

RETENTION OF TECHNICAL PROFESSIONALS

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SYNOPSIS

The loss of skills and knowledge of technical professionals experienced by many organizations in South Africa has serious implications on the competitiveness of these organizations in the local and international markets. Organizations should come to realize that they should find creative ways to retain critical skills and knowledge and ensure continuity in terms of succession management.

Technical professionals play a crucial role in society. They are responsible for maintaining the technologies that they developed – technologies that are used extensively everyday. The extent of society's reliance on technical professionals is staggering. They ensure that people have clean water, transportation, communication, and countless other necessities. Organizations cannot afford to lose their technical professionals and must find ways to retain them.

Research was done on the retention of technical professionals and the research indicated that there are fundamental differences between technical professionals and the other staff in organizations. The characteristics of technical professionals require that they be treated differently from other employees.

Separate reward systems should be designed for technical professionals because they have different motives for joining and staying with organizations than other employees. Rewarding and compensating technical professionals, with retention as the objective, require that more attention be given to non-financial rewards. Technical professionals require opportunities to develop themselves and to keep abreast of the latest developments in their fields. Very importantly, they have to be assured proper career development.

Performance management of technical professionals is a contentious issue because many of the outputs of technical professionals are intangible and difficult to measure. Performance appraisal systems have to be very well designed and alternatives to conventional performance appraisals should be considered. Some alternatives are peer control, self-evaluation, and evaluation by subordinates.

Structural accommodations should be made to accommodate technical professionals because of the cultural differences between professionals and non-professionals. Various accommodations could be effective depending on the nature of the business and the level of dependence the organization has on technical professionals. Some options are dual ladders, triple hierarchies, and broadbanding amongst others. These structural accommodations can

ensure that technical professionals do not have to make the transition to management in order to obtain more responsibility, recognition and status in an organization. The transition to management, of a technical professional, might in some cases have detrimental effects on the organization and the individual. For example, the best engineer in a project team is promoted to manage the team. The consequence may be that the team loses their best engineer and the organization gains a manager with little or no management skills.

The success of retention strategies are organization-dependant, however, the strategies discussed in this dissertation can help ensure that organizations retain their competitive advantage by effectively managing and retaining their technical professionals.



DEDICATION

This dissertation is dedicated to my mother, my father and my girlfriend who encouraged me to continue with my studies during a demanding time in my life. Most of all I would like to thank my Heavenly Father who gave me the strength, through His mercy, to reach this notable milestone in my life.



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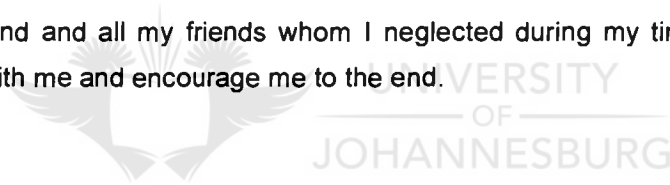


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CHAPTER 1

PROBLEM STATEMENT

1.1 BACKGROUND.

"Knowledge loss from staff turnover is now the single biggest source of knowledge leakage out of companies" [1].

At the core of new technologies are the technical professionals who research and develop the innovations that may improve, not only efficiency of operations within organizations, but also profitability and, in terms of society, quality of life in general. Examples of these innovations are discussed in Chapter 3.1.2. This dissertation is concerned with the extent to which professional workers are different from non-professional workers. These differences demand innovative approaches to the management and retention of these human resources.

1.2 PROBLEM STATEMENT.

Employee turnover in South Africa is highest for two categories of personnel: the low-level, unskilled workers and the highly skilled, technical professionals (retention of whom is highly relevant and critical) [1]. Therefore, research into the retention of technical professionals is necessary.

Managers generally tend to do a better job of attracting and selecting talented employees than they do of retaining them. A possible reason for this is the fact that training and development of technical professional talent are rarely integrated into technical professionals' career paths [2]. In other words, the development of technical professionals' talent often stops when they start working for an organization.

South Africa, and the world for that matter, finds itself in a knowledge-based age, therefore, because of their creative insights, imagination, technical skills, ability to handle increasingly challenging work, and involvement in information technology, professional engineers, technologists and technicians hold a critical position in the South African industry. Whether they use this position to advance their organizations with commitment, largely depends on *how* they are managed [2].

In the future, it is expected that technical professionals will play a critical role in helping South Africa regain competitive advantage in international markets. Most organizations cannot afford to lose these workers, yet that is precisely what is happening in many industries [1].

The railway industry in South Africa, for example, is losing engineers and technicians in critical roles, mostly to private industry, but also to the railways in the United Kingdom and the United States. For the railways in South Africa to be competitive with road transport, they need to stay at the highest level of technology. Staying one step ahead in terms of technology is the responsibility and purpose of the majority of the technical professionals in the railways. Losing these employees threatens the competitiveness of the railway industry.

Whatever the future holds, it is increasingly clear that technology is at the root of the information age. In the railway industry, for example, new technologies have been developed to make it possible for customers to track their consignments on the internet, which is not only necessary for the railways to stay competitive, but also expected by customers due to the advancements in communication in the information age. It has become clear that this type of service is no longer seen as a luxury, but a necessity. Over twenty years ago, it was argued that the more advanced a society becomes, the more dependent it becomes on technical professionals and their expertise [2]. All predictions for the future maintain that knowledge will be the currency of trade, and subsequently, the power base for the technical professional [2].

There are many elements that play a role with respect to the retention of technical professionals. For example, technical professionals' role in society, differences between professional and corporate culture, and dilemmas in managing technical professionals. Other factors that have an influence on the success of retention are motivation, compensation, performance management, and organizational structures. These elements are introduced in Chapter 2.

CHAPTER 2

PURPOSE OF THE RESEARCH

2.1 BACKGROUND.

The purpose of the research is to determine *why*, and then, *how* technical professionals should and could be retained by organizations. The various dynamics in organizations are complex by nature because they involve, and are largely dependant on people. The management of people is complex because they are all different, partly due to their background, upbringing, education, social environment etc.

Technical professionals all have something in common, which is similar education backgrounds [3]. This commonality may make the task of managing these people less complex. If this is the case, then the objective of optimising the retention of technical professionals may be broken up into various sub-objectives, which can be summarized as the investigation of the following:

- The role that technical professionals play in society.
- The differences between professional culture and corporate culture.
- The key dilemmas in managing technical professionals and how tensions can be overcome.
- How technical professionals can be motivated.
- The importance of performance appraisals for technical professionals.
- How best to reward and compensate technical professionals.
- Various organizational structural accommodations that can be made to accommodate technical professionals.

2.2 TECHNICAL PROFESSIONALS' ROLE IN SOCIETY.

Before answering the question of how technical professionals can be retained it is important to ask *why* they should be retained. In attempting to motivate the importance of retaining technical professionals, it is imperative to discuss the role that these valued employees have played and will play in society and in organizations. Therefore, attention should be given to the contributions of technical professionals towards economical and social progress. The question of why technical professionals should be retained is discussed in Chapter 3.

After establishing whether it is important for organizations to retain technical professionals, one can begin to determine *how* best to accomplish this task. In order to answer the question of *how* to retain technical professionals, one needs to investigate all the relevant aspects of organizational life for a technical professional. These are summarized in the following sections:

2.3 DIFFERENCES BETWEEN PROFESSIONAL AND CORPORATE CULTURE.

There are fundamental differences between professional culture and corporate culture due to the differences in background of professionals and that of their organizational counterparts [3][4]. The characteristics of technical professionals play a distinct role in how they should be managed [5][6]. Conflict exists between what professional employees want and need in a job situation, and what management requires [7]. This conflict can extensively influence the retention of technical professionals [8]. The issue of culture differences is discussed in detail in Chapter 3.

2.4 DILEMMAS IN MANAGING TECHNICAL PROFESSIONALS.

Key dilemmas exist in managing technical professionals due to certain characteristics they possess [8]. Management need to be aware of these characteristics in order to successfully manage technical professionals and optimise retention of these employees [6][9]. Examples of these dilemmas in managing technical professionals, and how to overcome them, are discussed in Chapter 4.

2.5 MOTIVATION.

Once technical professionals have been appointed, it is important to continue to motivate them throughout their organizational careers [10]. Professionals have very different motives for joining an organization and respond to very different types of incentives and rewards [10]. To some extent, the issue is not really motivation, but aligning the goals of the professional with those of the organization [11]. Motivation is strongly related to retention and therefore, the importance of motivation should not be ignored [10]. Motivation is discussed further in Chapter 5, where examples of the relationship that exists between motivation and retention are given and discussed.

2.6 REWARDING AND COMPENSATING TECHNICAL PROFESSIONALS.

People in general, and professional workers in particular, respond to different rewards and incentives [2][12][13]. The question is: How can reward systems be matched to technical

professionals? In general, rewarding employees usually motivates them, but if the reward system is not fair and understandable (amongst other things), employees might be demotivated by it [2][14]. It is important to understand the difference between incentives and rewards when designing a reward system for technical professionals. [2] An organization's reward practices can have a significant effect on the retention of technical professionals. Examples of the effects of reward strategies are discussed in Chapter 6.

2.7 PERFORMANCE MANAGEMENT.

Performance appraisal is possibly management's best tool to control human resources and their productivity [15][16]. It is critical that organizations have an effective performance appraisal system for technical professionals [2]. The professional knowledge worker is also responsible for economic and social innovation, and thus for productivity, at many organizations. Management of these positions requires careful attention to accurately assessing performance. Accurate performance appraisal is imperative for retaining technical professionals and the performance appraisal process and implications thereof are discussed in Chapter 7.

2.8 ORGANIZATIONAL STRUCTURE ACCOMMODATIONS.

The fundamental and critical differences between professionals and their organizational counterparts demand different types of organizational accommodations [14]. The nature of an organization's structure and the technical professional's place in the structure have an influence on the professional's attitude and loyalty towards the organization [1]. Different organizational structure accommodations that can be made to accommodate technical professionals are discussed in Chapter 8.

2.9 SUMMARY.

The previous sections give short introductions to various elements that affect the retention of technical professionals.

In the following chapters each of these are discussed in detail with examples from the literature. The first step is to investigate why technical professionals need to be retained by organizations. Chapter 3 covers the question of why technical professionals should be retained, as well as the culture differences between technical professionals and other employees, including the managers who manage technical professionals. In short, Chapter 3 covers the contribution of technical professionals to society and the root of the conflict between technical professionals and their organizational counterparts.

CHAPTER 3

INTRODUCTION

3.1 CONTRIBUTION OF TECHNICAL PROFESSIONALS TO SOCIETY

"Ours is a great profession. There is the fascination of watching a figment of the imagination through the aid of science to a plan on paper. Then it moves to realization in stone or metal or energy. Then it brings jobs and homes to men. Then it elevates the standards of living and adds to the comforts of life. That is the engineer's high privilege." These are the words of Herbert C. Hoover, engineer and 31st President of the United States of America (1929-1933) [17]. Hoover's words capture the vision that has motivated many technical professionals, attracting them into the profession, sustaining them through the many challenges they face and providing fulfilment throughout their careers.

3.1.1 A BRIEF HISTORY.

It's difficult to pinpoint when and where engineering commenced. The answer probably resides in the Bible. All the wondrous achievement of the people who built the pyramids and the great infrastructure developed by the Romans in transporting people and water over great distances, is common knowledge [17].

In renaissance times there was the great inventions of daVinci. As well as art, his range of interests varied from churches, fortresses and city planning to canals, armoured vehicles, flying machines and submarines [17].

The work of great engineers during and since the Industrial Revolution is better known today. Isambard Kingdom Brunel stands out in this era. Even today, people marvel at the range of his work from railways to bridges, tunnels, buildings and shipping. His innovative engineering and the scale of his projects were tremendous for the era he lived. He foresaw the tremendous benefits of long distance travelling, and the possibility of connecting ordinary people, to promote economic and social development. When he was chief engineer of the Great Western Railway, he was laughed at in a board meeting over the proposed length of the railway line from London to Bristol and Plymouth. Brunel seized on the idea and turned it into reality in 1838. He had the skill and imagination to market his projects and the dedication to drive them, despite seemingly insurmountable obstacles [17].

3.1.2 CONTRIBUTION OF TECHNICAL PROFESSIONALS TO ECONOMIC AND SOCIAL PROGRESS.

It may be debated whether progress has actually been made and the lot of mankind improved in moving from one generation to the next. A few key facts, however, erase any doubt that significant movement has been made in a positive direction [17]. Some of these are discussed below.

In 1900 the average life expectancy worldwide was approximately 30 years, while today, that figure has increased to 66 years. People now live, on average, 12 years more than they did in 1960. The difference in life expectancy between the industrialized world and the less-developed countries has narrowed dramatically from more than 25 years in the early 1950's to around 11 years today. This increase in life span has been accompanied by greater expectations in the quality of life and lower tolerance of human exploitation and unnecessary hardship. Very few would exchange living conditions now for those encountered 50 or 100 years ago [17].

The contribution of the engineering profession, for example through the provision of clean water and sanitation, has been essential in the development of the twenty first century world [17]. The greatest proof of this, and indeed the greatest compliment to the profession, is that so much is taken for granted. A simple example of this is the typical morning routine for a working adult:

- awakened by radio alarm clock,
- under-floor heating already activated by timer,
- wash or shower,
- boil kettle,
- make toast,
- listen to, or watch, early morning news,
- travel to work by road and/or rail,
- take messages or make calls on cellular phone,
- enter workplace (usually a building),
- use a lift, and
- switch on the computer.

Most people engage in at least ten significant activities, made possible by technical professionals, before commencing work each day. To ensure that normal life goes on each day, engineers, technologists and technicians play the role of:

- keeping water and waste water systems functioning properly,
- collecting waste and ensuring its proper disposal,
- ensuring transport systems operate satisfactorily,
- providing the energy to meet working and domestic needs,
- maintaining and improving communications services, and
- monitoring, controlling and improving environmental performance.

While keeping systems functioning is a daily necessity, constant planning and upgrading are also required to ensure future capacity needs are met.

It is arguable that the greatest achievements of engineering innovation are those that have led to the inter-connection of people and nations throughout the world, either physically or through communications [17]. It is worth mentioning some of the landmark engineering achievements that have created better links between people.

It is the development of the jet engine that has made the most dramatic impact on international and global travel. The innovation of engineers in the aviation industry produced the Jumbo Jet, Concorde and the Airbus fleet, which have revolutionised long-haul travel.

While physical connections are the ones with high visibility, it is in the area of communications that engineering innovation has been at its most effective in linking people globally. Although the telephone first came into being in 1876, courtesy of Alexander Graham Bell, it was not until the last quarter of the twentieth century that long distance telecommunications came into frequent and effective use [17]. The pace of development in communications and information technology over the last twenty years has been extraordinary. In the 1980's people wondered how they ever managed to survive without the fax machine. In the 1990's e-mail displaced the fax and exponentially increased the speed and capacity of communications [17]. With the arrival of the Internet people now have a highly competitive global communications system that provides widespread benefits.

The wisdom of investing so much money in exploring space has often been questioned. However, if satellite technology had not been developed it would never have been possible to establish the communications network that now exists [17]. There are many useful downstream developments such as global positioning systems (GPS), which are only available due to the presence of satellites. These are increasingly becoming an essential part of everyday life.

Another area where engineering innovation has led to major improvements in quality of life is that of healthcare. The use of CAT scan and MRI technology, as well as artificial body parts

such as knee and hip joints, are now taken for granted [17]. These have all become readily available as a result of major engineering and scientific research. The provision of artificial heart valves is now a well-established medical technology [17]. An innovation, developed by engineers at Boston Scientific, is the “Rotablator”, which can grind out plaque from the walls of the artery without damaging the walls themselves. This equipment and techniques have been developed by refining and miniaturising established technology from the oil industry [17].

3.1.3 COMPETITIVENESS.

Upgrading their knowledge and skill levels can increase an organization’s competitiveness. An effective way to deal with an organization’s position in industry is to invest in manpower. The highest, affordable, quality education, research and innovation are essential for any organization to become a strong and competitive knowledge-based entity.

3.2 DIFFERENCES BETWEEN PROFESSIONAL AND CORPORATE CULTURE.

The natural conflict between managers and professionals result from a clash of cultures: the corporate culture and the professional culture [3]. Professionals are conditioned through their disciplines to carry out their technical responsibilities as members of a professional group. Their educational background typically cause them to experience difficulty, especially early in their careers, in conforming to the direction of management [3].

The root of the conflict between managers and professionals comes from a conflict regarding employee’s roles. This role conflict is not always easy to see. Some managers and professionals simply accept each other’s culture, plus there is the complication of professionals becoming professional managers [3]. Role differences become particularly apparent within bureaucratic organizations. The manager expects the professional, as an employee, to follow the procedures of the organization and to abide by the manager’s rules. Although some professionals deviate from managerial expectations from time to time, some find it especially difficult to merge their role as employees with loyalty to the principles and methods of their profession [3]. These more *difficult* employees are referred to as *cosmopolitan* and are known to have problems integrating into the formal structure of their organizations [3]. They have a little loyalty to the organization, preferring instead to align themselves with their professional colleagues and associations [3]. The reason for this is that they get recognition for their work from their professional associations and not necessarily from their organizations.

