

CHAPTER 5

Human Resources Planning

LEARNING OUTCOMES

AFTER STUDYING THIS CHAPTER, YOU SHOULD BE ABLE TO

DEFINE human resources planning (HRP) and **DISCUSS** its strategic importance.

DESCRIBE four quantitative and two qualitative techniques used to forecast human resources demand.

DISCUSS briefly the four strategies used to forecast internal human resources supply and four types of market conditions assessed when forecasting external human resources supply.

DESCRIBE the ways in which a surplus of human resources can be handled.

EXPLAIN how organizations deal with a shortage of human resources.

REQUIRED PROFESSIONAL CAPABILITIES (RPC)

- Maintains an inventory of HR talent for use within the organization
- Identifies the organization's staffing needs
- Researches, analyzes, and reports on potential people issues affecting the organization
- Forecasts HR supply and demand conditions
- Plans for and manages the HR aspects of organizational change

THE STRATEGIC IMPORTANCE OF HUMAN RESOURCES PLANNING

human resources planning (HRP) The process of forecasting future human resources requirements to ensure that the organization will have the required number of employees with the necessary skills to meet its strategic objectives. Human resources planning (HRP) is the process of forecasting future human resources requirements to ensure that the organization will have the required number of employees with the necessary skills to meet its strategic objectives. HRP is a proactive process, which both anticipates and influences an organization's future by systematically forecasting the supply of and demand for employees under changing conditions and by developing plans and activities to satisfy these needs. Effective HRP helps an organization achieve its strategic goals and objectives, achieve economies in hiring new workers, make major labour market demands more successfully, anticipate and avoid shortages and surpluses of human resources, as well as control or reduce labour costs.

HRP has recently become a key strategic priority not just for HR departments but for strategic business planners as well. The existing labour shortage in Canada is forecast to increase to 1 million workers over the next 15 years.¹ Currently, Canada is in the beginning stages of a major labour

Occupation	Normalized future labour market situation (NFLMS)	The increase in the number of school leavers and immigrants needed to restore balance between expected supply and demand (annually)			
Contractors & Supervisors, Trades & Related	4.2	509%			
Contractors / Operators / Supervisors: Agriculture	4.1	305%			
Facility Operation & Maintenance Managers	3.9	335%			
Health / Education / Social & Community Services Managers	5.0	156%			
Legislators & Senior Management	5.5	250%			
Managers in Communication (Except Broadcasting)	3.6	217%			
Managers in Construction & Transportation	4.5	521%			
Managers in Protective Service	5.2	226%			
Managers in Public Administration	6.6	355%			
Optometrists / Chiropractors / Other Health Professions	3.5	124%			
Supervisors, Railway & Motor Transportation	5.5	1090%			
Supervisors, Assembly & Fabrication	4.3	294%			
Supervisors, Mining / Oil / Gas	3.2	338%			
Supervisors, Processing Occupations	4.8	403%			
Train Crew Operating Occupations	4.0	1062%			

FIGURE 5.1 Occupations Currently Showing or Expected to Show Labour Shortages

Source: HRSDC, Looking Ahead: A 10-Year Outlook for the Canadian Labour Market (2006–2015), January 29, 2007.

shortage. As the baby boom generation begins to retire, there are not enough candidates to fill vacant positions.² On average, two out of every three job openings over the next decade will be focused on replacing retiring workers. In addition, fertility rates in Canada continue to decline, resulting in fewer possible workers for the future labour force. Combined, these conditions create a situation of fierce labour competition, further increasing the importance of effective HRP. Figure 5.1 highlights occupations that are currently facing a labour shortage or ones that are expected to face a labour shortage by 2015. HRP will be absolutely essential for successful strategy implementation.³

As illustrated in Figure 5.2, key steps in the HRP process include analyzing forecasted labour supply, forecasting labour demands, and then planning and implementing HR programs to balance supply and demand.

Lack of or inadequate human resources planning within an organization can result in significant costs when unstaffed positions create costly inefficiencies and when severance pay is required for large numbers of employees being laid off. It can also create situations in which one department is laying off employees while another is hiring individuals with similar skills, which can reduce morale or productivity and can often result in turnover. The greater concern is that ineffective HRP can lead to an organization's inability to accomplish short-term operational plans or long-range strategic plans.

FIGURE **5.2** Human Resources Planning Model



The Relationship between HRP and Strategic Planning

An HR plan (HRP) does not occur independently of the other departments within an organization (such as finance, marketing, research and development). The HRP must align with the overall goals of the organization as well as both the long-term and short-term strategic plans set by the organization. Fundamental to the business planning process is the impact and alignment of HRP (as discussed in detail in Chapter 1). An organization's strategic decision to expand, redirect, diverge, divest, partner, or merge will have an associated effect on the HR expectations and plans of the organization.

Failure to integrate HRP and strategic planning can have very serious consequences. For example, in Ontario, a fifth year of high school called the Ontario Academic Credit (OAC) year (often referred to as Grade 13) was abolished in 2003 as an effort to cut provincial government costs. As a result, there was a double cohort of students (from both Grade 12 and Grade 13) graduating and wanting to attend postsecondary institutions. Most universities and colleges adopted a strategic decision to significantly increase admissions in 2003 to accommodate for the double cohort. Postsecondary institutions that aligned their HRP with the strategy of increased admissions benefited from an associated increase in labour. Organizations that did not link their strategic decision with HRP struggled with supporting the increased number of students inside the classroom (professors and teaching assistants) and outside of the classroom (libraries, career and learning centres, cafeterias, and so on). Thus, alignment of HR planning to strategic decisions is essential to an organization's success.

