there before implementing it in its entirety in CPIB.

Under the proposed system, through their personal computers and other consoles, all managers will be able to store and retrieve human resource data from the company’s mainframe computer. This means that when managers or human resource specialists needed a job description, they could simply obtain one from the computer.

After computerizing all human resource information in CCTC, HR staff began to notice that job descriptions, job specifications, and job standards were constantly being changed by jobholders. It seemed that whenever a manager or worker reviewed a job description or job specification that seemed outdated, he or she would “write in” a correction on the computer’s memory.

Thus, although in the beginning human resource specialists were pleased that workers were showing an interest by updating the computerized job analysis information, they eventually became worried because workers with the same job titles had different views of their jobs. Changes would come from almost anyone, and there was no consistency in style or content.

The HR staff at CPIB were bewildered. On the one hand, they did not want to introduce too many restrictions on employees updating their job descriptions. This was also contrary to the “open” culture that existed in CPIB. On the other hand, if not controlled, the problem could get out of hand, especially when it is implemented within such a large and diverse multilingual workforce.

Discussion Questions

1. Assume that you are invited as a consultant by CPIB. What procedures would you introduce that would ensure that the restudied job information was correct?
2. Given the ability of most managers to “communicate” directly with the computer, can CPIB use this to its advantage in collecting job analysis information? Explain.
3. What additional skills and competencies would you focus on while planning a training program for CCTC staff? How should CPIB establish performance and skill standards for CCTC staff?

SUGGESTED READINGS

Coy, Peter, "The 21st Century Organization: the Creative Economy," *Business Week*, August 28, 2000.

Gael, Sydney, *Job Analysis*, San Francisco, CA: Jossey-Bass, 1983.

Grantham, Charles, *The Future of Work*, N.Y.: McGraw-Hill, 2000.

Sparrow, Paul, "New Employee Behaviours, Work Designs and Forms of Work Organization: What Is in Store for Future of Work?" *Journal of Managerial Psychology*, Vol. 15, No. 3, 2000, pp. 202–218.

Spencer, L. and S. Spencer, *Competence at Work: Models for Superior Performance*, N.Y.: John Wiley & Sons, 1993.