Professionals can be characterized as *cosmopolitan* or *local*, the latter being loyal to their organizations [3]. The case has been made that it may be beneficial to have cosmopolitans to

produce technical discoveries, locals to administer the work of the cosmopolitans, and *combined*s to further the use of technical discoveries [3]. Locals, who make good professional-administrators, are occasionally mishandled, either by being grouped with professionals who have different orientations or simply by being unnoticed because they don't contribute in terms of innovation [3].

The point is that except for the most local of professionals, management and professionals are different. They occupy different roles in the bureaucracy [3]. They often misunderstand each other and, as a result, come into conflict. Not all professionals are the same, nor are all managers. Yet, in general, the differences between managers and professionals are significant [3].

3.2.1 CORPORATE CULTURE.

3.2.1.1 UNDERSPECIFICATION OF ENDS, OVERSPECIFICATION OF MEANS.

Perhaps the most critical problem management faces with professionals is how to handle the professional's insistence on autonomy [4]. Autonomy is the right to control. This desire for autonomy clashes with the expectations of management regarding the proper role of the employee [4]. Employees are appointed to conform to the basic goals and procedures of the organization. Usually, management will not tolerate professionals controlling their own work or being controlled by their own peers [4].

The problem of autonomy is best investigated by breaking it down into different parts: autonomy over ends and autonomy over means [4]. Autonomy over ends, or strategic autonomy, is the more traditional view. It is the freedom to select the problems to examine independent of directives from anywhere. Lotte Bailyn [4] found relatively few professionals in the research & development laboratories, where she conducted detailed interviews, who wanted this kind of autonomy. Her sample was more interested in autonomy over means, or operational autonomy, i.e., the freedom, once a problem has been set, to attack it by means determined by oneself but within organizational resource and strategic constraints.

Although professionals may not necessarily be interested in autonomy over ends, they do wish to have the ends defined. However, management sometimes makes the mistake of concentrating more on specifying the means of the professional's work than the ends. This conflicts with the professional's desire for operational autonomy [4].

Technical professionals are appointed to apply specialized knowledge to many unstructured problems. Solutions to such problems are normally developed through individual problem-

solving processes [5]. No amount of administrative procedure or regulation will necessarily cause the problems to be solved more quickly or more efficiently. Yet professionals are sometimes obliged to report very specifically on their activities [5].

In industrial research organizations, there are typically clear differences in autonomy between jobs in research, in development, and in technical service. Research projects generally allow the most freedom, since they are primarily concerned with the discovery of new knowledge. Technical professionals work relatively free from operational constraints. They keep themselves up-to-date, typically through intensive interaction with tertiary institutions and outside contacts, for example, their peers in other organizations [6].

Development projects, on the other hand, involve more operational control, since they are usually linked to the organization's particular markets [6]. These projects transform ideas into tangible outcomes by making use of the company's existing strengths in technology, marketing, production, and so on. Professionals here need to stay in touch with technical developments outside their organization but must also maintain close ties with other internal functions [6]. There is less opportunity to deviate from established procedures than in the pure research setting.

Technical services projects also tend to be extremely local [6]. Since they deal with existing products, they rely heavily on established procedures. Professionals performing service work usually have the least operational autonomy [6].

Management usually have no trouble filling its research and development vacancies, but may find some difficulty in recruiting professionals to do service work [6]. Further, some managements do not like to separate the three research functions completely, because there are benefits in keeping the activities interdependent [6]. Basic research, for example, has to be at least generally linked to existing technical capabilities, something the other two functions know a lot about. Therefore, professionals may occasionally be asked to combine their responsibilities, or at least if they are doing research, to be available to perform service duties when necessary [6]. In most of the technical organizations research professionals reported [6] having to provide backup to emergency service projects from time-to-time. Many complained that this process interrupted their work and said they would prefer not to be interrupted. Nevertheless, they did appear sensitive to management's need to interrupt them in this way [6].

3.2.1.2 CLOSE SUPERVISION.

Professionals generally desire autonomy over the means of their work but not necessarily the ends. Similarly, they wish to work under general and not close supervision [7].

In most organizations, supervision occurs through two channels. Executive supervision takes the form of directives from top management. Top managers set the overall corporate policy and perform coordinating functions, such as linking the operating units with each other or interacting with organizations in the company's environment [7]. Normally, this executive guidance is experienced by the professional employee as general supervision. Executive supervision, then, falls into the category of specification of ends, which most professionals are quite willing to accept [7].

What is known as first-line supervision, or direction from one's immediate supervisor, can fall within the category of specification of means, and it is here where the difficulty lies [7]. Professional work typically requires a great deal of flexibility, creativity, and intellectual analysis.

Supervision does not have to be close, because the methods for doing the work are decided by the professional. Supervision of professional employees should focus more on results than the process [7]. This means that the first-line supervisor becomes responsible for setting the goals to be achieved with reasonable time [7]. The professionals themselves handle day-to-day operational problems. It is better to have professionals ask for the help of their managers when necessary, to resolve problems, than to impose rules or norms on them [7].

Research suggests that professionals prefer professionally oriented to administratively oriented supervisors [8]. That is, they want supervisors who either belong to the profession or who, if not professional by training, have somehow managed to make themselves technically competent. The reason is that professionals want to concern themselves with technical rather than administrative problems [8]. As long as the supervisor can display an appreciation for the professional's problems and act in a way that helps resolve them, chances are good for a good working relationship [8].

In too many instances, professional supervisors have little or no experience in the profession before they become managers. Young professionals, in particular, need the technical experience of sound professional supervisors [8].

An extreme form of general supervision is "laissez-faire" supervision, in which the supervisor virtually leaves the professional alone except to receive the results of the completed

assignment [8]. Close supervision, on the other hand, also referred to as tight or direct supervision, involves frequent requests for explanation of and control over the professional's work [8].

3.2.1.3 PEER CONTROL.

Peer control and self-management can take the place of supervision in evaluating the performance of technical professionals [9]. Supervisors who lack technical competence may not be qualified to evaluate technical performance [9]. In addition, unless supervisors conduct inadvisable close supervision, it is nearly impossible for them to assess important social or interpersonal skills, such as willingness to cooperate, loyalty to one's colleagues, or initiation of ideas [9].

One comparison of peer and supervisory evaluations in R&D showed that peer evaluations were more specific, could distinguish technical and social skills better, were no more lenient, and were not affected by friendships among colleagues [9]. Peer evaluations were most effective where the professionals participated in setting assessment criteria. Peer evaluation, then, can be a very effective way of establishing control in a professional work group, whether the system in effect is formal or informal. It can also free the supervisor to spend more time interacting with his or her own peers (i.e., other department heads), rather than having to worry constantly about the performance of the professional staff [9].

3.2.1.4 LACK OF JOB CHALLENGE.

Job challenge refers to the opportunity for professionals to make fullest use of their skills. The enemy of challenge is under-utilization of time and talent [10]. Technical professionals, by training and preference, want to stretch their intellectual abilities to the limit. They desire, particularly early in their careers, to be involved in their work, and to make use of every minute. They also identify with the whole product or service on which they are working. They want to be able to see their contribution [10].

What many professionals truly want in their jobs is authority over the task at hand [10]. This suggests an interest in the content of the work. The word used by Frederick Herzberg [10] to describe this dimension of job challenge is "intrinsic." Intrinsic satisfaction is derived from the work itself, therefore, it is necessary under intrinsic motivation to have a high degree of self-control over one's work [10]. The result is a greater sense of responsibility, achievement, and self-actualisation [10].

Job challenge derived from intrinsic satisfaction comes not from horizontal expansion (more work) but from vertical expansion (more responsibility) of one's job duties: not doing more things, but having more responsibility for the things one is assigned to do in the first place [10].

Of all the motivators of performance for professionals, job challenge stands at the top of the list, precisely because of its association with professionalism itself. Management needs to understand that the professional is by nature a mature worker, and challenge goes with maturity. Maturity may be defined in two ways: job maturity and psychological maturity [11]. Job maturity relates to ability or the knowledge and skill connected to the performance of the job at hand. It can be viewed as almost the same as the concept of professionalism. Psychological maturity relates to the willingness, motivation, or commitment to do the job. Psychologically mature workers wish to take personal responsibility for their tasks. They are self-confident in their work and do not need extensive encouragement to get the job done. Many, in fact, also associate psychological maturity with professional status [11].

Management that is destructively critical when mistakes are made kills initiative and it is essential that organizations have many people with initiative if they are to continue to grow [12].

True freedom is not the absence of structure – letting the employees go off and do whatever they want – but rather a clear structure that enables people to work within established boundaries in an autonomous and creative way [13].

3.2.2 PROFESSIONAL CULTURE.

One comprehensive review of the literature concluded that the following characteristics are critical to the professionals [14]. These characteristics are now referred to as “consensual definition” of professionalism [15][16]. They include:

- Expertise – normally gained from prolonged specialized training in a body of abstract knowledge.
- Autonomy – a perceived right to make choices that concern both means and ends.
- Commitment to the work and the profession – in short, the “calling”.
- Identification with the profession and other professionals.
- Ethics – a felt obligation to render service without concern for self-interest and without becoming emotionally involved.
- Collegial maintenance of standards – a perceived commitment to police the conduct of other professionals.

An individual becomes a professional only when recognized as having mastered this knowledge and its associated skills [17]. Tertiary institutions initiate the process by separating students from other disciplines and introducing them to the norms and values expected of those who practice in the profession [17]. Students are expected to look up to the great figures in their chosen profession. They are taught the basic knowledge and principles of the profession before they are allowed even to think about practicing. Once they enter the work world, professionals, by keeping in touch with their educational institutions and by joining their respective professional associations, become socialized to maintain their skills, values, and standards and not to be compromised by their employing organizations [17]. This can produce almost immediate strain as professionals, trained to pledge loyalty to their profession, are now asked to extend first loyalty to their organization.

Professional workers use their specialized knowledge as the currency of trade and want intellectual and technical challenge [17]. Typically, they strive for technical breakthrough to improve the quality of work life. Their organizational loyalties are doubtful, but generally, they join an organization because of the challenge of the work and the management practices [17]. They expect to be rewarded accordingly. They also want autonomy, abide by a set of ethics, expect to live up to professional standards, and tend to have more invested in their skills, abilities, and education than they do in the employment contract with their organization [17].

3.2.2.1 EARLY SOCIALIZATION.

Unfortunately, tertiary institutions do little to prepare students for organizational life. Tertiary institutions often see their function as preparing students to practice their technical speciality [17]. There is virtually no formal attentions paid to career concerns, or to the ways organizations operate in terms of employee relations [17].

The process of obtaining the degree itself influences subsequent behaviour, particularly in its requirements of self-discipline, independent judgement, and self-direction. The sheer length of time devoted to the study of one's field must result in a certain amount of emotional attachment and commitment [17].

3.2.2.2 SUBSEQUENT DEVELOPMENT WITHIN THE ORGANIZATION.

During the early stage, young professionals tend to be idealistic about their profession. They seek jobs that provide intrinsic satisfaction. They also tend to be highly mobile, preferring to try different organizations if they do not find what they are looking for in the first [18].

Unfortunately, much of their initial work is routine [18]. Yet it is critical that they not get bogged down in this routine work. Although they must do a satisfactory job, they need to have time to complete more challenging tasks. This need for behaviour is somewhat blocked, however, by the nature of the young professional's early assignments [18]. These tend to be part of larger projects under the supervision of senior professionals or a supervisor [18]. It is necessary, then, that the young professional show some patience, make the most of the experience shared with older professionals, and gradually take on more independent work as opportunity allows [18].

The mid-career stage, when many professionals are in their thirties to mid-forties, perhaps provides the greatest opportunity for expressing one's professionalism. Professionals during this time are committed to their work, and put in long hours, and their skills are at a peak [18]. They tend to seek organizational environments with small work groups and high salary [18]. Having developed a fair degree of trustworthiness, they accept the organizational culture and make their mark without harming the norms of the organization [18]. One way to make a mark is to become a temporary specialist in a critical area [18]. This is the period when many professionals choose to specialize and others begin a transition to management [18].

The last stage of organizational career development creates the possibility of obsolescence as the professional gradually loses touch with recent changes in the field. Yet this is also a time when professionals may decide once and for all to accommodate themselves fully to the organization's value system and expectations [18]. This willingness to compromise may come from the realization that one is less employable elsewhere than at an earlier stage in one's career, or it may come from a reluctance to uproot oneself and one's family [18]. Nevertheless, by this stage, the organization and its management have given certain rights and privileges to the professional employee, such as steady salary increases, promotions, trust in the professional's performance and dependability, the reliable support of a work group, and so forth [18].

3.2.2.3 BUREAUCRATIC VERSUS PROFESSIONAL STANDARDS.

There is perhaps no greater source of strain between managers and professionals than the conflict between bureaucratic and professional standards [19]. Because of past commitments and current pressures from both internal and external interest groups, managers can rarely achieve the ideal standards upheld by professional groups [19]. Their training is very different from the training received by professionals [19].

Professionals are allowed to experience the purity of professional knowledge, without the faults of bureaucratic conditions. Their exposure is mostly confined to a single discipline, and

their objective is to meet and even eventually raise the standards of excellence in that discipline [19]. These standards are supported widely by others in the profession who occupy positions outside the organization [19]. Where professional standards conflict with those used within the organization, professionals can get support for their cause by recruiting the support of fellow professionals or their professional associations. This provides some help in resisting bureaucratic standards [19].

Professionals tend to seek employment opportunities where they can improve their status as well as their skills. Consequently, publishing, attending professional meetings, and having access to resources and facilities to aid in their research will be important to them [19]. Some organizations encourage professional standards to attract high-calibre professionals [19]. Moreover, gaining a reputation as a professional developer can help the organization from a public relations standpoint [19]. In other words, they will attract professional employees.

3.2.3 FACTORS MITIGATING PROFESSIONAL/MANAGEMENT CONFLICT.

There are, fortunately, mitigating factors that reduce the potential for conflict between professionals and management. These mitigating factors can be divided into three levels: the individual level, the job level, and the organizational level [20].

3.2.3.1 INDIVIDUAL LEVEL.

Research suggests that greater care has to be taken in understanding and managing the cosmopolitan professional [20]. The checklist shown in Table 1.1 may provide an indication of cosmopolitanism. The number of "yes" answers indicates the degree of cosmopolitanism [20].

Among the critical individual-level mitigating factors, length of training has been found to be strongly related to conflict because it affects professionals' organizational expectations [20].

Age and time in service are two other individual factors that condition the professional's response to the organizational environment [20]. Researchers have found, for example, that older workers develop stronger work values than younger ones and learn to appreciate the realities of bureaucratic life [20]. Older professionals begin to realize that their upward mobility may be prevented by the hierarchical nature of most organizations [20].

Table 3.1. Cosmopolitanism checklist [20].

Yes	No	
—	—	The person believes he/she should be able to make his/her own decisions in regard to what is to be done on the job.
—	—	The person would probably stay in the profession even if his/her income were reduced.
—	—	The person's best friends tend to be members of his/her profession.
—	—	The person has little interest in moving up to a predominately administrative position in the company.
—	—	The person believes his/her professional colleagues or professional associations are better equipped to evaluate his/her performance than management.
—	—	The person is primarily interested in advancing his/her professional reputation rather than a corporate reputation.

3.2.3.2 JOB LEVEL.

Job characteristics are important in mitigating professional/management conflict to the extent that for some professionals a satisfactory job may mean more than other wider, organizational conditions. Of all the factors that could reduce conflict, autonomy, or freedom to examine problems using the methods in which one has been trained, appears to be the most critical to professionals [21]. Autonomy has indeed been quoted previously as similar to the very concept of professionalism, and therefore, is critical to the professional's role in the organization.

Challenge is a second critical job characteristic that appeals to nearly all professionals [21]. It signifies a job that allows the professional to use many skills, even some that has not been used before or hasn't been used for some time. The professional typically wants to do as much of the whole job as possible so that his competencies are stretched to the fullest [21]. This gives them a sense of keeping up-to-date with emerging fields of interest and not becoming over-specialized [21].

Besides autonomy, challenge, variety, and meaningful work are important to many professionals. They want to work on projects that will have an impact on the society around them [21]. Some professionals even go so far as to ensure that their work has socially responsible or ethical consequences. Professionals also tend to prefer performance-based work, that is, jobs that are evaluated and paid on the basis of a final result, not by the process to produce that result [21].

3.2.3.3 ORGANIZATIONAL LEVEL.

Professionals are more likely to obtain an acceptable level of control over their work in organizations where [22]:

- professional expertise is recognized and valued,
- professional services are high in demand, or
- administrators are knowledgeable about professional concerns (or even have come from professional backgrounds).

Basic research laboratories are more flexible to demands for autonomy by cosmopolitans than product-development or technical service departments [18].

Large organizations employing professionals do not automatically mean that those professionals will have trouble conforming to management's expectations. Some managements, aware of the interest in autonomy among their professional staff, will purposely flatten the organizational hierarchy or decentralize divisions which are then allowed to function rather autonomously [23]. They may allow certain professional units to function very independently not only from other operational units but also from top management [23].

The managers of organizations also behave differently toward the professional staff, depending on the organization's stage of development. There is typically more tolerance for autonomous and innovative professional behaviour during the growth phase of an organization. Conversely, during the mature or declining phase, and especially during times of economic insecurity, there is less tolerance for professional entrepreneurship and involvement [23]. According to Tim Hall [23], during times of organizational stress, most managers follow the wrong instinct of centralizing authority and consulting less with their staff. The result tends to be increased corporate control, more layers of management, more rules and procedures, and increased fragmentation of professional work [23].