The Importance of Environmental Scanning

Environmental scanning is a critical component of HRP and strategic planning processes; the most successful organizations are prepared for changes before they occur. *Environment scanning* involves assessing factors that affect the external labour market as well as an organization's ability to find and secure talent from outside of the organization. The external environmental factors most frequently monitored include

- economic conditions (local, regional, national, international); for example, if the unemployment rate in a region is low, an organization would have to be more aggressive in recruiting talent, as selection may be more scarce
- market and competitive trends; for example, compensation policies that lag behind competitors' policies may result in higher turnover or more difficulties in attracting talent
- new or revised laws and the decisions of courts and quasi-judicial bodies; for example, a raise in the minimum wage rate can inflate the cost of labour in an organization, therefore creating budgetary pressure to reduce labour expenses
- social concerns such as healthcare, childcare, and educational priorities; for example, a trend toward securing higher education can reduce the size of the available external workforce in the short run, but in the longer run can result in retaining applicants with more specialized training

- technological changes affecting processes, products, and people; for example, a new technology developed at a local university can be implemented in the organization and significantly reduce labour demands through automation of a previously labour-intensive process
- demographic trends of an internal and external labour force; for example, if an
 organization is situated in a community largely inhabited by senior citizens, it
 may face difficulties securing a diverse or full-time workforce from the local area

Steps in Human Resources Planning

HRP is critical to an organization's success as it aligns forecasted labour supply (provided by the human resources department) with the predicted labour demands of the organization (such as the number of employees needed and the skill sets required). An element of HR planning that is often taken for granted is the availability and accuracy of information regarding the current HR situation. Understanding the internal labour force in the present is the basis for a number of demand and supply estimates. Therefore, before embarking on an HR planning exercise, current HR levels must be assessed.

There are numerous sources of information for identifying existing talent and human resources in an organization. An organization chart can provide HR planners and managers with an understanding of the organizational structure, business units, and possible career paths. This macro-level information can be linked to more microlevel information, such as how many employees the company currently has at each level, what existing skill sets the employees have, as well as the demographic information and job-related information about the existing employee base.

An organization must forecast future HR demand (the number of employees and the skill sets needed in the future) and forecast future HR supply (internal availability of workers). These two forecasts can occur simultaneously or one after the other depending on the resources available (time, money, people, and so on). Only after demand and supply is forecast can an organization identify potential labour imbalance issues, which leads to the development and implementation of plans to balance HR.

FORECASTING THE AVAILABILITY OF CANDIDATES (SUPPLY)

Short-term and long-range HR demand forecasts only provide half of the staffing equation by answering the question, "How many employees will we need?" The next major concern is how projected openings will be filled. There are two sources of supply:

- 1. *Internal*—present employees who can be trained, transferred, or promoted to meet anticipated needs
- 2. *External*—people in the labour market not currently working for the organization, including those who are employed elsewhere and those who are unemployed who can be expected to join the organization to meet anticipated needs

RPC

Researches, analyzes, and reports on potential people issues affecting the organization While internal forecasting identifies which members of the internal workforce will remain within the organization and where, an awareness of the external labour force can aid organizations in identifying challenges that may occur with expected recruitment of candidates into the internal labour force, such as the number of graduates in a specific program that acts as a significant source of talent, the literacy levels of the local or target population, as well as general economic trends. These external factors can impact how much compensation an organization must provide to secure top talent. As well, in times of low unemployment the internal workforce may be more inclined to seek employment elsewhere, if there is a general labour shortage for employees with their specific skill set. Therefore, trends in the external labour force have a direct impact on projections of the internal labour force.

Forecasting the Supply of Internal Candidates

Before estimating how many external candidates will need to be recruited and hired, management must determine how many candidates for projected openings will likely come from within the firm. This is the purpose of forecasting the supply of internal candidates.

Skills Inventories and Management Inventories

Skills inventories contain comprehensive information about the capabilities of current employees. Data gathered for each employee include name, age, date of employment, current position, present duties and responsibilities, educational background, previous work history, skills, abilities, and interests. Information about current performance and readiness for promotion is generally included as well. Data pertaining to managerial staff are compiled in **management inventories**. Records summarizing the background, qualifications, interests, and skills of management employees, as well as information about managerial responsibilities and management training, are used to identify internal candidates eligible for promotion or transfer opportunities.

To be useful, skills and management inventories must be updated regularly. Failure to do so can lead to present employees being overlooked for job openings. Updating every two years is generally adequate if employees are encouraged to report significant qualifications changes (such as new skills learned or courses completed) to the HR department as they occur.

Replacement Charts and Replacement Summaries

Replacement charts are typically used to keep track of potential internal candidates for the firm's most critical positions. It assumes that the organization chart will remain static for a long period of time and usually identifies three potential candidates for a top-level position, should it become vacant. As can be seen in **Figure 5.3**, such charts typically indicate the age of potential internal candidates (which cannot be used as a criterion in making selection or promotion decisions but is necessary to project retirement dates), the current performance level of the employee, and his or her promotion potential. The latter is based on the employee's future career aspirations and a supervisory assessment of readiness for promotion.

skills inventories Manual or computerized records summarizing employees' education, experience, interests, skills, and so on, which are used to identify internal candidates eligible for transfer or promotion.

management inventories Records summarizing the qualifications, interests, and skills of management employees, along with the number and types of employees supervised, duties of such employees, total budget managed, previous managerial duties and responsibilities, and managerial training received.

replacement charts Visual

representations of who will replace whom in the event of a job opening. Likely internal candidates are listed, along with their age, present performance rating, and promotability status.



Cenera www.cenera.ca

replacement summaries Lists of likely replacements for each position and their relative strengths and weaknesses, as well as information about current position, performance, promotability, age, and experience. To provide a more objective estimate of future potential this information may be supplemented by results of psychological tests, interviews with HR specialists, and other selection techniques.

Although replacement charts provide an excellent quick reference tool, they contain very little information. For that reason, many firms prefer to use **replacement summaries**. Such summaries list likely replacements for each position and their relative strengths and weaknesses, as well as information about current position, performance, promotability, age, and experience. These additional data can be extremely helpful to decision makers, although caution must be taken to ensure that no discrimination occurs on the basis of age, sex, and so on.

succession planning The process of ensuring a suitable supply of successors for current and future senior or key jobs so that the careers of individuals can be effectively planned and managed.

An Ethical **Dilemma**

You were recently asked to identify one employee you manage as a top performer to align with a new company program offering top performers intensive management skills training. The employee you identified for this role is unaware of the program. This morning, she confided in you that she just applied for graduate school and will find out if she has been accepted five months from now, with the intent to start the program one month after that. Would you change the identification of who was the top performer in your team based on this information? Why or why not?