Another organization-level characteristic mitigating conflict is the nature of the supervision given to professionals. Professionals prefer to work for professionally oriented supervisors, that is, supervisors who either have professional training or who have a strong appreciation of the norms of professional practice [22].

Professional staff also appreciates managers who, even if uninformed about professional methods, use a "laissez-faire" (lenient) management style [24]. In other words, professionals will tend to respond positively to supervisors who allow them freedom to employ their

professional processes, even if administrative regulations are imposed. Professionals may perceive the latter constraints as simply part of the supervisor's job [24].

3.3 SUMMARY.

First of all, the contribution of technical professionals to their organizations and society in general warrants an effort from organizations to retain their technical professionals. This requires an understanding of professional culture and how it is fundamentally different from organizational culture.

Professionals require autonomy over means more so than over ends. In other words, management should set the goals and specify the results, but let the professional control his/her own work processes. Management should reward the result, not the method/process. Professionals require general supervision as opposed to close supervision, again because close supervision implies no autonomy over means. Examples of general supervision include peer control where their peers evaluate professionals' performance. This is particularly useful in cases where the supervisor does not possess the technical skills or background to evaluate the professional.

Professionals require challenging tasks, which implies more responsibility, not only more work. This is referred to as vertical expansion of job as opposed to horizontal expansion of job. Professionals are by definition mature workers and high degrees of responsibility should be given to them.

The differences between professional culture and management culture have been discussed in some detail and tension points have been identified. The next step is to focus on managing these tension points and how to overcome them, which is discussed in Chapter 4.

CHAPTER 4

MANAGING TECHNICAL PROFESSIONALS

4.1 INTRODUCTION.

Much of the work done by professional employees is intangible. The production and development of ideas can be difficult to define, measure, evaluate, or control. Furthermore, the success of those ideas may not be immediately visible, particularly when a good idea serves to enhance the success of other innovations [15].

Because of the above a fundamental problem arises: the nature of the work performed by technical professionals causes them to resist organizational control [15]. Highly specialized employees are typically not always open to conventional bureaucratic control systems, which put emphasis on a management culture concerned with company loyalty, financial soundness, hierarchical authority and control, and growth in production output, volume, and size [15]. There is a great deal of literature on the inevitability of conflict between professional workers and their organizations [15][25][26].

Once appointed, the professional agrees to exchange autonomy for organizational resources [2]. The professional's reaction to the authority and control of management is probably the most critical factor in the organization's ability to accommodate that employee [2].

Improving the relationship between the organizational manager and the professional is not improved when the manager downgrades the values of professional workers [25]. These values influence all aspects of their behaviour, including their loyalty, their commitment, and their productivity – all of which are important to the employing organization [25].

Managers have some fundamental problems with the values of professionals, and these problems, if unresolved, become problems that lead to questions such as, "When should management recognize the concerns of professionals? If in meeting the concerns of professionals, there are potentially damaging trade-offs to the organization, how can these concerns be addressed without provoking alienation and dissent?" [26]

Management should know that a certain amount of conflict is natural, and that the manager's goal should be to understand the nature of this conflict and to use it in mutually beneficial ways. "Professional values need not hamper organizational objectives" [26] Managers need to learn when and where professional values must take precedence over organizational rules

and regulations [26]. Similarly, knowing when those values must take a back seat to the organizational controls is equally important to effective management of the tensions [26].

In either case, the consequences must be considered because productivity, loyalty, and commitment are at stake. It is unlikely that the organization will enhance productivity, loyalty, and commitment by rejecting the values of the professionals [26]. The skilful management of professionals requires knowledge of their loyalties, not only to the organization, but also to their professional associations and standards. Failure to do this will inevitably result in mismanagement of these valued human resources [26].

“Easing tensions is a key managerial dilemma that is not only a messy problem, but also one that defies all the traditional methods of problem solving” [26]. Management must realize that there are significant differences between professional and non-professional workers. The management of professionals requires understanding the professions and their influences on the individual’s behaviour [26].

Specific professional-organizational conflicts may be related to any of the professional characteristics mentioned in Chapter 3. Each characteristic will be discussed separately in the following sections, since each one is a noteworthy feature of professional life in terms of resisting managerial control [15].

4.2 EXPERTISE.

One of the best strategies for management to consider in encouraging positive professional relations is an *open internal labour market* policy [15]. Faced with obsolescence, a professional will probably first attempt to move elsewhere. If nothing is available, he or she may choose to remain in the organization and become unproductive [15]. The most effective way to prevent this is an internal mobility policy that promotes freedom to try new skills and jobs [26]. In other words, letting the professional rotate between different sections or departments may help the professional develop new skills. Professionals are more productive when they feel comfortable and exposing them to different jobs may help them find the section/department where they feel most comfortable.

4.3 AUTONOMY.

The issue of autonomy has frequently been called the most critical problem in managing technical professionals [15]. Professionals typically want to make their own decisions about both strategic and operational autonomy. This right of autonomy clashes, however, with

management's expectation about the proper role of the employee. "It is unlikely that this managerial expectation will be sympathetic to the professional's desire for autonomy" [15].

Professional employees generally believe that their work can be performed without constant interference from supervisors challenging their autonomy. For the most part, they believe that managers lack the skills necessary to provide any meaningful guidance, thus, they look to others within their technical specialty for help [15]. This problem has been discussed and researched in some depth, and it still remains a delicate problem. Raelin [15] and Bailyn [4] note that most good managers do not have an issue with a professional's request for operational autonomy. Many professionals also understand management's need to establish organizational goals and to specify the methods that will be used to accomplish those goals [15]. It is after the goals have been set, however, when some managers persist in over-controlling the means of professional practice. This is tight hierarchical control, and it directly conflicts with "expert control" [15].

Simply because the professional has been given a certain amount of autonomy over means and ends does not mean that control is taken away from management [15]. That is a common perception, however, in many organizations (that the granting of autonomy to professionals implies that management loses control) [15]. Sharing responsibility requires cooperation between the managers and the professionals. Both sides can benefit if tasks are accomplished in a more productive fashion [27]. The key is in knowing when to give or take back responsibility and autonomy. The task demands, in addition to his or her skills and abilities, should determine the amount of the professional's autonomy [15].

The manager ought to let the professional control his or her own work processes [15]. The professional has been trained to deal with specialized problems. There is little point in interfering with the means used to solve these problems. The best administrator frees the professional to do his or her work and minimize the routine reports and forms that are necessary in the organization [17]. Pelz and Andrews [27] long ago concluded, and their has been little to dispute their findings, that the ideal professional administrator knows how to balance autonomy and control, frequently interacts with the staff, allowing staff members to make many of their own decisions.

Management tends to get very nervous when it does not see the results it is looking for within the timeframe it has set [15]. As a result, there is a natural tendency to maintain close supervision over the professional staff to try to get them to perform on time [15].

Professionals on the other hand, find close supervision a nuisance that slows down their progress, since they need constantly to explain their every action to the largely uninformed

manager [15]. They would much rather simply rely on their peers for help and suggestions to get the job done. Their own professional standards are far superior when it comes to evaluating their progress than any kind of managerial supervision [15].

The greatest advantage of a professional-administrator at the supervisory level is technical knowledge [15]. Subordinates are more likely to support the administrative solutions proposed by supervisors who not only show an interest but also participate in technical solutions to the professionals' problems [15]. "Where the supervisor is competent technically, that individual can be viewed more as a colleague than merely a manager" [15].

4.4 COLLEGIAL MAINTENANCE OF STANDARDS.

Thus far, it seems fair to state that technical professionals expect to control their own activities with little constraints or interferences from others. They have a desire for peer control and collegial maintenance of evaluation standards. Most technical professionals feel strongly that they alone are capable of judging the work within their specialty [15].

"Since the norms of science prevail within the profession, another fundamental dilemma emerges: To whom does new knowledge, created by professionals under the control of the organization, belong?" [15] Professionals usually wish to publish the results of their research where peer controls maintain the standard of excellence [15]. Organizations, however, tend to be reluctant to release this information if it compromises their competitive position [26]. Thus, the distribution of professional knowledge tends to be a point of conflict between the professional seeking collegial control of standards and the organization exerting bureaucratic control.

The tension of professional standards versus the standards or rules of the organization also centres on the question of who evaluates the professional, using what criteria [26]. "This is a difficult and messy issue, since organizational evaluators are often not skilled in the technical speciality they are evaluating, and the criteria they employ may be questionable" [26]. In the area of the performance appraisal, the potential for mismanagement is large, and although performance appraisal is discussed in detail in Chapter 7, some discussion is warranted at this point.

First and foremost, "productivity" may be difficult to define. There may be numerous aspects of a professional's performance that should be evaluated, but if these aspects are not measured properly, they will be difficult to evaluate. Some of those aspects will be subjective, and others will be objective, hence, the manager must be able to know which are the most relevant [26]. "Objective measures have the most appeal, since theoretically, performance is

grounded in objective, quantifiable output" [26]. But a considerable part of the creative, innovative role that a technical professional plays is highly subjective. Both objective and subjective measurements may lead to difficulties.

4.5 ETHICS.

Some questions have begun to emerge around professional responsibility and ethics [26]. "Are professionals in exclusive service to their organizations, or are they responsible to the public? Do professionals place the values of the organization above those of the client or the general public? Further, if professionals are acting merely as employees, what does that do to the legitimacy of their profession?" [26]

Benveniste [26] summarizes the concern briefly: "Professionals in public and private service must be able to convince the general public that they are able to render difficult moral judgements and that they are not using their professional prestige to favour narrow interests". This suggests that management cannot remain indifferent to professional ethics. It further suggests that management needs to be prepared for situations in which professional difference of opinion challenges managerial authority [26].

4.6 COMMITMENT TO CALLING.

The idea of commitment to one's field affects how professionals act within large bureaucratic organizations, because it affects their work motivation [28]. Intrinsic rewards (discussed in Chapter 5) are important when working conditions are difficult or career and professional rewards are minimal [28].

The calling that professionals respond to is real and rewarding in itself. Benveniste [26] makes an analogy between the professional worker and the volunteer and suggests that you do not manage a volunteer organization by "constant pushing, making volunteers feel unwanted or providing excessive criticism". Good managers do not punish their people for their commitment, instead, they reward commitment and channel it into organizationally productive tasks and efforts. This is no small feat, since the challenge is to build commitment and loyalty without losing sight of organizational goals [26]. How can a manager induce a professional to behave as though the professional's goals were the same as the organization's goals [28]? Or perhaps, more difficult, how does a manager inspire a professional to behave as though he or she were the owner, of the organization? These questions require managers to occasionally change their own goals [28].

4.7 EXTERNAL IDENTIFICATION WITH THE PROFESSION.

The way professionals identify with their peers, not with their organization, has been the focus of some discussion and debate [29]. Hall [29] was one of the first to focus attention on the idea that the peer group helps professionals keep in touch with advancements in their fields. Since professionals identify with both their organizations and their professions, organizational loyalty is not improved when managers downgrade the values of the profession [29].

Raelin [15] notes that professionals can afford to push for their own standards within bureaucratic structures because of the support they get from the professional associations. The professional associations can exert definite social and political influence through distributing knowledge, updating members on current trends, bringing professionals together through meetings where papers are presented, and accrediting and establishing standards of ethics, conduct, and training [15]. The professional who identifies with the profession over the employing organization can receive considerable support from his or her peers.

One way to ensure the loyalty of professionals is simply to recognize their professional contributions. Some major professional achievements can also be expected to win the esteem of one's peer group (both within and outside the organization), corporate recognition can only increase feelings of belonging and contentedness [15].

4.8 SUMMARY.

Management should realize that managing professional staff is different from managing non-professional staff. This is mainly due to the culture differences brought on by professional training. The characteristics of professional employees render them difficult to manage. These characteristics require management to consider various accommodations to reduce the potential, if not inevitable, conflict between themselves and the professional employees. These accommodations include internal mobility policies, operational autonomy, general supervision, peer control/evaluation, consideration of professional ethics, changing some of their organizational goals, and managing the professional staff in the same way one would manage a volunteer.

Due to the nature of professional culture, professionals may respond to different types of rewards than non-professional employees. How professionals are motivated determines, to a large extent, how well they perform. It has been established in Chapter 2 that managing professionals can be tricky, but they can be accommodated. The question, now, of how to motivate technical professionals is discussed in Chapter 5.

CHAPTER 5

MOTIVATING TECHNICAL PROFESSIONALS

5.1 TRADITIONAL MOTIVATION THEORIES – A BACKGROUND.

It is widely accepted that retention and productivity of workers is a function of how well the individual is motivated [30]. The research and findings of Herzberg [10] and Maslow [30] is the cornerstone of much of the work in the field of human motivation. Their work was among the first to catalogue the factors leading to job satisfaction.

Maslow developed his theories of human motivation primarily from clinical observation. The basic foundation of his theory is that human behaviour is determined by biological, cultural, and situational conditions [30]. “The state of these conditions creates needs that shape the motivation for the individual to act” [30]. Maslow contends that there exists a hierarchical relationship among these needs, such that basic levels of needs must be at least partially met to the satisfaction of the individual before the higher levels of need can act as behavioural motivators. From lowest to highest, these needs are physiological, security, social, self-esteem, and self-actualisation [30].

The sections below discuss how traditional motivation theories can be linked to technical professionals.

5.2 THE MOTIVATIONAL PROCESS.

Once technical professionals have been appointed, it is important to continue to motivate them throughout their organizational careers. Since technical professionals have very different motives for joining an organization and respond to very different types of incentives and rewards, this process is almost counterintuitive [28]. To some extent, the issue is not really motivation, since Freud and others have taught us that “all of us are motivated to some degree or another, about something or other”. The issue is aligning the goals of the professional with those of the organization – or “goal congruence” [28]. How can the manager induce employees to pursue the company’s goal and not just their own goals? Ideally, the company’s reward system is responsible for promoting congruence, and this will be discussed in Chapter 6. Most of the literature on employee motivation (from an applied perspective, not simply a theoretical one) emphasizes the reward/incentive aspects of motivating employees to perform. What is particularly different about motivating professional employees is that they respond to different types of rewards [28].

The "work itself" is an important motivator. In addition, career development is important, particularly since technical obsolescence threatens almost all technical professional specialities [18]. Miller [16] rightly points out, however, that professionals respond to continuing education and development not only out of a need to prevent obsolescence but for personal development reasons as well. Managers of technical professionals have been slower to discover this fact [18]. Some organizations have recently discovered this and are funnelling extensive sums of money into in-house educational programs for professionals. Spoornet, for example is in a phase of introducing a "Professional Practitioner Scheme" where professionals are treated different from non-professional employees in terms of compensation and training.

It would therefore seem that motivating employees to perform is an important topic. Thus it will be discussed more extensively in the following sections.

5.3 TYPES OF MOTIVATION.

Motivation at work can take place in typically two ways [18]:

- *Intrinsic motivation.* This comes from the content of the job. It can be described as "the process of motivation by the work itself in so far as it satisfies people's needs or at least leads them to expect that their goals will be achieved" [18]. Intrinsic motivation is self-generated in that people seek the type of work that satisfies them, but management can enhance this process through its development and job design policies and practices. The factors affecting intrinsic motivation include responsibility (feeling the work is important and having control over one's own resources), freedom to act, scope to use and develop skills and abilities, interesting and challenging work and opportunities for advancement [18].
- *Extrinsic motivation.* This is what is done to and for people to motivate them. It is when management provides such rewards as increased salary, praise, or promotion. When the motivating impact of pay-for-performance schemes is discussed, this is the type of motivation to which people are referring [18].

The extrinsic motivators can have an immediate and powerful effect, but this will not necessarily last for long. The intrinsic motivators, which are concerned with the quality of working life, are likely to have a deeper and longer-term effect because they are "inherent in individuals and not imposed from outside" [18], although they may be encouraged by the organization.

5.3.1 FINANCIAL REWARDS AS MOTIVATORS.

Money is important to people because it is instrumental in satisfying a number of their most pressing needs. It is significant not only because of what they can buy with it but also as a highly tangible method of recognizing their worth, thus improving their self-esteem and gaining the esteem of others [18].

Salary is the key to attracting people to join an organization, although job interest, career opportunities and the reputation of the organization will also be factors. Satisfaction with salary amongst existing employees is mainly related to feelings about equity and fairness. External and internal comparisons will form the basis of these feelings, which will influence their desire to stay with the organization [31].

The criteria for assessing the effectiveness of financial reward practices as means of motivation are that:

- “They are, as far as possible, internally equitable as well as externally competitive (although there will always be a tension between these two criteria – paying market rates may upset internal relativities)” [31].
- “Pay-for-performance systems are created in the light of an understanding that direct motivation only takes place if the rewards are worthwhile, if they are specifically related to fair, objective and appropriate performance measures, if employees understand what they have to achieve, and if their expectations on the likelihood of receiving the reward are high” [31].
- “Employees understand how the financial reward system operates, how they benefit from it, and how the organization will help them to develop the skills and competences they need to receive the maximum benefit” [31].

If professionals are able to meet both their own and their organization’s expectations without close supervision, is there anything managers can do to sustain their performance other than keeping them among their peers? It is correct, in the author’s view, to assume that professional productivity is not guaranteed among professionals without some incentive. In this way, technical professionals are no different from any other employee group.

Technical professionals are just as interested in basic financial benefits, whether they are salary increases, bonuses, or profit-sharing options, as other employees [31]. Although they have an attachment to their work, this does not mean they do not want to be paid well for their

expertise, effort, and performance. Like other employees, they also compare their salary and benefits with those of employees having similar workloads and responsibilities, whether inside their own organization or elsewhere. Not only do they compare among themselves, they compare with management too. Any evidence of significant inequities, whether in absolute compensation or relative increases, will not be good for attitude nor performance [31].

5.3.2 NON-FINANCIAL REWARDS AS MOTIVATORS.

Besides salary, other basic extrinsic benefits are likely to appeal to professionals. In recognition of their status as important contributors as well as their need to work independently, it is helpful to give as many as possible a private office. Even if the space is small, it is worth it to give professionals this privacy [31].

Although not necessarily interested in management, professionals do like many of the perquisites of managerial jobs. The most obvious is a private secretary. Some professionals who require limited administrative assistance can easily share a secretary, and in cases where the professional's job requires field-testing, for example, the professional may prefer the assistance of a technician rather than a secretary [31].

Other professional-specific incentives include the provision of adequate supplies and equipment so that professionals have available the tools of their trade. Professionals should also be both encouraged to make and be rewarded for contributions that are recognized in the professional or academic community [31]. For the most part, this means having papers published in leading professional journals and reviews, having patents filed in the individual's name, and making presentations at professional association meetings. Although the organization may only get indirect benefits from these professional undertakings, it at least has the opportunity to sponsor a developing employee [31]. The reward for professional activities does not always have direct impacts on the bottom line. What it does is acknowledge that the professional's work is important, that the individual is contributing to something that is greater than mere self-gratification, and that one's peers recognize the effort [32]. Moreover, few things have as powerful an impact on professional motivation and creativity. There is thus a definite indirect impact on the organization.

Another incentive to productivity is sponsorship of participation in professional associations. Most, but especially cosmopolitan professionals find such participation a source of worthwhile personal development and a means of increasing their status and recognition [32]. Meanwhile, the organization sponsoring the development stands to benefit from the additional knowledge imported into the organization [32].

Non-financial rewards can be focused on the needs most people have, although to different degrees, for achievement, recognition, responsibility, influence, personal growth and job enrichment. These are discussed in the following subsections.

5.3.2.1 ACHIEVEMENT.

Research carried out by McClelland [33] on the needs of professional staff resulted in the identification of three major needs, those for achievement, power and affiliation. The need for achievement is defined as the need for competitive success measured against a personal standard of excellence.

Achievement motivation can be increased by organizations through processes such as job design, performance management, and skill or competency-related pay schemes [33].

5.3.2.2 RECOGNITION.

Recognition is one of the most powerful motivators. People need to know not only how well they have achieved their objectives or carried out their work but also that their achievements are appreciated [33].

Praise, however, should be given wisely – it must be related to real achievements. It is also not the only form of recognition [33]. Financial rewards, especially achievement bonuses awarded immediately after the event, are clearly symbols of recognition to which are attached tangible benefits, and this is an important way in which mutually reinforcing processes of financial and non-financial rewards can operate. There are other forms of recognition such as long service awards, status symbols of one kind or another, sabbaticals and work-related trips abroad, all of which can be part of the total reward process.

Recognition is also provided by managers who listen to and act upon the suggestions of their team members and, importantly, acknowledge their contribution [33]. Other actions that provide recognition include promotion, allocation to a high-profile project, enlargement of the job to provide scope for more interesting and rewarding work, and various forms of status or esteem symbols.

The recognition processes in an organization can be integrated with financial rewards through performance management and pay-for-performance schemes [33]. The importance of recognition can be defined as “a key part of the value set of the organization and this would be reinforced by education, training and performance appraisals” [33].

5.3.2.3 RESPONSIBILITY.

Being given more responsibility for their own work can motivate people [33]. This is essentially what empowerment is about and is in line with the concept of intrinsic motivation based on the content of the job. It is also related to the fundamental concept that individuals are motivated when they are provided with the means to achieve their goals.

The characteristics required in jobs if they are to be intrinsically motivating are that firstly, individuals should receive meaningful feedback about their performance, preferably by evaluating their own performance and defining the feedback they require, secondly, the job should be perceived by individuals as requiring them to use abilities they value in order to perform the job effectively and thirdly, individuals should feel that they have a high degree of self-control over setting their own goals and over defining the processes to reach these goals [33].

Providing motivation through increased responsibility is a matter of job design and the use of performance management processes. The philosophy behind motivating through responsibility was expressed as follows in McGregor's [34] theory: "The average human being learns, under proper conditions, not only to accept but also to seek responsibility."

5.3.2.4 INFLUENCE.



People can be motivated by the drive to exert influence or to exercise power. McClelland's research [33] established that "alongside the need for achievement, the need for power was a prime motivating force for managers, although the need for affiliation, i.e. warm, friendly relationships with others, was always present". The organization, through its policies for involvement, can provide motivation by putting people into situations where their views can be expressed, listened to and acted upon. This is another aspect of empowerment.

5.3.2.5 PERSONAL GROWTH.

In Maslow's [30] hierarchy of needs, self-fulfilment or self-actualisation is the highest need of all and is therefore the ultimate motivator. He defines self-fulfilment as "the need to develop potentialities and skills, to become what one believes one is capable of becoming".

Ambitious and determined people will seek and find these opportunities for themselves, although the organization needs to clarify the scope for growth and development it can provide (if it does not, they will go away and grow elsewhere).

Increasingly, however, individuals at all levels of organizations recognize the importance of continually upgrading their skills and of progressively developing their careers [33]. This is the philosophy of continuous development. Many people now regard access to training as a key element in the overall reward package [33]. The availability of learning opportunities, the selection of individuals for high-prestige training courses and the emphasis placed by the organization on the acquisition of new skills as well as the improvement of existing ones, can all act as powerful motivators [33].

5.3.2.6 JOB ENRICHMENT.

Job enrichment is important for the need of technical professionals for challenge by allowing them to use their many skills fully [33]. It allows them to stretch their intellectual abilities to the limit, to be involved in their work, to identify with what they are working on, and to see their contribution.

Technical professionals should be able to work on a wide range of tasks and assignments, making use of diverse skills, abilities, and creative talent.

Technical professionals often want some say in their choice of assignments. Trying to achieve a fit between the job and the person can benefit the organization if the requirements for excellent performance on the job match with the individual's current or potential skills.

Consistent with the quality-of-life orientation, professionals (all employees for that matter) should be allowed to balance work requirements with off-the-job commitments because a balanced individual is less likely to come into conflict with management [33]. Professionals, to some extent, should have the opportunity to work under flexible schedules that permit them to meet family and community responsibilities. Allowing professionals to set their own agendas is only fitting for individuals who have proved in their early training that they are willing to do what it takes to master their craft and contribute their expertise to the advancement of knowledge or to the production of goods and services [33]. Having said that, the organizational well-being should not be compromised by allowing professionals too much freedom. There should always be a balance.

5.4 CONCLUSION.

At this stage it seems that people in general respond to two types of motivation, intrinsic and extrinsic motivation, the latter being more successful as a short-term motivator.

Financial rewards, when effectively distributed, have their benefits such as improving self-esteem, increasing desire to stay with an organization and possible increase in productivity. In terms of financial rewards, professional employees react very much the same as non-professionals upon receiving the rewards.

Non-financial rewards are more likely to appeal to professional employees. These include recognition of their status, letting them work independently, giving them a private office and a secretary/assistant, providing them with adequate equipment, allowing them to publish and present their work, sponsoring their membership of professional associations.

There may be many, perhaps indirect, benefits to the organization that can be gained by rewarding technical professionals, but the success of the rewarding practice depends greatly on giving the right rewards at the right time to the right people. In other words, the reward process and policies are very important in gaining the expected results from rewarding technical professionals. The next chapter, Chapter 6 discusses, in detail, the questions of how, when, and who to reward.



CHAPTER 6

REWARDING AND COMPENSATING TECHNICAL PROFESSIONALS

6.1 INTRODUCTION.

This chapter focuses on the key elements in compensation and reward system analysis of how to improve the productivity and commitment of professional employees. Because compensation is generally described apart from the overall reward system, the following discussion will first concentrate on compensation as it affects performance. Then the focus will shift to the design of organizational reward systems that take the best elements from different compensation plans and integrate them into systematic plans for rewarding and enhancing performance of technical professionals.

6.2 DIFFERENT COMPENSATION PRACTICES.

Nearly every organization has some type of compensation program. Schuster [35] discovered, however, that nearly all organizations he surveyed believe that their current compensation plans are not doing what they were designed to do. The compensation package that organizations offer professional employees should ideally be consistent with the contributions of those individuals. Since most organizations emphasize interdependence and teamwork, however, such a compensation plan can actually reward dysfunctional activity, resulting in lower overall performance [34]. For example, a team may perform well even though all the team members are not necessarily performing well, but they are all rewarded similarly based on team performance.

In general, most organizations' compensation plans are in the form of incentives [36]. Most incentive pay practices are either short-term in nature or longer-term, most organizations tend to use both [36]. Incentive plans are often based on the net profit of the organization over a twelve-month period. Bearing in mind that "the goal of the incentive plan is to move the organization in the direction its leaders want it to go" [35], the incentive component of the overall reward system is designed to be a "carrot that motivates professionals to give their best and remain loyal to the company" [36].

Schuster [35] and others remind us that when incentive awards are given on the basis of group performance, care should be taken to include qualitative criteria in measuring performance. This in turn suggests that special attention should be given to the performance appraisal and evaluation process [35]. Performance appraisal is discussed in detail in Chapter 7.

6.2.1 SHORT-TERM COMPENSATION PLANS.

A short-term compensation plan makes cash awards available to professionals based on performance during one year or less. Monetary awards are usually made separately from base salary adjustments [35]. Many organizations use short-term incentive plans throughout the organization, not only for senior executives, but also for staff members who are four to six salary levels below the chief executive officer [36].

The short-term incentive plan is important for several reasons. Gomez-Mejia and Balkin [36] note that "it is helpful in maintaining an egalitarian culture that rewards technological innovation". The employees who participate in short-term incentive plans are better able to identify with the organization's financial goals. Secondly, short-term incentive plans communicate what the organization wants to emphasize: for example, growth indices, market share, etc. Thirdly, they provide management with flexibility in allocating compensation according to the overall company performance [36]. This type of strategy can reduce the fixed-salary component, while maximizing variable rewards. Profit sharing and cash bonuses are the most commonly used short-term salary incentives [36].

Profit-sharing plans allow all employees to participate. If the organization is large enough to have many different divisions, profit sharing will most likely be based on each division's performance [36]. In cases where profit-sharing is a function of the organization's overall performance, professionals tend to be less satisfied [35], on the grounds that some divisions may operate in tough markets, whereas others do not. "The organization generally sets aside a predetermined percentage of pre-tax profits to share with the employees if the organization achieves its financial targets" [36]. If the target has been successfully reached, employees generally receive lump sum awards.

Cash bonuses are somewhat more flexible in that they can be based on attaining financial or non-financial group performance goals [36]. The flexibility is important, since it allows for qualitative criteria: for example, achieving technological breakthrough, or completing a project ahead of schedule [36]. Cash bonuses are frequently made in lump sum amounts and on an occasional basis.

6.2.2 LONG-TERM COMPENSATION PLANS.

A long-term compensation plan gives awards based on performance over a period of time longer than one year. It is designed to reward sustained performance that is in line with the goals of the organization [35]. Unfortunately, some of the short-term goals, rewarded by short-

term incentives, conflict with the organization's long-term goals. For example, concentrating on achieving quarterly targets rather than on new product innovations may lengthen the time it takes to achieve new product profitability because development funds may be held back in order to achieve short-term financial goals. This is particularly true for executives who have a finite employment contract period.

Long-term plans attempt to motivate the employee to think more in terms of the long run. For the innovators – the technical professionals who may be removed from the commercial aspects of the projects they are working on, these long-term incentives take on a very real importance [36].

But both short-term and long-term incentive plans have their problems. A large multidivisional organization, for example, does not necessarily have just one incentive formula, since each business unit is very different. In general, organizations tend to focus on specific units as profit centres. In those cases, the compensation is meant to reflect the performance of the unit rather than that of the organization as a whole [37].

Compensation specialists agree that managers are the ones who are ultimately responsible for making human assets profitable [37]. They also agree that “it takes a considerable amount of energy to motivate professional employees to buy into the corporate culture and to support the company's goal” [37]. Both short-term and long-term incentive compensation plans are necessary, but not sufficient, for achieving goal congruence, that is lining up the goals of the employees with those of the organization [37]. That insufficiency can be explored in a deeper analysis of organizational reward systems, discussed in the following sections.

6.3 THE DISTINCTION BETWEEN INCENTIVES AND REWARDS.

When developing pay policies and processes it is necessary to be clear about the extent to which a scheme is designed to provide an incentive or a reward. Incentives are forward looking while rewards are retrospective [38].

Financial *incentives* aim to motivate people to achieve their objectives, improve their performance or enhance their competence or skills by focusing on specific targets [38].

Financial *rewards* provide financial recognition to people for their achievements by reaching or exceeding their performance targets or reaching certain levels of competence or skill [38].

Financial incentives are designed to provide direct motivation – “do this and you will get that”. Financial rewards provide a tangible form of recognition and can therefore serve as indirect

motivators, as long as people expect that further achievements will produce worthwhile rewards [38].

This distinction is important because it highlights the fact that schemes designed to motivate people may fail to do this directly, although they could be a useful means of recognizing contribution.

6.4 ORGANIZATIONAL REWARD SYSTEMS.

Lawler [38] argues that reward systems are broader than compensation systems, and that they comprise core values, structures, and processes. Core values represent the organization's philosophy in selecting and distributing rewards, processes refer to communications and the ways in which people are involved in developing reward practices. Drawing on the work of Lawler [38], an organization's reward system can be conceptualised as "the various rewards available and their most important characteristics, the criteria according to which members get these rewards, the process of selecting and distributing these rewards and communicating about them, and the administrative structure which governs these rewards" [39].

The criteria for allocating rewards typically fall into three categories [38]:

- Results of performance: tangible outcomes in individual, group, division, or organization performance, quantity and quality of performance.
- Performance actions and behaviours: teamwork, cooperation, risk-taking, creativity.
- Non-performance considerations: type of job, nature of work, equity, tenure, level in hierarchy, and so on are rewarded.

The author could find very little research done on the structural and procedural aspects of reward systems, or on the strategic implications of designing reward systems. Kerr [40] has sought to highlight some of the strategic implications of reward systems, however, much of the research on reward systems focuses on pay policies and on very little else.

When these issues are coupled with the special case of professional employees – whose values, goals, and expectations differ from those of traditional employees – the strategic design of organizational reward systems is one of the most critical, but least understood, phenomena today [2].

Most reward systems, however, are far from perfect. To some, these reward systems may appear to reward behaviours that are not aligned with organization goals and undesired by the rewarder, while virtually ignoring or punishing desired behaviours [28]. Furthermore, these

systems may offer technical professionals rewards that are not particularly desired by those employees. Many organizations are notorious for offering professionals rewards they do not want and then wondering why these professionals leave or are pirated away for an insignificant salary increase [2]. It has become increasingly clear that organizations must establish different and separate reward systems for their professional employees. Not doing so will reinforce the inability to attract, motivate, and retain these valued human resources, through lack of attention to the power of the organizational reward system.

Some of the most important sources of motivation, satisfaction, and retention of professional employees are the nature of the work itself, the organizational processes, and career development [2]. Griggs and Manning [41], among others, have pointed out that the most powerful sources of conflict were explained by the respondent's age and the company's culture. These will be discussed later. At this point, diagnosis of reward systems as they affect professional employees begins with the following key questions [42]: What are the most important rewards? How are these rewards obtained? How are these rewards distributed and controlled? These questions are answered in the following sections.

6.4.1 THE MOST IMPORTANT REWARDS.

A logical first step in diagnosing an organization's reward system is to identify the rewards that are seen as attractive to employees. Kerr [42] notes that "the operative word is re-enforcer, not reward, however, at the beginning of the diagnostic it is difficult to know which rewards will, in fact, be reinforcing". He goes on to describe three generally distinct categories of rewards: (1) financial or economic rewards, (2) prestige or social status rewards, (3) job content rewards, (4) career rewards, and (5) professional rewards.

- *Financial and economic rewards.* These financial rewards include salary, fringe benefits, bonuses, and so forth.
- *Prestige or social rewards.* These rewards earn the worker the respect, or envy, of other people in the organization. Status or prestige awards may have, but do not necessarily have a financial component. Having a windowed office, having a title, or driving a company car are typical social status rewards.
- *Job content rewards.* These rewards (as discussed in Section 5.3) have more to do with the work itself than with financial or status aspects of the job. These rewards allow individuals to satisfy important needs and goals [42]. Doing important or interesting work, or being challenged, are examples of this category of rewards.

- *Career rewards.* Having more to do with enhancing personal careers, these rewards highlight growth and long career prospects. For example, job security, training, development, and opportunities for advancement are all considered career rewards.
- *Professional rewards.* These rewards have been shown to consistently attract, motivate, and retain professional employees. Examples include: having autonomy with respect to means-ends decisions, freedom from tight supervisory controls, ability to pursue continuing education, and peer evaluation and control.