Succession Plans

Forecasting the availability of inside candidates is particularly important in succession planning. In a nutshell, **succession planning** refers to the plans a company makes to fill its most important executive positions. It extends beyond the replacement chart by focusing on developing people rather than simply identifying potential replacements. As a result, there is a stronger focus on skills development for a specific list of potential successors within an organization.

In the days when companies were hierarchical and employees tended to remain with a firm for years, executive succession was often straightforward: Staff climbed the ladder one rung at a time, and it wasn't unusual for someone to start on the shop floor and end up in the president's office. Although that kind of ascent is still possible, employee turnover and flatter structures mean that the lines of succession are no longer as direct. For example, potential successors for top positions might be routed through the top jobs at several key divisions, as well as overseas, and sent through a university graduate-level, advanced management program.

Succession planning is extremely important today, affecting both large and small organizations. The Entrepreneurs and HR box highlights some of the challenges that entrepreneurial organizations often face with succession planning. Because succession planning requires balancing the organization's top management needs with the potential career aspirations of available candidates, succession should include these activities:

- analysis of the demand for managers and professionals in the company
- audit of existing executives and projection of likely future supply
- planning of individual career paths based on objective estimates of future needs, performance appraisal data, and assessments of potential
- career counselling and performance-related training and development to prepare individuals for future roles
- accelerated promotions, with development targeted at future business needs
- planned strategic recruitment aimed at obtaining people with the potential to meet future needs as well as filling current openings⁴

It should be noted that replacement charts, replacement summaries, and succession plans are considered highly confidential in most organizations.

Markov Analysis

Estimating internal supply involves much more than simply calculating the number of employees. Some firms use the **Markov analysis** technique to track the pattern of employee movements through various jobs and develop a transitional probability matrix for forecasting internal supply by specific categories, such as position and gender. As illustrated in **Figure 5.4**, such an analysis shows the actual number (and percentage) of employees who remain in each job from one year to the next, as well as the proportions promoted, demoted, transferred, and leaving the organization. These proportions (probabilities) are used to forecast human resources supply.



Markov analysis A method of forecasting internal labour supply that involves tracking the pattern of employee movements through various jobs and developing a transitional probability matrix.

> 2014 Plant Team Production Manager Leader Worker Exit Foreperson 2013 Plant 80% 20% Manager (n = 5)4 I 82% 10% 8% Foreperson (n = 35)3 28 4 11% 70% Team 7% 12% Leader 77 8 12 13 (n = ||0)6% 72% 22% Production Worker (n = 861)52 620 189 Projected Supply 7 40 129 628

FIGURE **5.4** Hypothetical Markov Analysis for a Manufacturing Operation

Percentages represent transitions (previous year's actuals). Actual numbers of employees are shown as whole numbers in each block (projections for 2014 based on current staffing).

ENTREPRENEURS and HR

Succession Planning and Family Businesses

In the second quarter of 2010, small businesses created 35 549 jobs, while large firms created only 728 jobs. During that period, small businesses in the construction sector alone accounted for 23 014 new jobs, while healthcare and social assistance small businesses introduced 9 755 new jobs. Needless to say, the impact of small businesses in Canada is paramount to economic success and job creation.

Multigenerational family-controlled businesses often struggle with succession planning. Only one-third of family-owned businesses survive the transition to the second generation. And of these, only one-third survive the transition to the third generation.⁵

There are many reasons for these failures. First, the topic of potential retirement planning or planning for the eventual death of the business owner is a topic that is difficult to address. The tough decision of determining who will inherit the business and how ownership will be determined among children can be a source of immense stress for family business owners. Therefore, many choose to ignore the issue of succession planning altogether.

Second, a family business is a great source of pride for the business owner and is often their single largest asset. The concept of retirement or walking away can be incomprehensible to those who built the business. Likewise, the notion that another person will be given full decision-making authority includes the risk that the strategic agenda, longterm plans, or business approach of the successor will not align with the visions of the current business owner.

Third, within a family there may not be a qualified or interested successor. Successors themselves may be hesitant to take the reins in a family business because of the perception that the person who left the business may continue to stay involved in decision making, which can act as a disincentive to the potential successor(s).

While these are difficult issues to deal with, family businesses must begin to take an informed and strategic approach to these issues. Objectivity in decision making and honesty in discussing various approaches to the business can help start the dialogue of succession planning in a small business. In the example provided, there were 35 employees in the foreperson occupation in 2013. Out of these, 82 percent (28 employees) are expected to remain in that position next year (based on past levels of activity). The organization can anticipate that 8 percent of the foreperson population (which would be three out of the 35 employees in 2013) would be promotable to the role of plant manager. In addition, the past trends show that 10 percent of employees at this level are lost to turnover (representing four employees who are expected to leave the organization before the start of next year). In addition, out of the 110 team leaders (the level below), 11 percent (12 employees) would be eligible for promotion to a foreperson position. Therefore, next year's projected supply of forepersons would be the 28 from this year who are projected to stay in that role plus the 12 team leaders who are projected to be eligible for promotion over the year, for a total supply of 40 forepersons.

In addition to such quantitative data, the skills and capabilities of current employees must be assessed and skills inventories prepared. From this information, replacement charts or summaries and succession plans can be developed.

Forecasting the Supply of External Candidates

Some jobs cannot be filled with internal candidates because no current employees are qualified (such as entry-level jobs) or they are jobs that experience significant growth. In these situations, the firm looks for external candidates. Employer growth is primarily responsible for the number of entry-level openings. A key factor in determining the number of positions that must be filled externally is the effectiveness of the organization's training, development, and career-planning initiatives. If employees are not encouraged to expand their capabilities, they may not be ready to fill vacancies as they arise, and external sources must be tapped.

To project the supply of outside candidates, employers assess general economic conditions, labour market conditions, and occupational market conditions.

General Economic Conditions

General economic conditions refer to the impact of natural fluctuations in economic activity, which impacts all businesses. These include factors such as interest rates, wage rates, rate of inflation, and unemployment rates. In general terms, the lower the rate of unemployment, the smaller the labour supply and the more difficult it will be to recruit employees. It is important to note that unemployment rates vary by occupation and geographic location and can result in an organization's inability to fill certain positions.