6.4.2 OBTAINING THESE REWARDS.

Having identified a battery of rewards that are meaningful to professionals, the next step is to determine how they actually receive rewards. In general, organizational rewards are given for one or a combination of the following [42]:

- *Individual performance:* Workers must perceive that the reward for results, actions, and behaviours will be received if they perform well and will not be received if they perform poorly.
- *Group performance:* Members of a working unit must perceive that they all share in the distribution of a group reward only if the group performs well.
- *Attendance:* Coming to work on time and at least looking results-oriented if not actually being results-oriented are behaviours meriting "attendance" rewards.
- *Membership:* Simply signing their names on employment contracts brings workers "membership" rewards. Some types of membership rewards are fixed, that is, all members receive them upon entering the organization. Other membership rewards are variable, for instance, one must be a member for a certain amount of time to receive some membership rewards.
- *Hierarchical level:* Having reached a certain level in the organization activates this reward.
- *Other:* Sometimes rewards are given for reasons other than those listed above. Politics (employment equity in terms of previously disadvantaged or minority groups), for example, can influence the distribution of rewards.

6.4.3 CONTROLLING AND DISTRIBUTING THE REWARDS.

The next step is to determine, based on professionals' perceptions, who or what controls the distribution of rewards. The control of rewards is usually exercised by some combination of the following [42]:

- Organizational policy: The organization has guidelines or regulations affecting the distribution of rewards.
- High-level management: The distribution of rewards is determined by someone at a higher level than that of the professional's immediate superior.
- The union: In unionised organizations, the contract in force specifies which rewards are to be given.
- Human-resource group: In some organizations, the human resource function directs the distribution and the timing of rewards.
- Immediate superior: The respondent's direct superior is the one who controls the distribution of rewards.
- Self: The respondent personally controls the distribution of rewards.
- Automatically, over time: The rewards accrue for either fixed or variable membership, automatically.

6.5 IMPLICATIONS FOR REWARDING TECHNICAL PROFESSIONALS.

Having administered the above diagnostic to many organizations, Kerr [42] has noted that "organizations often do not get the member behaviours their leaders claim to want, but they invariably get the behaviours which these leaders' subordinates believe are rewarded." For professional employees, the irony becomes apparent: organizations seek to reward behaviours and actions that contribute to organizational goals, but many organizations inadvertently reward behaviours and actions not linked to organizational performance [42]. "Given the difficulty in differentiating rewards that are most important for professional employees from those appealing to non-professional employees, it is no wonder that so much confusion exists around which pay practices or other incentives are best suited to them" [42]. If the organization rewards the wrong types of behaviours and actions, how then can it expect to reward professional employees successfully? Given the earlier statement that more than one set of incentives may be correct for any strategic situation, the issue becomes very complicated.

The use of the reward systems diagnostic can help identify which rewards are most important to professional employees and, in addition, can help determine the extent to which those rewards are performance-related. Further, the diagnostic can help determine where a gap exists between actions and rewards.

6.6 MATCHING REWARD SYSTEMS TO TECHNICAL PROFESSIONALS.

This section discusses which rewards have had the most success in motivating professionals to perform.

6.6.1 THE COMMON REWARDS.

It seems that compensation specialists and human resource personnel working on attracting, motivating, and retaining technical professionals are creating increasingly new, complex, and creative compensation packages. High starting salaries for new graduates and generous benefit packages have been mentioned as essential [43]. Among the many benefits published as motivating professionals to perform, the most frequently talked about include: relocation allowances, front-end bonuses (13th cheques), front-end paid vacations, settling-in allowances, tuition reimbursement, continuing education reimbursement, assistance with new home purchase and sale, and retirement and health benefits packages [43]. Short-term and long-term incentives, such as profit sharing, are increasingly given to important contributors in organizations [43].

People in general, and professional workers in particular, respond to different rewards and incentives [2]. Some forward-thinking organizations recognize that fact and are attempting to differentially reward workers, not simply through key contributor programs [43], or professional practitioner schemes, as in the case of SpoorNet, but by matching rewards with individual contributions.

The idea is that performance is the output, if an organization wants performance, it must be able to reward it. In the absence of a strong reward system, it is most likely that performance will be below management expectation [43]. To reward it, however, an organization must be able to measure performance. If performance measurement is impossible or difficult, chances are that it will be less precisely rewarded [43].

Further, performance measurement relies on accurate definitions of performance. What is not defined as performance will not be measured nor rewarded [43]. Aspects of performance that are not rewarded will most likely not be engaged in by professional employees. That, of course, can include even the actions that are most needed for performance to occur. If those actions are not rewarded, it is not likely that performance will occur.

For rewards to be a useful indicator of performance, employees need to understand that the actions or behaviours for which they were rewarded have indeed been measured [44]. That understanding happens through the feedback process. Making a reward system diagnosis with respect to technical professionals begins with the rewards themselves, to see which rewards are most important to technical professionals.

6.6.2 THE MOST VALUED REWARDS.

Over a period of seven years, data was collected, using instruments designed by the ARS group [44], to determine which rewards were most valued by organizational members. Responding organizations included Sun Company, ARCO, Rockwell, First Interstate Bank, Natomas, and AT&T. Professional workers constituted more than 50% of these companies' workers. Thus, a diagnostic for determining rewards most important for professional workers was developed [44].

The following are the key rewards most valued by professional workers [44]:

- *Professional Rewards.*
 - Opportunity to work with top-flight professionals.
 - Freedom to make the most of one's own work decisions.
 - Intellectually stimulating work environment.
 - Not working on repeating yesterday, but working on tomorrow.
 - Having an impact on national legislation.

- *Job Content Rewards.*
 - A productive atmosphere.
 - Flexible work hours.
 - Long-term project stability.
 - Opportunities to address significant human needs.
 - Diversity of business, which creates continuing new opportunities.

- *Career Rewards.*
 - Working for a leading-edge company.
 - Diverse opportunities for personal growth and advancement.
 - Opportunity to participate in the company's successes.
 - Career opportunities to stay ahead of the crowd.
 - The chance to get in on the ground floor of important projects.
 - Opportunities for self-expression.
 - Being able to play a role in the company's future.

- *Social Status or Prestige Rewards.*
 - Beautiful location.
 - Open-door management.
 - Extensive recreational facilities.

- *Financial Rewards.*
 - Twice-yearly salary reviews.
 - Compensation for unused leave.
 - Cash bonuses.

As illustrated in this list, the most important rewards are professional and job content rewards. Depending upon the age of the respondents or upon the company culture, these rewards are differentially valued [41]. This is critical for a company to recognize: people change in their values and in their work orientations, depending on career and life stages.

For example, people in their twenties respond to job content rewards and to some financial rewards, people in their thirties respond to professional, career, and job content rewards, people in their forties respond to professional, career, and job content rewards, people in their fifties respond more to social, financial, and career rewards, and people in their sixties respond to financial and social status rewards [41].

These valued rewards are displayed in the above list by how important they are to professional employees. It is interesting to note that traditional financial and non-financial rewards rank relatively low on the list of rewards valued by these employees. This finding is consistent with that of others [2] who have attempted to discern the relative importance of salary and bonuses, or financial incentives, as compared with other incentives and rewards. Generally speaking, financial rewards do not rank in the upper quarter of valued rewards. While they are useful in many respects, they alone do not contribute much to motivation or retention of technical professionals [2].

In general, financial rewards are weak motivators, and still weaker as retention devices [41]. While cash bonuses have some appeal, particularly to those in their thirties and forties, it is important to note that the money itself is significantly less important than any of the other kinds of rewards. Technical professionals feel a commitment to calling, they value the work they do not only because of the financial incentive, but also because of the work itself.

6.6.3 MATCHING VALUED REWARDS TO PROFESSIONALS' CHARACTERISTICS.

The purpose of a reward system is to give people an incentive for attending and a reward for working. The different types of rewards may be combined into a reward system also for technical professionals.

It is very important to reiterate what have been discussed thus far in this dissertation: Overall, the most important sources of retention of technical professionals comes from the

professional rewards associated with the work itself, from the career development process, and from the organizational processes (including how the work is evaluated, how autonomous the workers are, and how well people work with one another). Important sources of retention do not, to the same extent, include financial or economic rewards, of either a short-term or long-term nature [2].

When these incentives are matched with the characteristics of the technical professional, a potentially new reward system could be developed: incentives matched to the individual values and beliefs of the technical professional.

Chapter 3 highlighted the characteristics of the professional worker. Each characteristic will now be considered separately in terms of the incentives that match the technical professional's value orientations.

6.6.3.1 EXPERTISE.

Organizational incentives should provide for the maintenance and growth of the professional's skills over time [2]. The purpose would be to avoid obsolescence and to meet the professional's personal needs for continued growth. The quality of facilities and services, for example, space, privacy, and equipment, are judged by professionals to be critical [44].

To encourage the strengthening of technical skills and expertise, leave of absence, seminars, management training, and sabbaticals were all incentives that are important to technical professionals [44]. Some organizations that are concerned about maintaining the expertise of their technical professionals allocate 15 to 20% of those employees' base salary to additional education and training. Professional incentives also include permitting career changes for professionals whose continued expertise requires different skills and knowledge [44].

6.6.3.2 ETHICS.

Aware of some of the tough choices that the professional needs to make, the organization might ease the ethical tensions by offering the following professional incentives: "allowing information-sharing with professionals outside the organization, allowing technical professionals to publish the result, of their research, and providing recognition for scientific or technical contributions that add to the knowledge base" [44].

6.6.3.3 COLLEGIAL MAINTENANCE OF STANDARDS.

Given the professional's desire to be evaluated by a collegial group of equals, or by those who are directly involved in the technical aspects of the job, the organization should attempt to focus more on collegial aspects. An appropriate incentive might be using peer evaluation as the primary performance appraisal to determine whether performance has been achieved. Further, care must be taken in setting up the criteria for evaluating or controlling the performance of professionals. For example, the professional employee's direct impact on company sales may be unknown. This knowledge may be necessary to the organization, but it is hardly important to the employee who is more concerned with innovation. Thus, the performance criteria must be set up so that it is appropriate and communicated as such [44].

Rewarding professional contributions may also mean that the organization must change old performance appraisal forms to concentrate on those aspects of professional performance that are critical. Furthermore, who does the appraisal may be just as important as what is being appraised [44]. Performance appraisal is further discussed in Chapter 7.

6.6.3.4 AUTONOMY.

There is evidence [44] that supports giving the professional incentives that may decrease conflict, such as time off, or funds for personal projects unrelated to organizational goals. Other incentives include giving professionals the freedom to select tasks or projects, the freedom to implement their own ideas, and flexible working hours. The concept of "controlled freedom" is also relevant here [45]. An organization that consults with professionals about assignments and changes, is exercising controlled freedom. This concept appears to work best within moderately bureaucratic structures [45]. "Employees of too heavily bureaucratized organizations will see controlled freedom as incidental or as virtually worthless, whereas professionals in non bureaucratized organizations will see it as somewhat of an intrusion into their autonomy" [45].

"Since autonomy can be threatened by organizational measures of performance, by requirements for short-term, quantifiable results, and by the tendency to put technical professionals on teams, some supervisory controls might be lightened" [45]. Clearly, allowing professionals more freedom to make decisions, with more authority, is a strong professional incentive [2].

6.6.3.5 COMMITMENT TO CALLING.

Promotion into management has been the usual route for technical professionals interested in advancement [44]. While this move may be appropriate for some, many professionals are so committed to their fields that moving away from their technical specialty can be unsuccessful [44].

As with concerns about autonomy, the organization should consider different structural accommodations for professionals. That is, "the organization can focus on the design of a career-oriented human resource system that provides career assessment guidance for its technical professionals" [44]. This issue is discussed in more detail in Chapter 8.

6.6.3.6 EXTERNAL REFERENTS AND PROFESSIONAL IDENTIFICATION.

Professionals generally resist rules and supervision and have limited loyalties to the organization [2]. There is some evidence [44] that providing time, funds, and encouragement to attend professional meetings and present research, results in lower conflict.

One incentive that encourages technical professionals to side with external associations of identification is letting them publish under their own names, not only under the name of the organization [2]. Some organizations also allow professionals to take out patents and copyrights in their own names and to join professional associations and attend their meetings, for which the organization covers the costs. Some organizations even offer bonuses for professional papers accepted at national association meetings or for becoming leaders of professional associations. Other organizations have discovered that advertising the accomplishments of professionals in the company's newsletter, for example, can result in increased commitment and job satisfaction [44].

In general, it is known that organizational commitment and loyalty increase with the professional's age, seniority, and time in service [2]. Thus, an organization should concentrate on giving the professional a strong sense of professional identity early in his or her organizational career, then building upon that identity through career development [44].

A summary of possible organizational incentives that match the different characteristics of technical professionals is given in Table 6.1 below.

Table 6.1. Organizational incentives for technical professionals [44].

Professional Characteristic	Organizational Incentives
1. Expertise.	<ul style="list-style-type: none"> • Provide for maintenance/growth of professional skills over time. • Quality of facilities (space, privacy, equipment) and support services. • Leave of absence, seminars, management, training, sabbaticals. (15-20% of basic salary).
2. Ethics.	<ul style="list-style-type: none"> • Reduce conflicting demands from colleagues and superiors. • Allowing information sharing with peers outside the organization (publication). • Provide recognition for technical/scientific contributions.
3. Collegial maintenance of standards.	<ul style="list-style-type: none"> • Peer/group evaluation and appraisals. • Setting up of appropriate evaluation criteria.
4. Autonomy.	<ul style="list-style-type: none"> • Reduce the rules/regulations for professionals. • Use of time and funds for personal goals. • Freedom to select tasks and projects and to implement one's own ideas, flexible working hours. • Remove tight supervisory controls. • Delegate decision-making authority.
5. Commitment to calling.	<ul style="list-style-type: none"> • Establish alternative promotional ladders to allow technical professionals to remain in the specialities. • Career development.
6. External referents and identification.	<ul style="list-style-type: none"> • Encourage attendance at professional meetings research presentations. • Publish and take out patents and copyrights under professional's own name.

6.7 TESTS OF PERFORMANCE REWARD SYSTEMS.

An organization's diagnosis of which combination of rewards best reflects its goals is a "reward system profile" [42], which will be discussed shortly. System designers should concern themselves first with a series of nine key questions, which are tests that the performance reward system should successfully pass. If the organization is reasonably

successful in passing these tests, it is likely that the organization's overall reward system is functioning smoothly, and that goal congruence has been achieved to a reasonable extent.

6.7.1 THE DESIRABILITY TEST.

To what extent do key people agree about which goals are important and about which activities are desirable or undesirable?

If key people do not agree about goals, how then will goals be adequately communicated to professional workers? This test shows the extent to which goals are recognized as important by the crucial employees and whether consensus exists [42]. Keeping in mind the difficulty of achieving goal congruence, one can see that it is not motivation, but agreement on which goals are the most important that cause problems [42].

Having a mission supports the professional's sense of commitment, meaningfulness, and purpose. An organization's goals and mission may well be one reason why the professional was attracted to it in the first place.

If the reward system is to accurately reward goal achievement by professionals, the key people must agree on which goals are considered important.

6.7.2 THE AVAILABILITY TEST.

To what extent are the rewards seen as attractive, available to an organization's professionals?

Financial incentives are frequently not available to professionals, because they are not cost-free. Social status incentives may be somewhat more available, however, there are usually only so many window offices to go around. Job content, career, and professional rewards are generally more available than financial or social status rewards [42].

6.7.3 THE PERFORMANCE CONTINGENCY TEST.

To what extent are rewards performance-related?

Theoretically, professionals are rewarded when they perform, and the reward is withheld if they do not perform [42]. In the case of salary, there are only three basic determinants, what job the professional is doing, how long he or she has performed it, and how well he or she has done it [42]. Recently, organizations have shifted away from performance-related

standards of compensation to treating everyone the same, often with what may be equivalent to across-the-board salary increases. Spoornet, for example utilizes across-the-board increases as opposed to individual performance-related salary. When this occurs, the performance-reward relationship has been compromised, and the reward system has failed the performance contingency test [42]. Figure 6.1 displays this relationship.

A related problem has to do with organizations paying out unused leave. This means, in effect, paying workers *not to work*. Such payouts also fail the performance-contingency test [42].

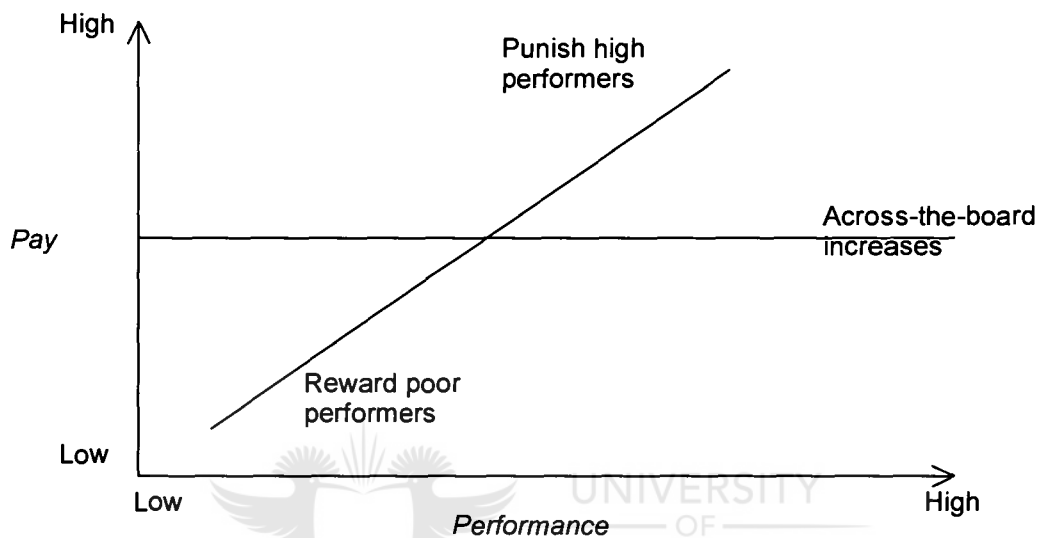


Figure 6.1. Impact on performance of across-the-board increases [42].

6.7.4 THE TIMELINESS TEST.

To what extent are rewards distributed in a timely manner after performance occurs?

This does not sound too difficult, however, many financial rewards come only once a year, or every six months. To motivate the employee, the reward ideally should be given immediately after the performance [42]. Many financial and social status rewards fail in their motivational purpose because they cannot be administered in a timely fashion [42].

The "time span of discretion", the amount of time that it takes for poor performance to show, is relevant here. If the professional performs poorly and the supervisor lets him or her know six months later, the time span of discretion has been violated [42]. Similarly, if the professional has an overly controlling boss who constantly corrects work even before mistakes have occurred, the time span of discretion has also been violated [42]. For rewards

to have motivational or retentive effects on technical professionals, the timeliness test should be met.

6.7.5 THE UNDERSTANDABILITY TEST.

To what extent is the performance appraisal system clearly understood by professionals?

Too often for professional employees, the performance appraisal process is neither understood nor linked to any meaningful outcomes. Kerr [42] has maintained that the reward system is only as good as the performance appraisal. Thus, performance appraisal must be understood. This necessity will be discussed further in Chapter 7, however, the relevant point here is that rewards must be visible to be understood. Many so-called rewards are not well understood because they are highly invisible. "Benefits actually account for forty cents of every Rand spent today on employees" [42]. However, since they are generally invisible, benefits tend not to be well understood, thus failing the understandability test.

6.7.6 THE BASIC TEST.

To what extent are desired activities on the part of the professional employee rewarded, and undesirable activities punished?

For the reward system to be doing its job of linking rewards to performance, there should be a clear message to all that performance is rewarded and non-performance is punished. This becomes tricky when, for example, a professional narrowly misses a very difficult goal or target. Is the employee rewarded for a good effort, or punished for missing the target?

The basic test asks reward system designers to concentrate on identifying which goals are so important that if they remain unmet the professional will lose any chance of receiving a reward. Similarly, the organization should become clear on how important it is to punish failure [42]. Very little has been said thus far about punishment, but generally speaking, it has a short-lived effect on altering performance [2].

6.7.7 THE WHO CONTROLS TEST.

Are rewards controlled at the proper level and position?

For supervisors to control the performance of their professional staff, they must be able to give rewards for performance achievement [42]. Job content and professional rewards

typically rate the best on the who controls test, while the other categories, such as financial rewards, do worse [42]. It is generally easy to give verbal recognition for a job well done. But it is less easy to give a cash bonus to reward performance, on an as-needed basis.

6.7.8 THE DIFFERENTIATION TEST.

To what extent does the distribution of rewards accurately reflect differences in professionals' performance?

If little differentiation is made, then high performers and low performers will, in essence, be rewarded similarly. When that occurs, the high performer is likely to downgrade his or her performance, in view of the inequity in rewards [42].

If employees perceive inequity, they are likely to re-adjust their efforts to bring their performance into line with their colleagues' performance [42]. For a reward system to accurately link performance with rewards, it should differentiate between good performers and poor performers in a visible, timely, and meaningful fashion.

6.7.9 THE INTEGRATION TEST.

Are the goal setting, appraisal, feedback, and reward systems highly integrated?

Goal setting should not be undertaken apart from the appraisal system [45]. When it becomes time for performance appraisal, it should be conducted with definite, predetermined goals in mind.

6.7.10 TESTS OF PERFORMANCE REWARD SYSTEMS – SUMMARY.

To summarize the tests of reward systems, it is worthwhile to show list the relevant questions, shown in table 6.2.

Table 6.2. Diagnostic questions for tests of performance reward systems.

A.	To what extent do key people agree about which goals are important and about which activities are desirable and undesirable?		
	Very little _____	To some extent _____	To a great extent _____
B.	To what extent are attractive rewards available to organizational members?		
	Very little _____	To some extent _____	To a great extent _____

C.	To what extent are important rewards performance-related?		
Very little	To some extent	To a great extent	
D.	To what extent are rewards distributed in a timely manner after performance occurs?		
Very little	To some extent	To a great extent	
E.	To what extent is the performance appraisal system clearly understood by organizational members?		
Very little	To some extent	To a great extent	
F.	To what extent are desired activities really rewarded and undesired activities really punished?		
Very little	To some extent	To a great extent	
G.	To what extent do the right managers control the important rewards desired by their subordinates?		
Very little	To some extent	To a great extent	
H.	To what extent does the distribution of rewards reflect differences in employee performance?		
Very little	To some extent	To a great extent	
I.	To what extent are the goal setting, appraisal, feedback, and reward systems integrated?		
Very little	To some extent	To a great extent	

6.8 CONCLUSION.

A reward system can improve the productivity and commitment of professional employees. The degree of success of a reward system improving productivity and commitment is dependant on how well the system is designed and implemented. When designing a reward system attention should be given to the fact that professional employees respond to different rewards than non-professional employees. Therefore, the reward system for professionals should match the characteristics of professionals.

The list of questions in Table 6.2 will give the human resource practitioner a very good idea of how well their reward system is functioning in terms of increasing employee performance and commitment.

It is very important to have a well functioning reward system that rewards performance equitably, but another question still needs to be answered: How should performance be measured? This is usually accomplished by means of a performance appraisal process, which is the topic of the next chapter.

CHAPTER 7

PERFORMANCE MANAGEMENT FOR TECHNICAL PROFESSIONALS

7.1 INTRODUCTION.

The purpose of this chapter is to discuss some of the problems associated with performance appraisal for technical professionals and to suggest some approaches to those problems. Performance appraisal is possibly management's best tool in controlling human resources and their productivity [46] because performance appraisal not only measures performance but also indicates where and to whom rewards should be given. Performance appraisal can also serve as motivation for employees to perform if it is linked to a reward system.

7.2 PERFORMANCE APPRAISAL IN GENERAL.

Some definitions of performance appraisal can be found in the literature. Resnick and Mohrman [47] maintain that it is a complex process with interrelated elements, intended to "(1) measure performance, (2) motivate employees, (3) improve performance, (4) plan future work, (5) tell employees what they should do, and (6) distribute salary increases". Bittner [48] identified some questions that helped managers assess employees: how well they were doing on their jobs, how they measured up to the standards needed to produce a high-quality product at a competitive price, what their strengths and weaknesses were, whether or not they fit in with the organization's way of doing things, and finally, if they were getting ahead as quickly and as far as their ability warranted. De Vries et al. [49] have a fairly practical orientation, suggesting that: "it is a process by which an organization measures and evaluates an individual employee's behaviour and accomplishments for a finite time period". Evaluations are typically done annually by the employee's immediate manager. The judgments are often subsequently used to make administrative decisions (e.g., for salary or promotion) that directly affect the employee.

Fombrun and Laud [46] suggested the following: "The appraisal system is recognized as the central human resources activity, whose primary functions are to:"

- Define the specific job criteria against which performance will be measured.
- Accurately measure past job performance.
- Justify the rewards given to individuals, thereby differentiating between high and low performance.

- Define the development the employee needs to improve performance in the current job and prepare for future responsibilities.

7.3 PERFORMANCE APPRAISAL FOR TECHNICAL PROFESSIONALS.

The special case of technical professionals will now be discussed. It is critical that organizations have an effective performance appraisal system for technical professionals. Drucker [50] points out that the professional knowledge worker is responsible for economic and social innovation, and thus for productivity, at many organizations. "These employees are the gatekeepers of important knowledge, the designers of new products and systems, the drivers of productivity and profitability" [51]. Since these positions typically represent a significant investment on the part of the organization, they have a high risk potential as well as a high payoff potential. Management of these positions requires careful attention to accurately assessing performance. That is where performance appraisal fits in.

The performance appraisal process for technical professionals should be designed with the culture of the organization in mind. There really is no "one best way" of designing performance appraisal systems for technical professionals [51]. While there is no one best way to design a performance appraisal system for technical professionals, certain design elements may accomplish the goals more effectively than others. For example, performance appraisal system designers interested in providing recognition and support for effective performance may choose a system that requires employee input [52]. Performance appraisal system designers who are interested in motivating performance improvements may choose a goal-setting approach [53]. Or, performance appraisal system designers who wish to allocate scarce funds may choose a ranking system, which actually forces a distribution of performance scores [54]. Finally, performance appraisal system designers who want to emphasize subordinate development may choose a behaviour observation approach that allows the manager and the subordinate to jointly identify weaknesses in subordinate performance [55].

Thus, there may be many goals that the performance appraisal system designers should carefully weigh when they implement a performance appraisal system. Once established within an organization, the system is likely to reinforce the actions or behaviours it was designed to assess. It may, however, actually hamper the attainment of some goals [51]. When we consider the special characteristics of the technical professional, and some of the fundamental dilemmas in managing these valued people, the performance appraisal process becomes critical [51]. Important in the process of evaluating these workers are new questions: What aspects of the technical professional's performance should be evaluated? Who should evaluate that performance? How should it be evaluated? [51]

7.3.1 WHAT TO EVALUATE.

In identifying and choosing the performance criteria, the manager should first decide what aspect or aspects of the technical professional's performance should be evaluated [51]. These criteria generally fall into three discrete categories, which, because most performance appraisal systems are designed to measure each employee's job-related performance, are individually based: individual personality traits, behaviours, and outcomes [49]. These three categories represent the "measurable domain of individual job performance".

- *Job-Related Traits.* These are personality characteristics that frequently appear as relevant criteria. They may include characteristics such as initiative, creativity, or leadership ability.
- *Job-Related Behaviours.* These criteria tend to be related to specific behavioural statements: for example, "She responds quickly to project feedback", "He works with his subordinates to develop them", "She works with customers to consider their complaints."
- *Job-Related Outcomes and Results.* These criteria may be cost related: for example, sales volume or quantity of units produced. In general, outcomes are a result of the technical professional's effort and performance. Other examples might include: "She reduced turnover by 12%", or, "He increased net sales by 10%."

Table 7.1 identifies strengths and weaknesses associated with the measurement instruments designed to measure the performance of technical professionals, within the three primary areas of traits, behaviours, and outcomes [49].

Table 7.1 Strengths and weaknesses of performance appraisal instruments for technical professionals [49].

<i>Performance Instruments</i>	<i>Strengths</i>	<i>Weakness</i>
Traits (e.g., initiative, creativity, loyalty).	Can be developed quickly. Can be used across jobs. Are highly relevant in initial selection process.	Poorly suited to feedback for professionals.
Behaviour Criteria (e.g., responds to memos quickly, smiles at	Can be related more directly to what a professional actually does. Specifies what	Take a long time to develop. Must be developed on a job-to-job basis. Difficult to

customers).	professionals must do to produce cost-related outcomes. Well-suited to performance feedback and goal setting.	determine for professionals involved in innovation and creativity. Very expensive to develop.
Outcomes (e.g., sales volume, units of production).	May be good indicators of organizational effectiveness. Appeal to senior-level management, venture capitalists, and stockholders.	Ignore other important areas of the professional's performance. Difficult to obtain from many kinds of professionals. Ignore factors professionals cannot control. Poorly suited for feedback. May take up to three years to track.

It is not uncommon for managers to be subjective when assessing the technical professional's performance, given that innovation and creativity are not always measurable [49]. The performance appraisal measurement process becomes susceptible to problems of evaluator accuracy, credibility, and dependability. The following discussion briefly highlights the key issues [49].

- *Validity.* The core of the measurement issue is validity, the relationship the performance measures have with job performance. Are the measures measuring what was intended to be assessed? Given that some group or person has established that some activities are more important to success than others, the performance appraisal system designer must develop proper measures of those activities [49].
- *Reliability.* Related to validity is the concept of reliability. This refers to the consistency of the measurement results. Measurement results are considered reliable if they are stable across rating periods and are consistent from one evaluator to another [49]. When instabilities or inconsistencies arise in the measurement results, they are often attributed to "noise" in the system or to evaluator "error," which is to suggest that there is a one best way of assessing reliability and that all evaluators have similar knowledge of the technical professional's performance. Difficulty therefore exists for technical professionals working on long-term, ambiguous projects [49].

- *Usefulness.* Here the concern relates to how relevant or useful the measurement results are in accomplishing the performance appraisal purposes. Newman and Hinrichs [51] also refer to this as "practicality": "How credible is the performance measurement as a tool for making decisions? It is known that a measurement strategy may be valid and reliable, but fail to meet its intended uses" [49]. Thus, the "usefulness" aspect also plays a critical role in measuring the performance of technical professionals.
- *Multidimensionality.* Particularly for technical professionals, using a single measure of job performance success is highly unlikely to provide meaningful performance appraisal results [49]. "Performance for these people is typically defined in many ways, including technical competence and risk-taking. It stands to reason that it is important to assess all dimensions considered relevant and useful to performance" [51].
- *Discriminability.* Does the performance appraisal measurement approach accurately pick up differences in employee performance? For technical professionals, who do a multitude of jobs in research settings, the measurement approach should be able to discriminate between employees as to their levels of performance [51]. When there are only highly subjective measures, the evaluator may be too lenient or too harsh in evaluating the technical professional's performance. "Leniency implies that a soft standard is used and "harshness" refers to rating the professional's performance low, with all scores clustering around the low end of the instrument" [49]. Ideally, the measurement strategy would accurately discriminate between all types of performance, with as little evaluator bias as possible.

7.3.2 WHO SHOULD EVALUATE?

In most organizational settings that include technical professionals, the immediate superior is responsible for the performance evaluation. Because of some of the problems associated with expertise and autonomy, however, that choice may not be appropriate [51]. It has been noted that the hierarchical superior may lack the competence, time, or ability to rate the job performance. When that happens, the hierarchical superior may not have a valid, credible, or trustworthy basis for evaluation. The credibility of the evaluator has been documented as a major factor influencing the acceptance of that evaluation [56].

Two factors appear to be important in determining the credibility of the superior as an evaluator of the performance of the technical professional: the superior's expertise and his or her trustworthiness. Some have gone so far as to say that it is the quality of the evaluator, rather than the method of evaluation, that is most important [57]. Some studies have shown that research laboratories managed by technical specialists come up with a greater number of

successful innovations [57]. Thus, there is a strong correlation between the productivity of the technical professional and who does the appraisal.

- *Expertise.* Ilgen, Fisher, and Taylor [56] suggested that expertise includes familiarity with the task itself, as well as familiarity with the professional's task performance. Von Glinow and Sethia [58] discovered that those with expertise were generally characterized as knowledgeable, well informed, and respected. Given the professional's liking for collegial maintenance of standards, it stands to reason that if the hierarchical superior is also an expert in the technical specialty, he or she will be viewed as a more credible performance evaluator. If the immediate superior is not an expert, or is not the appropriate expert for the specialty, credibility suffers. There are, of course, other options for performance appraisal that may be considered, including peer evaluations.
- *Trustworthiness.* Trustworthiness has also been found to be a major factor that influences how credible the hierarchical superior is to the technical professional. If the superior is seen as threatening and the professional doesn't trust the superior's motives, then it is less likely that the superior will be seen as a trustworthy performance appraisal evaluator.

Both expertise and trustworthiness affect the credibility of the hierarchical superior. But other factors appear to affect one's credibility as well. For example, the level of friendship between the superior and the technical professional affects how the professional views the superior [59]. Greller and Herold [59] state that if the professional is psychologically close to the hierarchical superior, the superior tends to have greater credibility.

If the immediate superior is not the most appropriate person for conducting the performance appraisal, other options, which have been tried with considerable success, can be exercised. Peer ratings tend to be the most popular [60]. Some organizations have experimented successfully with peer evaluators, all members of a project or team evaluate one another's performance [60]. When technical professionals in a group are performing the same tasks, this can be done fairly easily. "Where considerable divergence exists, care should be taken to standardize performance ratings, using as much information on different job dimensions as possible" [60]. In a sense, this does not detract from the performance appraisal, it enhances the performance appraisal by providing multiple evaluators and multiple dimensions.

Still another option is rating by subordinates. This is a common practice in university settings, where students sometimes evaluate a professor's performance. This type of rating is somewhat problematic, nevertheless, it can be employed successfully [60].

A third option includes having technical professionals rate themselves, in addition to having their superiors rate their performance. There is some evidence that having the technical professional involved in the process reduces the potential for conflict during a successful performance appraisal [60]. When technical professionals and superiors simultaneously rate the professional's performance and the appraisals are then compared, in cases where little disagreement exists the conflict is diffused before it can begin. Where there are a few disagreements, there can be focus on those few disagreements, rather than on the entire performance appraisal.

Finally, performance may be evaluated by outsiders, such as psychologists or experienced managers trained in evaluation techniques. These evaluations can occur within assessment centres or within in-house training facilities. Typically, these evaluations have more to do with leadership training, interpersonal interactions, and individual testing [51], rather than with evaluations of technical competence.