Labour Market Conditions

Labour market conditions refer to the demographics of those in the population, such as education levels, age, gender, marital status, and so on. Demographic conditions remain stable and can be forecast with a relatively high degree of accuracy. Fortunately, a wealth of national labour market information is available from Statistics Canada and other government or private sources. Regional chambers of commerce and provincial/local development and planning agencies can be excellent sources of local labour market information. A crucial reality is that a large portion of the population is expected to retire over the next decade, significantly decreasing the size of the labour force. Graduating students (from any level of education) who are just joining the workforce are projected to account for 550 000 new entrants to the labour market a year.⁶ In contrast, new immigrants are expected to account for 131 500 new entrants to the labour market a year. An example of a company that has come to realize the benefits of new immigrants as a major source of talent is provided in the Strategic HR box.

STRATEGIC HR

Pumping Up People Supply

Building an aortic pericardial heart valve is no easy task. The intricate medical device, measuring mere millimetres, requires highly specialized skills in its production and engineering. Therefore, there is a very small talent pool available to Burnaby, BC–based Sorin Group Canada. They hire engineers who focus on customengineered machinery and equipment, quality assurance experts who ensure that regulations are followed, and production technicians who hand-sew and hand-suture the heart valves.

According to Judith Thompson, senior manager of HR at Sorin Group, "Canada isn't well-known for its biomedical engineers so even when we hire now, to ask for medical device experience, we wouldn't get it. So we hire an engineer or scientist and train on the rest of it." The company has come to realize the benefits, and necessity, of new immigrants as a major source of talent. "Our culture is very diverse. About 90 percent of our staff speak English as a second language, from production people to vice-presidents, so we don't look for Canadian-born, Canadian-educated, Canadian experience because in these economic times that would set us back," she says. "I would never have filled 60 positions last year with those criteria."

Training is extensive, as it takes three or four months before workers, wearing gowns and gloves in a superclean environment, can make a product that is usable. And even then they can only make a certain number of valves or components per week—it takes another six months to ramp up to regular production, says Thompson.

Sorin supports its employees with in-house Englishlanguage training, through a partnership with immigration services, and provides subsidies to foreign-trained engineers who want to pursue an engineering degree in British Columbia.

"We just can't speak enough about the program and the return on investment we've gotten," says Thompson. "We're getting better feedback on problems on the floor because the employees are more comfortable speaking to the researchers and scientists and surgeons who come in on tours. The confidence level of the group has gone up and they are very devoted to the company and the product they make."

Source: Adapted from S. Dobson, "Pumping Up People Supply at Sorin Group Canada to Build Heart Valves," *Canadian HR Reporter*, February 23, 2009.

In recent years, the information, communication, and technology sectors (ICT) have suffered from a significant skills shortage, where the demand for ICT workers exceeds the supply. This shortage is expected to continue until 2016.



Occupational Market Conditions

In addition to looking at the overall labour market, organizations also generally want to forecast the availability of potential candidates in specific occupations (engineers, drill press operators, accountants, and so on) for which they will be recruiting. Alberta has recently faced a severe labour shortage of workers in the oil and gas sector.⁷ Furthermore, the mining industry, the construction industry, the electricity industry, the manufacturing industry, as well as the non-profit sector are also experiencing significant labour shortages.⁸ A shortage of information technology workers is projected to cost the Canadian

economy \$10 billion per year until it is resolved.⁹ Shortages of civil service workers, accountants, lawyers, engineers, meteorologists, funeral directors (to bury the baby boomers), and hospitality industry workers are also expected.¹⁰

FORECASTING FUTURE HUMAN RESOURCES NEEDS (DEMAND)

RPC

Identifies the organization's staffing needs

A key component of HRP is forecasting the number and type of people needed to meet organizational objectives. Managers should consider several factors when forecasting such requirements. From a practical point of view, the demand for the organization's product or service is paramount. Thus, in a manufacturing firm, sales are projected first. Then the volume of production required to meet these sales requirements is determined. Finally, the staff needed to maintain this volume of output is estimated. In addition to this "basic requirement" for staff, several other factors should be considered, including

- 1. projected turnover as a result of resignations or terminations
- 2. *quality and nature of employees* in relation to what management sees as the changing needs of the organization
- 3. *decisions to upgrade* the quality of products or services *or enter into new markets*, which might change the required employee skill mix
- 4. planned technological and administrative changes aimed at increasing productivity and reducing employee head count, such as the installation of new equipment or introduction of a financial incentive plan
- 5. the *financial resources* available to each department; for example, a budget increase may enable managers to pay higher wages or hire more people; conversely, a budget crunch might result in wage freezes or layoffs

In large organizations, needs forecasting is primarily quantitative in nature and is the responsibility of highly trained specialists. *Quantitative techniques* for determining human resources requirements include trend analysis, ratio analysis, scatter plot analysis, and regression analysis. These are often viewed as numerically or mathematically grounded, and therefore more objective in nature. *Qualitative approaches* to forecasting range from sophisticated analytical models to informal expert opinions about future needs, often involving subjective interpretations or estimates, such as the nominal group technique or the Delphi technique.

Quantitative Approaches

Trend Analysis

Trend analysis involves studying the firm's employment levels over the last three to five years to predict future needs. The purpose is to identify employment trends that might continue into the future, assuming that the past is a strong predictor of the future. Trend analysis is valuable as an initial estimate only, since employment levels rarely depend solely on the passage of time. Other factors (like changes in sales volume and productivity) will also affect future staffing needs.

Ratio Analysis

Ratio analysis involves making forecasts based on the ratio between some causal factor (such as sales volume) and the number of employees required (for example,

trend analysis The study of a firm's past employment levels over a period of years to predict future needs.

ratio analysis A forecasting technique for determining future staff needs by using ratios between some causal factor (such as sales volume) and the number of employees needed. the number of salespeople). Ratio analysis can also be used to help forecast other employee requirements. Like trend analysis, ratio analysis assumes that productivity remains about the same. For example, suppose a salesperson traditionally generates \$500 000 in sales and that plans call for increasing the firm's sales by \$3 million next year. Then, if the sales revenue–salespeople ratio remains the same, six new salespeople would be required (each of whom produces an extra \$500 000 in sales).

The Scatter Plot

Scatter plots can be used to determine whether two factors—a measure of business activity and staffing levels—are related. If they are, then when the measure of business activity is forecast, HR requirements can also be estimated.