Thus, the question of "who should evaluate" the performance of the professional does not always have a clear-cut answer.

7.4 PERFORMANCE FEEDBACK FOR TECHNICAL PROFESSIONALS.

The question of how to give performance appraisals to technical professionals requires a discussion of the performance feedback process. Prior to feedback, questions have arisen as to whether the performance evaluation should be fed back to the professional at all. If the purpose of the performance appraisal is to maximize the accomplishment of organizational goals, and there is a difference between expected performance and actual performance, then it is important to inform the professional so that performance may be enhanced in future [51].

Feedback is a critical element of that process. Without feedback, it is almost impossible for the professional to calibrate his or her performance according to the criteria discussed earlier. Feedback has also been judged as essential for learning, directing actions, growth, shaping attitudes, and motivating employees [56]. So generally speaking, some feedback is better than no feedback, particularly within high performing systems.

A review of the performance feedback literature for technical professionals reveals that feedback is usually judged to be effective or not depending upon its outcomes [58]. Typical outcomes may include increased motivation, a change of actions, or increases in productivity. Therefore, in giving a professional feedback about his or her performance, the success or failure of that feedback has usually been dependant on whether the professional was able to

change as a result of it. There are three components to the feedback process: the acceptance phase, the usability of the feedback, and the outcomes of the feedback [58].

In the acceptance phase, the professional decides whether to accept or reject the feedback. Acceptance or rejection is usually a function of who is doing the appraising, what is being said, and characteristics of the professional. If the feedback is accepted, then the feedback process goes on to next phase, making decisions about action planning in response to the feedback. Is the feedback useful for the professional? "This assessment includes issues such as message validity, message specificity, message consistency, and the timeliness of the message" [58]. The final phase has to do with how the professional utilizes the feedback, or the outcomes of the feedback. In other words, was direction given? Was the professional more motivated to perform? Did output increase?

It is critically important that the professional accepts the feedback initially, and there are some measures the organization may employ to enhance the chances of acceptance. There are also institutional measures related to the usability and the outcomes of feedback that have been empirically derived [58].

Table 7.2 outlines a series of measures that an organization should consider employing to encourage technical professionals to accept feedback and to change their behaviour as a result of it. These suggested measures are a result of a study of 136 professional employees from several departments of a large oil company, as reported in Von Glinow and Sethia [58].

Table 7.2 Criteria for Effective Feedback and Suggested Institutional Measures [58].

<i>Criteria for Effective feedback.</i>	<i>Suggested Institutional Measures.</i>
<i>Acceptance of Feedback.</i>	
Evaluator credibility.	Select knowledgeable and trustworthy colleagues and practitioners as evaluators, encourages teamwork and other forms of professional interaction between evaluators and recipients.
Evaluator power.	Administer rewards in closer consultation with recipients and evaluators.
Recipient response capability.	Give professionals freedom to experiment, retool, learn, and change, allow researchers periodic "time-outs," without enforcing traditional performance criteria.
Recipient receptivity.	Allow professionals to pursue particular types of work

	without fear of punishment.
Message importance.	Give evaluators detailed information about the work under review and about the interests and aims of the professionals.
Message information.	Familiarize evaluators with the expertise level of the professional.
<i>Usability of Feedback.</i>	
Message validity.	Give evaluators adequate information about professional goals and the theoretical and methodological concerns of the professional.
Message specificity.	Advise evaluators to avoid generalizations and to make their comment directly applicable to the work being reviewed.
Message consistency.	Give evaluators information on the evaluations done at earlier stages of the work, evaluators should provide reasons for their different appraisals.
Message timeliness.	Rather than follow a present schedule, arrange evaluation at the critical stages of the work, have evaluators who are accessible to the professionals.
<i>Outcomes of Feedback.</i>	
Instrumental: direction.	Evaluators should comment on deviations from the goals and on what steps are required to get the work back on track.
Instrumental: motivation.	Evaluators should point out both strengths and weaknesses of the work, as well as encourage the professional.
Instrumental: growth.	Evaluators should descriptively point out the contributions of the professional and offer encouragement, institutions should support efforts with time and resources.
Instrumental: attitude shaping.	Organizations should commit its resources not only to the

Performance: output.	<p>short-term but also to long-term projects, thus enabling professionals to make major commitments to certain projects.</p> <p>Imaginative and flexible allocation of material and human resources.</p>
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7.4.1 FEEDBACK ACCEPTANCE.

To enhance the chances of acceptance, it is clear that knowledgeable and trustworthy colleagues who have the ability to link the performance feedback with subsequent rewards should deliver the feedback to the professional. Professionals demand autonomy, therefore, measures designed to allow them to pursue a particular type of research should be implemented. Further, career growth requires that they have the freedom to experiment, retool, and change, and that they have periodic time-outs, when traditional performance criteria are not enforced. Finally, an organization may wish to give the evaluator detailed information about the professional, the project aims, and the like [58].

7.4.2 FEEDBACK USABILITY

The extent to which an organization can increase the usability of the feedback for the professional is dependant on giving the evaluators appropriate information about the professional's expected performance and actual performance [58]. Sometimes that means that evaluations should be carried out at critical points in the professional's work rather than at prescheduled times, which is common for most organizations [58]. Being able to give specific feedback is critical. In general, the more specific the feedback is, the more usable it is.

7.4.3 FEEDBACK OUTCOMES

Finally, the outcomes of the feedback should be monitored. To do this, an organization must emphasize the importance of short-term as well as long-term project success, both of which can be achieved if an organization is flexible in its allocation of material and human resources. In addition to maintaining flexibility, other measures might include systematically directing the goals of the research team, or encouraging the professionals by supporting their efforts with time and money.

7.5 CONCLUSION.

Too often an organization assumes that the outcome of the feedback is the most important aspect of the appraisal process. This chapter sought to explain that problems might arise much earlier in the performance appraisal process, problems such as the professional not accepting the feedback as credible, or not being able to use the feedback. Such factors significantly influence whether the performance appraisal will be successful or not and should routinely be considered in the appraisal process.

Performance appraisal can positively influence the motivation of professional employees but the reward process linked to the performance appraisal may depend on the professionals' hierarchical level in the organization. Typically, the higher the level of the employee, the larger the rewards for similar performance. This implies that the hierarchical level of the technical professional and hierarchical structure of the organization in itself may have an influence on employee motivation and retention. Certain hierarchical structure accommodations may be useful in attempting to retain technical professionals and some of these are discussed in the next chapter.



CHAPTER 8

ORGANIZATIONAL STRUCTURES TO ACCOMMODATE TECHNICAL PROFESSIONALS

8.1 BACKGROUND.

There are fundamental and critical differences between professionals and their organizational counterparts, which demand different types of organizational accommodations.

The provision of career growth and development is simultaneously an important reward for most professional workers and one of the biggest sources of conflict for them [16]. The nature of technical and professional work is such that continuing technical education and career development are essential.

The key dilemma for technical professionals is whether to specialize, with little chance of recognition, or to aspire to management, however untalented for it. Technical specialists will probably find it difficult to get the emotional fulfilment they need from managerial roles [16][50].

8.2 ORGANIZATIONALLY INDUCED CONTRADICTIONS.

The organizational structure and operational procedures of a typical organization may induce conflict between management and their technical professionals in the following ways.

- *Autonomy Versus Control.* Professional workers want operational autonomy and resist managerial attempts at control. Just as there are professionals who want autonomy, however, there are others who do not. An organization must take into consideration that, for example, technical professionals and successful engineering careers come in many different forms [61]. Managers who wish to accommodate the career aspirations of their professional work force must present choices of career growth opportunities [16].
- *Stability Versus "Shake the Box"* [62]. A common response to environmental pressures is to reorganize the organization, or "shake the box" now and then. Some organizations regularly shake the box to get rid of complacency and stagnation. Others do so because of high uncertainty levels. The evidence to date is that in many organizations, such reorganizations involve high cost [62]. Professionals see little reason for many reorganizations, particularly when project stability is threatened. From the organization's

point of view, however, combining functions and centralizing procedures may make sense. However, change for the sake of change makes very little sense [62]. The key is in communicating and justifying the need for such changes, particularly as they impact the professional's work and career concerns.

- *Linear Versus Lateral Career movements.* Most workers aspire to promotion. These workers are referred to as "linears" [63]. They define career success only in terms of upward mobility. Given the nature of most pyramid-shaped organizations, however, most employees are blocked in terms for upward mobility after a certain point. This includes the professional work force. Alternate career options exist, but little is done organizationally to accommodate the career aspirations of the many workers who prefer to work in their specialty areas, who do not aspire to upward linear movement. A possible solution is in recognizing different career options and in organizationally accommodating these through lateral promotions, transfers, or other methods [63]. Most organizations maintain that they want to accommodate their professional work force through attention to career needs. However, most organizations rarely investigate alternative structures for accommodating different career types [62][63].
- *Career Versus Work.* A fourth problem arises when professionals position themselves in order to enhance their careers, but this positioning may conflict with the work itself. Bailyn [63] notes that career advancement typically involves being visible to management, while effective work is often not visible to management. Some professionals will be career-oriented while others will be work-minded. Bailyn [63] maintains that each type requires a different solution. The professionals primarily interested in their technical work need alternative forms of recognition to keep them effective. These can come in the shape of different professional or career rewards, which may include placement on the dual ladder, which is discussed in Section 8.3.1.

For those professionals who aspire to promotion, another problem may occur. If promotions occur too quickly at the beginning of a technical professional's career, he or she runs the risk of future complacency. Bailyn [63] suggests that: "It might be better to slow down the promotions of younger professionals, while accelerating those of older professionals. This is a reversal of the usual pattern" [63]. Workers who are somewhat unsure about their technical jobs, particularly the younger ones, should be encouraged to become trainee managers, without making a long-term commitment or having important rewards withheld.

8.3 POSSIBLE SOLUTIONS.

Managing a professional work force involves recognition of the fact that conflict exists. Most viewpoints seem to agree on steps toward reducing this conflict. Three structural accommodations have been discussed regularly in the literature and are listed below [14][16]. Miller [16] and others noted that the best solution is to present the professional with a choice of career growth opportunities, so that he or she does not have to aspire to management. Dual ladders, triple hierarchies, and broadbanding, have been implemented with varying degrees of success. The following section examines these three solutions to accommodating the career concerns of technical professionals.

8.3.1 DUAL LADDERS.

In an attempt to reduce the professional-organizational conflict and to provide technical professionals with alternative career paths, organizations may implement a dual-ladder structure. "The dual ladder is a set of positions for technical professionals that are designed to be parallel to the managerial ladder, but with evaluation, control, authority, and advancement criteria appropriate for the technical professional" [14]. The objectives of using such a dual ladder are: "to provide promotion opportunities for technical professionals who are unable or unwilling to climb the managerial ladder, to provide compensation, recognition, and prestige equivalent to that of successful managers, to provide technical professionals with greater autonomy, and to create a set of positions with administrative duties light enough to not interfere with professional contributions" [16].

Miller [16] notes that even the best dual-ladder programs receive about the same numbers of complaints from professionals as from managers. Problems around the perception of unfair promotions seem to be the biggest problem. Managers who are seen as managerial failures, but who are transferred and subsequently promoted on the technical ladder, can generate the opinion that the technical ladder is a dumping ground for unsuccessful managers [16].

It is very difficult to make both sides of the ladder really equivalent. Sacco and Knopka [64] report that six criteria must be met for the dual ladder to be successful. "The program must (1) have senior management support and commitment, (2) have credibility with employees, (3) be flexible and adapt to change, (4) define the levels of technical contribution at each rung in the ladder, (5) have a review process to assure quality, and (6) have a high profile, through publicity both inside and outside the organization" [64].

The most common complaint is that the dual ladder does not in fact reward the professional and managerial accomplishments equally. When this complaint occurs, one wonders whether

the dual ladder system has really been implemented at all. The whole idea is to provide equivalent salary and status. The professional ladder may need fewer levels than the managerial ladder, but whatever job evaluation system the organization uses, salaries should be linked to equivalent requirements in terms of knowledge, problem solving, and accountability.

As far as status goes, there can be no substitute for creating an organizational culture that values technical contributions [16]. In the author's opinion some organizations may believe they have such a culture when in fact employees, professional or otherwise, still believe that success means becoming a manager.

A diagram of a typical dual ladder structure useful in accommodating technical professionals' career aspirations is shown in Figure 8.1 [16].

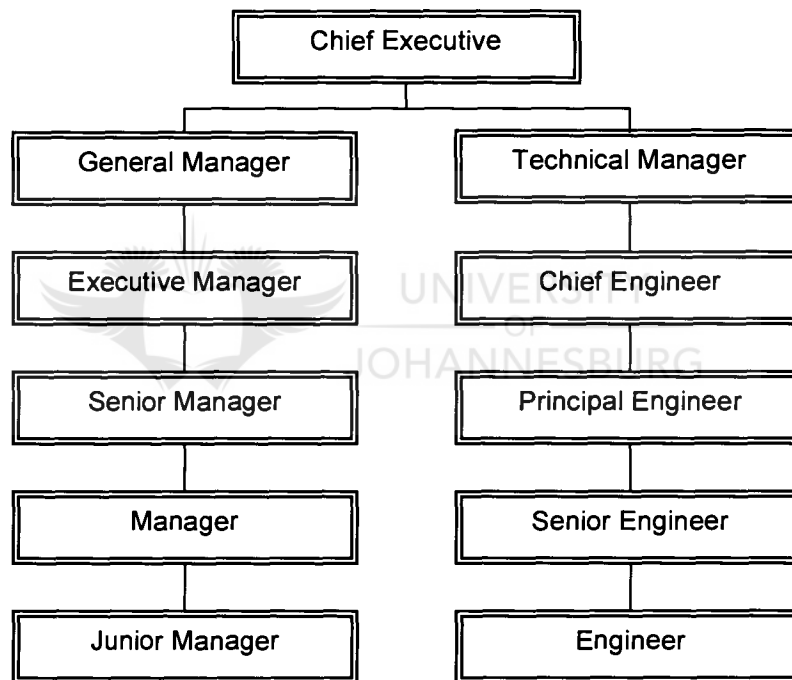


Figure 8.1. Typical dual ladder structure.

8.3.2 TRIPPLE HIERARCHIES.

A variation on the dual ladder, the "triple hierarchy," provides three different promotion opportunities. The managerial hierarchy is available to those who want promotions into managerial positions. The dual ladder or technical ladder is available to those who want only professional and technical positions. The third ladder, called a "liaison hierarchy," is occupied by technical professionals in important administrative positions. They have regular technical

duties, but also have authority over technical professionals in those areas where differences between professional goals and organizational goals are most probable to cause conflict [14].

In those areas with high potential for conflict, managers have no authority. Such areas tend to vary by organization. Table 8.1 briefly describes some areas where the liaison hierarchy would take precedence over the managerial hierarchy in most organizations.

In essence, "liaisons" represent the interests of both managerial and professional groups. They should be involved in processes such as controlling resources and planning functions, thus acquiring knowledge of the organizational constraints on resource allocation that affect the professionals. Similarly, liaisons can represent technical professionals on matters of company policy, goal setting, and resource allocation. This third ladder is, in effect, the buffer between the managerial and technical ladders.

Triple hierarchies have several advantages over dual-ladder systems. The most frequently stated reason for the failure of dual ladders is that technical professionals must rely on non-professionals for resources and services [14]. The strength of the triple hierarchy is that it limits managerial authority to allocating resources and services to non-professionals only. Liaisons allocate resources and services to technical professionals, thus buffering both sides from one another.

Another advantage of the triple hierarchy over the dual ladder is that the triple hierarchy is more likely to fairly evaluate technical professionals, since evaluations and recommendations for promotion of professionals are made by liaisons, not by managers [14].

A final problem, which is neither enhanced nor reduced by the triple hierarchy structure, is the perception of inequity across ladders, the perception that placement on the professional ladder is evidence of failure, or of an inadequate number of professional positions [14]. This problem may occur in the triple hierarchy, just as it does in the dual-ladder system.

Table 8.1 Comparable areas of managerial and liaison authority.

<i>Managerial Hierarchy</i>	<i>Liaison Hierarchy</i>
Purchasing of general clerical supplies and equipment.	Purchasing of specialized technical supplies and equipment.
Selection and training of office and low-level administrative personnel.	Selection and training of professional and technical personnel.
Supervision of non-professional managerial	Supervision and coordination of professional

and office personnel.	activities.
Responsibility for evaluation of office and low-level administrative personnel.	Responsibility for conducting or coordinating professional employee performance appraisals.
Distribution of resources required by non-professional employees.	Distribution of resources required by professional employees.
Budgeting for non-professional activities.	Budgeting for professional activities.

A typical triple hierarchy structure is illustrated in Figure 8.2 [14].