An example to illustrate follows. Legislative changes to the healthcare system require that two 500-bed Canadian hospitals be amalgamated. Both previously had responsibility for acute, chronic, and long-term care. The government's plan is for Hospital A to specialize in acute care while Hospital B assumes responsibility for chronic and long-term care. In general, providing acute care requires staffing with registered nurses (RNs), while chronic and long-term care facilities can be staffed primarily with registered practical nurses (RPNs).

By the end of the calendar year, 200 beds at Hospital A must be converted from chronic and long-term care beds to facilities for acute patients. At the same time, Hospital A's 200 chronic and long-term patients must be transferred to Hospital B. In a joint meeting, the directors of nursing and HR decide that a good starting point in the planning process would be to calculate the relationship between hospital size (in terms of number of acute beds) and the number of RNs required. After placing telephone calls to their counterparts at eight hospitals in larger centres across the country, they obtain the following information:

Size of Hospital (Number of Acute Beds)	Number of Registered Nurses				
200	240				
300	260				
400	470				
500	500				
600	620				
700	660				
800	820				
900	860				

To determine how many RNs would be needed, they use the data obtained to draw the scatter plot shown in Figure 5.5, in which hospital size is shown on the horizontal axis and number of RNs is shown on the vertical axis. If the two factors are related, then the points will tend to fall along a straight line, as they do in this case. Carefully drawing a line that minimizes the distances between the line and each of the plotted points (the line of best fit) permits an estimate of the number of nurses required for hospitals of various sizes. Thus, since Hospital A will now have 500 acute-care beds, the estimated number of RNs needed is 500.

scatter plot A graphical method used to help identify the relationship between two variables.



Note: After fitting the line, the number of employees needed, given the projected volume, can be extrapolated (projected).

Regression Analysis

Regression analysis is a more sophisticated statistical technique to determine the line of best fit, often involving multiple variables (rather than just two, as per the example above). As a statistical tool used to investigate the effect of one variable on another, the investigator is able to determine the magnitude and direction of the relationship between variables to develop future predictions. In the context of HRP, it involves the use of a mathematical formula to project future demands based on an established relationship between an organization's employment level (dependent variable) and some measurable factors of output (independent variables), such as revenue, sales, or production level.

Qualitative Approaches

In contrast to quantitative approaches, which use statistical formulas, qualitative techniques rely solely on expert judgments. Two approaches used to forecast human resources demand (or supply) are the nominal group and Delphi techniques. Although managerial judgment is central to qualitative forecasting, it also plays a key role when quantitative techniques are used. It's rare that any historical trend, ratio, or relationship will continue unchanged into the future. Judgment is therefore needed to modify the forecast based on anticipated changes.

Nominal Group Technique

The nominal group technique involves a group of experts (such as first-line supervisors and managers) meeting face to face. Although one of its uses is human resources demand forecasting, this technique is used to deal with issues and problems ranging from identifying training needs to determining safety program incentives. The steps involved are as follows:¹¹

1. Each member of the group independently writes down his or her ideas on the problem or issue (in this case, estimates of demand).

regression analysis A statistical technique involving the use of a mathematical formula to project future demands based on an established relationship between an organization's employment level (dependent variable) and some measurable factor of output (independent variable).

nominal group technique A

decision-making technique that involves a group of experts meeting face to face. Steps include independent idea generation, clarification and open discussion, and private assessment.

- 2. Going around the table, each member then presents one idea. This process continues until all ideas have been presented and recorded, typically on a flipchart or chalkboard. No discussion is permitted during this step.
- 3. Clarification is then sought, as necessary, followed by group discussion and evaluation.
- 4. Finally, each member is asked to rank the ideas. This is done independently and in silence.

The advantages of this technique include involvement of key decision makers, a future focus, and the fact that the group discussion involved in the third step can facilitate the exchange of ideas and greater acceptance of results. Drawbacks include subjectivity and the potential for group pressure to lead to a less accurate assessment than could be obtained through other means.

Delphi Technique

Although short-term forecasting is generally handled by managers, the **Delphi technique** is useful for long-range forecasting and other strategic planning issues. It typically involves outside experts as well as company employees, based on the premise that outsiders may be able to assess changes in economic, demographic, governmental, technological, and social conditions, and their potential impact more objectively. The Delphi technique involves the following steps:¹²

- 1. The problem is identified (in this case, estimates of demand) and each group member is requested to submit a potential solution by completing a carefully designed questionnaire. Direct face-to-face contact is not permitted.
- 2. After each member independently and anonymously completes the initial questionnaire, the results are compiled at a centralized location.
- 3. Each group member is then given a copy of the results.
- 4. If there are differences in opinion, each individual uses the feedback from other experts to fine-tune his or her independent assessment.
- 5. The third and fourth steps are repeated as often as necessary until a consensus is reached.

As with the nominal group technique, the advantages of the Delphi technique include involvement of key decision makers and a future focus; in addition, though, it permits the group to critically evaluate a wider range of views. Drawbacks include the fact that judgments may not efficiently use objective data, the time and costs involved, and the potential difficulty in integrating diverse opinions.

Gap Analysis: Summarizing Human Resources Requirements

The end result of the forecasting process is an estimate of short-term and longrange HR requirements. Long-range plans are general statements of potential staffing needs and may not include specific numbers.

Short-term plans—although still approximations—are more specific and are often depicted in a staffing table. As illustrated in Figure 5.6, a staffing table is a pictorial representation of all jobs within the organization, along with the number of current incumbents and future employment requirements (monthly or yearly) for each.

Delphi technique A judgmental forecasting method used to arrive at a group decision, typically involving outside experts as well as organizational employees. Ideas are exchanged without face-to-face interaction and feedback is provided and used to fine-tune independent judgments until a consensus is reached.

staffing table A pictorial representation of all jobs within the organization, along with the number of current incumbents and future employment requirements (monthly or yearly) for each.

FIGURE **5.6** A Sample Staffing Table

								Date c	<u> </u>					
Job Title (As on Job Description)	Department	Anticipated Openings												
		Total	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
General Manager	Administration	I					I.							
Director of Finance	Administration	I												I
Human Resources Officer	Administration	2	I.					I						
Collection Clerk	Administration	I		I.										
Groundskeeper	Maintenance	4						I	I					2
Service and Maintenance Technician	Maintenance	5	I			2					2			
Water Utility Engineer	Operations	3									2			I
Apprentice Lineperson	Operations	10	6						4					
Water Meter Technician	Operations	I												I
Engineering Technician	Operations	3			2							Ι		
Field Technician	Operations	8						8						
Senior Programmer/ Analyst	Systems	2				Ι				I				
Programmer/Operator	Systems	4		2						I			I	
Systems Operator	Systems	5					2						3	
Customer Service Representative	Sales	8	4					3				Ι		

PLANNING AND IMPLEMENTING HR PROGRAMS TO BALANCE SUPPLY AND DEMAND

Once the supply and demand of human resources have been estimated, program planning and implementation begin. To successfully fill positions internally, organizations must manage performance and careers. Performance is managed through effectively designing jobs and quality-of-working-life initiatives; establishing performance standards and goals; coaching, measuring, and evaluating; and implementing a suitable reward structure (compensation and benefits).

To manage careers effectively, policies and systems must be established for recruitment, selection and placement (including transfer, promotion, retirement, and termination), and training and development. Policies and systems are also required for job analysis, individual employee assessment, replacement and succession planning, and career tracking, as well as career planning and development.

Specific strategies must be formulated to balance supply and demand considerations. As illustrated in Figure 5.7, there are three possible scenarios:

- 1. projected labour demand matches projected labour supply (equilibrium)
- 2. projected labour supply exceeds projected demand (surplus)
- 3. projected labour demand exceeds projected supply (shortage)

Conditions	Possible Solutions
Labour Equilibrium (when labour demand equals labour supply)	• Vacancies are filled internally through training, transfers, or promotions or externally through hiring
Labour Surplus (when labour demand is less than labour supply)	 Hiring freeze: reassign current workers to job openings Attrition: standard employee resignation, retirement, or death Early retirement buyout programs: entice those close to retirement to retire early with a buyout program, access to full or reduced pension, and/or continuation of benefits Job sharing, work sharing, or reduced workweek programs: reducing work from the standard full-time workload to a less than full-time work Layoff: temporary or permanent withdrawal of employment due to business or economic reasons Termination: permanent separation from the organization because of job performance reasons Leave of absence: voluntary, temporary withdrawal of employment with guaranteed job upon return
Labour Shortage (when labour demand is greater than labour supply)	 Scheduling overtime hours Hiring temporary workers Subcontracting work External recruitment Internal promotions or transfers

FIGURE 5.7 Balancing Supply and Demand Considerations

Labour Equilibrium

Although it is extremely rare to have a labour equilibrium, when the expected supply matches the actual demand organizations do not need to change their course of action. Existing plans to replace outgoing employees should be maintained by promoting or transferring internal members of the organization as well as recruiting external labourers.

Labour Surplus

A labour surplus exists when the internal supply of employees exceeds the organization's demand. Most employers respond initially by instituting a **hiring freeze**, which means that openings are filled by reassigning current employees and no outsiders are hired. The surplus is slowly reduced through **attrition**, which is the normal separation of employees because of resignation, retirement, or death. When employees leave, the ensuing vacancies are not filled and the staffing level decreases gradually without any involuntary terminations. In addition to the time it takes, a major drawback of this approach is that the firm has no control over who stays and who leaves.

Some organizations attempt to accelerate attrition by offering incentives to employees to leave, such as early retirement buyout programs. Staffing levels

hiring freeze A common initial response to an employee surplus; openings are filled by reassigning current employees and no outsiders are hired.

attrition The normal separation of employees from an organization because of resignation, retirement, or death.

early retirement buyout programs

Strategies used to accelerate attrition that involve offering attractive buyout packages or the opportunity to retire on full pension with an attractive benefits package.



job sharing A strategy that involves dividing the duties of a single position between two or more employees.

work sharing Employees work three or four days a week and receive El benefits on their non-workday(s).

reduced workweek Employees work fewer hours and receive less pay.



layoff The temporary or permanent withdrawal of employment to workers for economic or business reasons.

termination Permanent separation from the organization for any reason.

are reduced and internal job openings created by offering attractive buyout packages or the opportunity to retire on full pension with an attractive benefits package at a relatively early age (often 50 or 55). To be successful, buyouts must be handled carefully. Selection criteria should be established to ensure that key people who cannot be easily replaced do not leave the firm. A drawback of buyouts and early retirement packages is that they often require a great deal of money upfront. Care must also be taken to ensure that early retirement is voluntary, since forced early retirement is a contravention of human rights legislation.

Another strategy used to deal with an employee surplus involves reducing the total number of hours worked. **Job sharing** involves dividing the duties of a single position between two or more employees. Reducing full-time positions to *part-time work* is sometimes more effective, especially if there are peak demand periods. Creating a job-share position or offering part-time employment can be win–win strategies, since layoffs can be avoided. Although the employees involved work fewer hours and thus have less pay, they are still employed, and they may enjoy having more free time at their disposal; the organization benefits by retaining good employees.

Twenty-five years ago, the federal government introduced a **work-sharing** scheme, a layoff-avoidance strategy that involves employees working three or four days a week and receiving employment insurance (EI) benefits on their non-workday(s). The program was temporarily extended to provide 52 weeks of benefits from February 1, 2009, to April 3, 2010, during the recent economic slowdown.¹³ Similar to work sharing, but without a formal arrangement with the government regarding EI benefits, is a **reduced workweek**. Employees simply work fewer hours and receive less pay. The organization retains a skilled workforce, lessens the financial and emotional impact of a full layoff, and reduces production costs. One potential drawback is that it is sometimes difficult to predict in advance, with any degree of accuracy, how many hours of work should be scheduled each week.

Another strategy used to manage employee surplus is a **layoff**; the temporary withdrawal of employment to workers for economic or business reasons. Layoffs may be short in duration (for example, when a plant closes for brief periods in order to adjust inventory levels or to retool for a new product line), but can last months or even years at a time if the organization is negatively affected by a major change in the business cycle. However, layoffs are often permanent in nature. Layoffs are not easy for managers, who have to reduce the number of employees to the required level, or for workers, but are usually necessary to ultimately reduce the impact of the organization's economic downturn. Layoffs and terminations are discussed in depth in Chapter 15.

Termination is a broad term that encompasses permanent separation of the worker from the organization. Termination is often triggered by a management decision to sever the employment relationship due to reasons that are related to job performance. Purging poorly performing employees is often an ongoing activity in any organization, regardless of any projected labour surpluses; however, the rate of termination may increase if there is a projected surplus of labour.

The option of a voluntary *leave of absence* can also be used if the labour surplus is temporary in nature. A leave of absence allows those who may be

interested in time off for personal, educational, or other reasons to have a set period of time away from their position, with a guarantee that their job will be available upon their return. A leave of absence can be paid or unpaid, but often seniority and benefits remain intact. Terms of the leave and expected return must be clearly outlined, including potential conflicts of interest and mutual expectations from each party.

Easing the Pain of Labour Surplus Management

Although restructuring initiatives, ranging from layoffs to mergers and acquisitions, were prevalent in the last two decades, organizations that engaged in layoffs were not consistently achieving the desired goals or financial benefits of their decisions. In a study of 6418 workforce reductions in Fortune 500 firms over 18 years, researchers found no consistent evidence that downsizing led to improved financial performance.¹⁴

A primary reason for this is the high cost associated with **survivor syndrome**, a range of emotions that can include feelings of betrayal or violation, guilt, or detachment. The remaining employees, anxious about the next round of terminations, often suffer stress symptoms, including depression, increased errors, and reduced performance.

An Ethical Dilemma

How much time, effort, and money should firms devote to helping "surviving" employees deal with downsizing? With mergers and acquisitions?

supplemental unemployment

benefits (SUBs) A top-up of El benefits to bring income levels closer to what an employee would receive if on the job.

severance package A lump-sum payment, continuation of benefits for a specified period of time, and other benefits that are provided to employees who are being terminated.



To ease the financial burden of layoffs, some organizations offer **supplemental unemployment benefits** (SUBs), which are a top-up of EI benefits to bring income levels of temporarily laid-off workers closer to their regular, on-the-job pay. SUB programs are generally negotiated through collective bargaining between the employee and employer. Benefits are payable until the pool of funds set aside has been exhausted.

A severance package is typically provided when employees are being terminated through no fault of their own in order to avoid wrongful dismissal lawsuits. Severance pay is legally required in certain situations, such as mass layoffs.

In addition to pay, severance packages often include the continuation of benefits for a specified period. In determining the appropriate package, employers should take salary, years of service, the employee's age, and his or her likelihood of obtaining another job into consideration.¹⁵ Executives may be protected by a *golden parachute clause* in their contract of employment, which is a guarantee by the employer to pay specified compensation and benefits in the case of termination because of downsizing or restructuring. To soften the blow of termination, *outplacement assistance*, generally offered by an outside agency, can assist affected employees in finding employment elsewhere. The issues and processes related to managing a labour surplus legally and fairly are provided in significant detail in Chapter 15 (managing employee terminations).

Labour Shortage

A labour shortage exists when the internal supply of human resources cannot meet the organization's needs. Scheduling overtime hours is often the initial response. Employers may also subcontract work on a temporary or permanent basis. Another short-term solution is to hire temporary employees.



survivor syndrome A range of negative emotions experienced by

employees remaining after a major

restructuring initiative, which can

violation, guilt, or detachment, and

include feelings of betraval or

can result in stress symptoms,

including depression, increased errors, and reduced performance.

As vacancies are created within the firm, opportunities are generally provided for employee transfers and promotions, which necessitate performance management, training (and retraining), and career development. Of course, internal movement does not eliminate a shortage, which means that recruitment will be required. It is hoped, though, that resultant vacancies will be for entry-level jobs, which can be filled more easily externally.

Internal Solutions to a Labour Shortage

A **transfer** involves a lateral movement from one job to another that is relatively equal in pay, responsibility, or organizational level. Transfers can lead to more effective use of human resources, broaden an employee's skills and perspectives, and help make him or her a better candidate for future promotions. Transfers also offer additional technical and interpersonal challenges and increased variety of work, which may enhance job satisfaction and motivation.

A **promotion** involves the movement of an employee from one job to another that is higher in pay, responsibility, or organizational level. Such a move may be based on merit, seniority, or a combination of both. Merit-based promotions are awarded in recognition of a person's outstanding performance in his or her present job or as an assessment of his or her future potential.

A focus on employee retention initiatives can also mitigate potential labour shortages. The HRP process often highlights challenges the organization is having with turnover or retention at specific levels. This may warrant further investigation into why employees are leaving and which types of employees are leaving. Rather than a broad focus on retention, organizations can benefit from focusing on retaining key employees or employees with strong job performance. A discussion of career planning to assist with internal solutions regarding a labour shortage are provided in Chapters 9 and 10 (career development and performance management).

External Solutions to a Labour Shortage

External solutions to managing a labour shortage involve recruiting the right quality and quantity of talent needed in an organization to meet the long-term goals and strategy of the company. The next chapter (Chapter 6) extensively discusses the recruitment process, methods of recruitment, and strategies of determining recruitment targets. Options for recruitment and selection related to managing a labour shortage are provided in Chapters 6 and 7 (recruitment and selection).

Chapter **SUMMARY**

1. Human resources planning (HRP) is the process of reviewing HR requirements to ensure that the organization has the required number of employees with the necessary skills to meet its strategic goals. Forecasting future labour demand and supply is a critical element of the strategic planning process. HRP and strategic planning become effective when a reciprocal and interdependent relationship exists between them.

 Four quantitative techniques for forecasting future HR demand are trend analysis, ratio analysis, scatter plots, and regression analysis. Two qualitative techniques used to forecast

transfer Movement of an employee from one job to another that is relatively equal in pay, responsibility, or organizational level.

promotion Movement of an employee from one job to another that is higher in pay, responsibility, or organizational level, usually based on merit, seniority, or a combination of both. demand are the nominal group technique and the Delphi technique.

- 3. Four strategies used to forecast internal HR supply are Markov analysis, skills and management inventories, replacement charts and summaries, and succession planning. Forecasting external HR supply requires an assessment of general economic conditions, labour market conditions, and occupational labour conditions.
- 4. Strategies to manage a labour surplus include a hiring freeze; downsizing through attrition; early retirement buyout programs; reduced hours through job sharing, part-time work,

work sharing, or reduced workweeks; leaves of absence; and termination of employment.

5. Strategies to manage a human resources shortage include internal and external solutions, such as hiring employees, employee transfers and promotions, and retention programs.

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Key **TERMS**

attrition (p. 135) Delphi technique (p. 133) early retirement buyout programs (p. 135) hiring freeze (p. 135) human resources planning (HRP) (p. 120) job sharing (p. 136) layoff (p. 136) management inventories (p. 124) Markov analysis (p. 126) nominal group technique (p. 132) promotion (p. 138) ratio analysis (p. 130) reduced workweek (p. 136) regression analysis (p. 132) replacement charts (p. 124) replacement summaries (p. 125) scatter plot (p. 131) severance package (p. 137) skills inventories (p. 124) staffing table (p. 133) succession planning (p. 126) supplemental unemployment benefits (SUBs) (p. 137) survivor syndrome (p. 137) termination (p. 136) transfer (p. 138) trend analysis (p. 130) work sharing (p. 136)

Review and Discussion **QUESTIONS**

- 1. Describe the costs associated with a lack of or inadequate HRP.
- 2. After analyzing the human resources implications of an organization's strategic plans, what are the three subsequent processes involved in HRP?
- 3. Discuss the pros and cons of five of the approaches to dealing with a labour surplus

from both the organization and employee perspective.

- 4. Differentiate between replacement charts and succession plans, and explain in which situation each is preferred.
- 5. Discuss various methods of easing the burden of a layoff or termination.

Critical Thinking **QUESTIONS**

- 1. A number of quantitative and qualitative techniques for forecasting human resources demand were discussed in this chapter. Working in groups, identify which strategies would be most appropriate for (a) small versus large companies, (b) industries undergoing rapid change, and (c) businesses/industries in which there are seasonal variations in HR requirements.
- 2. Suppose that it has just been projected that, because of a number of technological innovations, your firm will need 20 percent fewer clerical employees within the next three years. There are currently 122 clerical positions in the company, split between three departments of equal size. Retirements at this level are projected

to be roughly 2 percent per year. Annual voluntary turnover and involuntary turnover for Department A is 2 percent and 5 percent, respectively; Department B is 3 percent and 3 percent; and Department C is 5 percent and 0 percent. Do you project a labour shortage or surplus in the next three years for clerical positions? What actions would you take in this situation?

3. Suppose that you are the HR manager at a firm at which a hiring freeze has just been declared. The plan is to downsize through attrition. What steps would you take to ensure that you reap the advantages of this strategy while minimizing the disadvantages?

Experiential **EXERCISES**

- 1. Develop a realistic, hypothetical staffing table for a department or organization that you are familiar with.
- 2. Contact the HR manager at a firm in your area and find out whether the firm uses any of the following: (a) skills/management inventories, (b) replacement charts or summaries, and (c) a succession plan. Prepare a brief summary of the information gathered. Once you have completed these tasks, form a group with several of your classmates. Share your findings with the group members. Were there similarities across firms? Did company size seem to make a difference in terms of strategies used for forecasting the supply of internal candidates? Can you identify any other factors that seem to play a role in the choice of forecasting techniques used?
- 3. This assignment requires working in teams of five or six. Half of each team is to assume the role of management at a firm that is about to undergo major downsizing. The other half of each team is to assume the role of employees—some who will be affected and others who will remain. Each management team is paired with an employee

team and must prepare and role-play a realistic meeting of the two parties. Managers should work toward minimizing the negative impact on those who will be affected as well as on those who will remain. Individuals in employee roles should envision what their thoughts and feelings would be (if they have never actually been in this situation, that is) and to portray them as realistically as possible.

- 4. Form teams of three or four people. Your instructor will assign you a position on the following statement: "All employees in an organization should be aware of their personal standing with respect to replacement charts and succession planning." Formulate your arguments to support your assigned position and then debate the statement with an opposing team, as instructed.
- 5. With a partner, research "survivor syndrome" and what specific companies have done to successfully mitigate this response and regain full employee commitment. Prepare a brief (two to three minute, maximum) oral presentation to share what you have learned.

Running **CASE**

Running Case: LearnInMotion.com

To Plan or Not to Plan?

One aspect of HRM that Jennifer and Pierre studied at university was HR planning. Their professor emphasized its importance, especially for large organizations. Although LearnInMotion.com as certainly small at this point, with only a few employees, they were planning to expand, and it seemed that detailed HRP should be an essential part of their plans. There was no succession plan—after all, they have just started the business! But they both knew that the market for technology workers, in general, was competitive. Jennifer and Pierre have asked for some assistance with the following questions.

QUESTIONS

- 1 What is human resources planning and how will it help LearnInMotion's strategic plans?
- 2 Describe the steps in the human resources planning process and discuss the important elements within each that will benefit LearnInMotion.

Case INCIDENT

How to Downsize Successfully While Using HRP Fundamentals

A successful franchise owner of a prestigious sporting goods chain is feeling the effects of technology, with more and more online sales and less and less customers in the shops. Locally there are three stores, and typically each store needs the following positions staffed for optimum profitability and success: a store manager, an assistant manager, five department managers, and 20 customer service representatives, averaging \$1 200 000 in annual revenue. However, there has been a trend of 20 percent sales decline in stores, with an increase of 30 percent sales online (last year the online revenue stream was \$300 000). The franchise owner was able to handle all of the online sales with a team of five full-time remote workers (working from home) last year.

The owner wants each store to maintain their productivity, which he measures as the revenue per employee. He also thinks that there is potential to grow the online business. Please help the owner by answering the following questions.

QUESTIONS

- 1 Using your HR planning expertise, forecast the demand of labour in the stores and the online environment over the next three years.
- 2 Assuming an annual 15 percent turnover level of in-store workers and a 30 percent turnover level of online-focused employees, determine HR supply estimates over the next three years.
- 3 Do you forecast a labour shortage or surplus? Develop a clear plan to help address the forecast labour shortage or surplus.

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