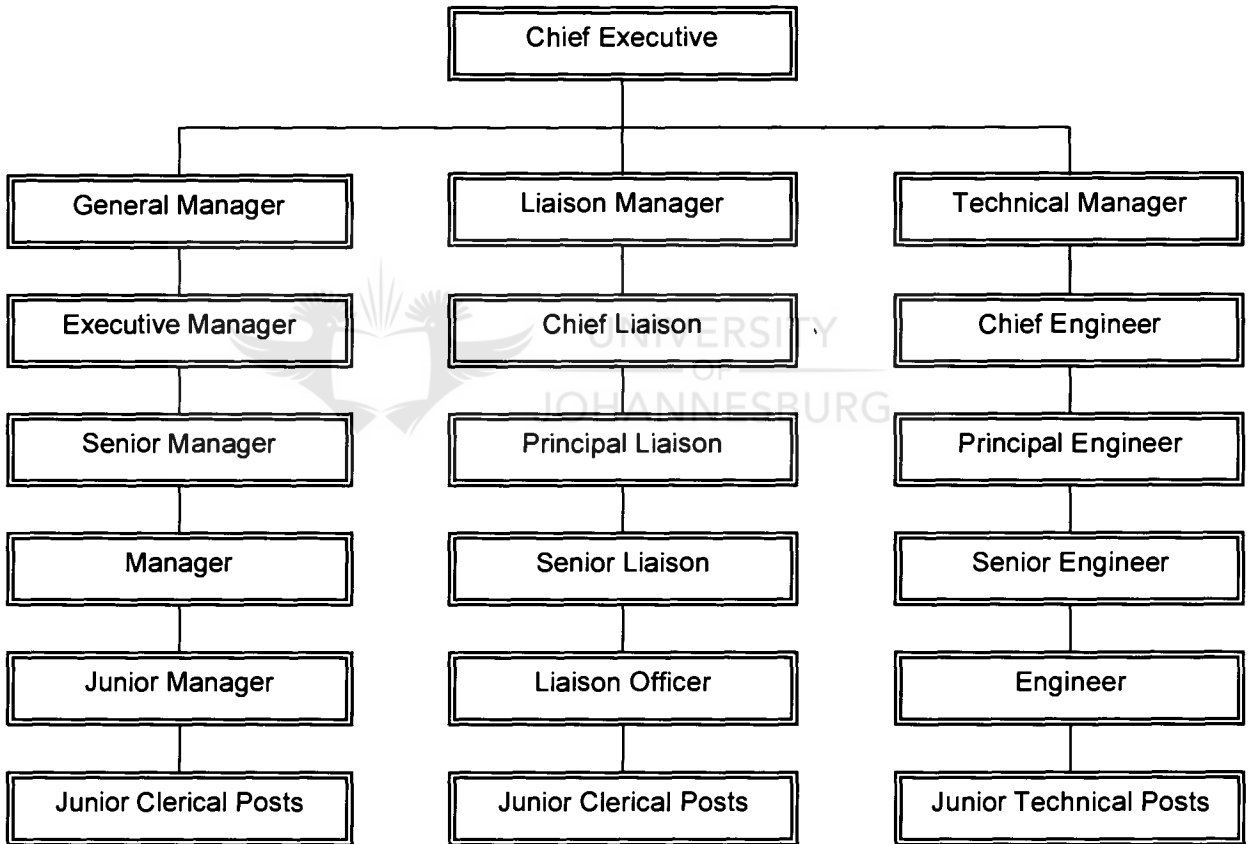


Figure 8.2. Typical triple hierarchy structure.

8.3.3 BROADBANDING.

Broadbanding is the compression of a hierarchy of salary grades or salary ranges into a small number of wide bands. Each of the bands then covers the salary opportunities of several

original bands. The focus is on lateral career movement within the bands and on competency growth and continuous development [16].

Broadband structures are very different from conventional salary structures [16]. There are fewer organizational levels and the emphasis is on flexible roles, individual career development and competency growth rather than progression based on position in the hierarchy. Career moves are more likely to be horizontal along the band. There is much less emphasis on movement upwards through a hierarchy [16].

8.3.3.1 CHARACTERISTICS OF BROADBANDING.

There are certain features which are found in broadband structures, namely [16]:

- “Often no more than four or five bands to cover all the employees covered by the structure, although some organizations describe their structures as being broadbanded when they have as many as eight or nine grades”.
- Wide salary spans, which can be 100% or more above the minimum rate in the band.
- Focus on lateral career development and competence growth.
- “Less reliance on conventional and rigidly applied analytical job evaluation schemes.”
- “Increased delegation of salary decisions to line managers who can be given more freedom to manage the salary of their staff in accordance with policy guidelines and keep within their budgets by reference to information on market rates and relativities within their departments.”
- Less emphasis on hierarchical promotion.
- Generally, less concern for structure and rigid guidelines and more concern for flexibility and paying for the person rather than the job.

Broadbanding in its fullest sense would mean, for example, converting a traditional graded structure with twelve 30% grades into a structure with five 200% bands. In other words, the salary ceiling for a person in one of the original grades would be 30% higher than the lowest or starting salary in that particular grade, whereas the same person in a broadbanded structure would be able to earn three times the lowest salary for that band. Some jobs previously in separate grades would now be in the same band.

A good computer programmer, for example, will be able to earn more than his manager. This will ensure that the best programmers keep programming as opposed to advancing to management for the sole purpose of earning more money. This will prevent the organization from exchanging an excellent programmer for a mediocre manager. Figures 8.3 and 8.4 illustrate the difference between a conventional and a broadbanded structure.

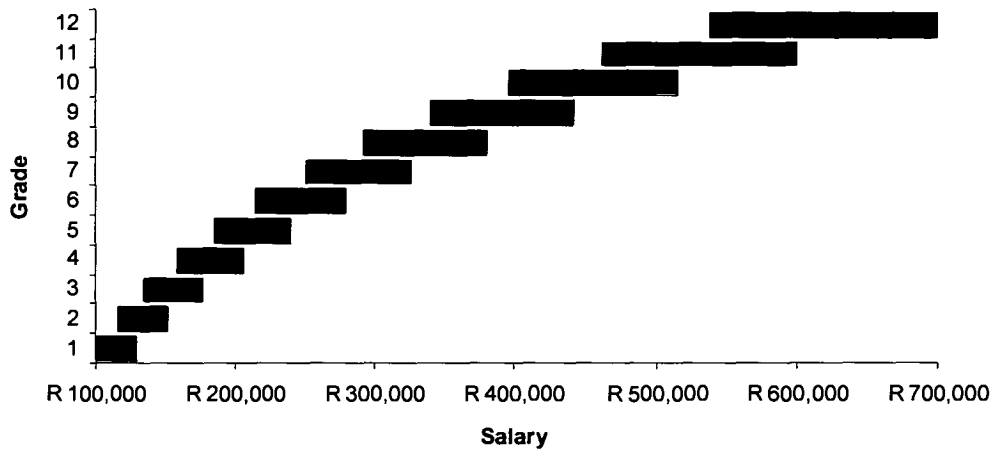


Figure 8.3. Example of a conventional salary grade structure.

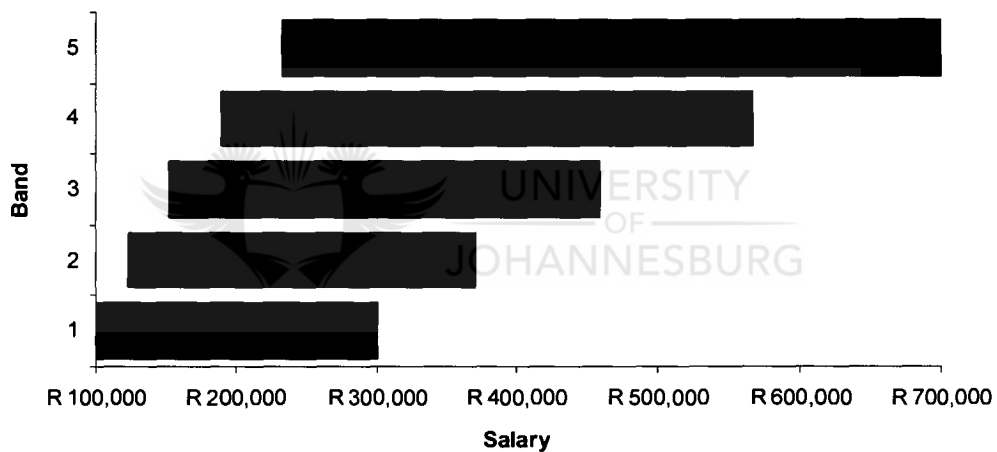


Figure 8.4. Example of a broadbanded structure.

8.3.3.2 SALARY PROGRESSION WITHIN BANDS.

Perhaps the most important feature of broadbanding is its focus on lateral rather than vertical career growth [16]. Opportunities for career and therefore salary progression are more likely to take place by moving horizontally through a band than by climbing a promotion ladder.

In contrast, conventional graded structures were designed for a hierarchy in which it was usual to have rigid or prescribed methods such as a salary matrix for progressing salary through the relatively narrow grades [16]. A much more flexible approach can be used in the wider and less structured ranges which are typical of fully broadbanded systems. Progression is based on judgements about the individual's contribution, competence and ability to continue

developing laterally. Roles become more dynamic as employees, especially the professional workers have greater opportunity to influence the content of their jobs [16]. In a broadbanded structure progression is people orientated rather than job orientated [14].

8.3.3.3 ADVANTAGES AND DISADVANTAGES OF BROADBANDING.

The main advantages of broadbanding are that it [14][16]:

- Enhances flexibility in terms of salary, managing the reward system and adjusting salary in response to market rate variations – there is more scope for varying the salaries offered to new employees on the basis of their market worth, and new or wider responsibilities can be allocated to people and rewarded appropriately without going through a re-grading or pay evaluation process.
- Supports team working by encouraging the development of multi-focus roles and an organization without boundaries.
- Enables organizations to provide rewards for lateral career development, continuous learning and the achievement of high levels of competence and contribution.
- Provides a means of integrating reward and employee development strategies.
- Addresses the personal growth needs of people by offering salary opportunities for mastering new competences within the band – salary progression is not limited by narrow and rigid salary ranges.
- Enhances the ability of the organization to reward people for what they bring to the business beyond their job descriptions.
- Reduces the time spent in analysing and evaluating jobs, because there are fewer levels between which distinctions need to be made.
- Can allow more responsibility and accountability to line managers to make salary decisions.

The advantages of broadbanding may seem to be considerable, but there are some important disadvantages [14][16]. Broadbanding:

- Appears to restrict the number of promotional opportunities – lateral career development salary may alleviate the problem but employees may still look elsewhere to further their careers.
- May mean that employees formerly in higher grades feel that their jobs have been devalued by being placed in the same band as employees previously in a lower grade – team leaders and their staff could be in the same band.

- May result in employees being concerned by the apparent lack of structure and precision – they may miss the “career signposts” previously defined by an extended hierarchy of grades through which they could progress.
- May mean a return to the bad old days of management favouritism, subjective judgements and inequities, because of the increased freedom, for line managers to make their own salary decisions.
- Can make heavy demands on the skills of line managers.
- Takes much time and effort to establish and maintain.
- Requires commitment of training and communication resources.
- May conflict with the culture of traditionally hierarchical organizations where status is defined by job grading and progress is measured by the speed and extent to which people move up the grade hierarchy.
- May lead to difficulties in ensuring that equal salary for work of equal value is given where analytical job evaluation is not applied extensively.

These disadvantages can be alleviated by extensive consultation, communication, participation and training. In addition, even when the policy is to delegate responsibility to line managers, the human resource function still has a key role in providing guidance, help, training and information to managers regarding salary and reward issues [14]. However, the disadvantages could outweigh the advantages, and this is why it is important to weigh up carefully the extent to which the organization is ready for broadbanning and the amount of work required before committing resources to developing it [16].

“Not every organization will be ready now, if ever, to jump on the broadband wagon. Broadbanning is not a universal solution. Readiness for broad bands must be assessed carefully before developing them” [16].

8.4 SUMMARY.

The distinctive characteristics and culture of technical professionals influence how they should be managed. One way to increase the retention of technical professionals is to accommodate them by changing the organizational structure of their department or section. Three structural accommodations have been discussed in this chapter namely dual ladders, triple hierarchies and broadbanning [14][16]. The first two would allow technical professionals to stay specialized technically while receiving status and career growth rewards without having to make the transition to general management.

Broadbanning would allow technical professionals more lateral career growth opportunities and promote salary increases based on the person, not the job [16]. Broadbanning is very

much in line with the culture and characteristics of technical professionals [14]. The whole organization does not have to be broadbanded but only one department, the engineering department, for example could be. Broadbanding has some disadvantages though. Feelings of loss of status, for example, could come into play due of the possibility that supervisors and their subordinates may be divided up into the same band. Before investing in developing a broadbanded structure, organizations should ensure that they are ready for it [16].

Throughout this dissertation different approaches have been discussed that may increase the retention rates of technical professionals. The next chapter summarizes the processes that have been discussed and includes some recommendations for organizations employing technical professionals.



CHAPTER 9

CONCLUSION AND RECOMMENDATIONS

9.1 BACKGROUND.

Managing talent is difficult and time consuming, but very rewarding [14]. Too often, senior management has the best of intentions for developing people, but fails to invest the time and resources needed to realize the benefits. Organizations with long-term, sustained success are those that focus on growth and achievement by retaining the best talent [16]. An organization can create the best business strategy, make the right acquisitions, and invest in the right programs, however, if the organization does not have the necessary talent, those strategies will fail to be implemented, the advantages from acquisitions will fail to materialize, and investment will not earn desired returns [14].

The central managerial challenge of the future is to design systems that have a reflexive capability built into them [28]. These systems must monitor and match the needs of technical professionals with the goals of the organization. This is no easy challenge, since the goal of maximizing the productivity of technical professionals may cause conflict due to the values of these workers [63].

9.2 RECAPPING PROFESSIONAL CULTURE.

It is useful to recap the nature of the professional work force. There are several distinctive features of the technical professional. They are knowledge workers, and their expertise and talent are in substantial demand by most organizations [4]. These workers have value and attitudinal characteristics that vary significantly from those of other workers [5]. They have invested heavily in their training and specialized knowledge, and they frequently have advanced degrees. They enjoy intellectual and technical challenges, or "puzzles," as Bailyn [63] refers to them. Since they have expert training and skills, they tend to identify more with their profession or technology than with their employing organization [5]. This can be a fundamental dilemma for the organization.

In addition, most professional workers value and demand autonomy, and most good managers are aware of this [4]. In fact, autonomy serves as a professional reward for many of these workers. They do not consider salary and fringe benefits as important as the meaningfulness of their work [15]. Management must recognize this fact and reward these workers accordingly.

Other values include a strong sense of ethics and an internal performance standard that mitigates against traditional performance appraisal [17]. Professionals identify more with others trained in their technical specialty. Nevertheless, these workers have a strategic importance to the organization that is becoming even more critical with increasing international competition.

9.3 MOTIVATION, REWARDS AND COMPENSATION.

Designing reward systems that encourage the professional's talent is very important. Much attention has been focused on financial incentives as the major means of retaining these workers. Financial rewards alone have little importance for these workers, however, despite the repeated emphasis in the literature on salary plans and complicated compensation options [31][32]. Instead, professional, career, and content rewards tend to be more valued by these workers [31]. When managers pay attention to the unique characteristics and values of their professional workers, it is less difficult to understand that they are motivated and driven to perform by a whole different set of motivators. Critically important here is the challenge and meaningfulness of the work the professional performs. Equally important is that the work retains its meaningfulness over the course of the professional's career [32]. Hence, paying attention to career development is a very important challenge for managers of these workers.

Reward system diagnosis is extremely important [42]. The diagnostic activities, questions and tests presented in Chapter 6 should be carefully considered when questions of motivation and retention arise. Many of the problems associated with improving the performance of technical professionals may be traced to breakdowns in the organization's reward structures and strategies [42]. The culture of the organization plays an important role as well [43].

9.4 ASSESSING TECHNICAL PROFESSIONALS' PERFORMANCE.

Equally important to technical professionals is the design of appropriate performance appraisal systems that are attentive to their standards of evaluation [47]. Since technical professionals are largely responsible for new product and process innovations, these employees become the gatekeepers of information. An important challenge for managers of these gatekeepers is to accurately assess performance within the context of the organization's culture [46].

As discussed in Chapter 7, some alternatives to conventional performance appraisals should be considered for evaluating the performance of technical professionals. These include self-evaluation, peer evaluation and evaluation by subordinates, all of which match the characteristics and values of the typical professional.

9.5 ORGANIZATIONAL STRUCTURE CONSIDERATIONS.

Due to the cultural differences between professionals and non-professionals, various accommodations with respect to the organizational structure could be made to help technical professionals feel comfortable in the organization.

Depending on the nature of the business and the level of dependence the organization has on technical professionals, various accommodations could be effective. As discussed in Chapter 8, some options include dual ladders, triple hierarchies, and broadbanding. These structural accommodations can ensure that technical professionals do not have to make the transition to management in order to obtain more responsibility, recognition and status in an organization [14][16].

9.6 RECOMMENDATIONS.

Managers and the organizations they work for would be well advised to increase their capacity to meet new challenges in the following ways [2][8][14][16][28][32][37][38][41][55]:

- They should recognize that managing professional employees is significantly different from managing non-professionals. This is true, in part, because professionals have a different set of values and characteristics, which have been gained through their socialization in the technical specialty. Managers need to be cognizant of those values and characteristics if they are to anticipate tension points and enhance the fit between the individual and the job.
- Managers should recognize that a certain amount of conflict will almost always exist between professionals and hierarchical authority and control systems. The key is to transform this conflict into motivation by separating these workers from organizational pressures, while simultaneously making them aware of the importance that their work holds for the organization's well being and its continued competitive advantage.
- They should attempt to develop human resource practices and policies that have had some success in retaining the professional work force.
- They should articulate the organization's vision, clearly establish the organization's goals, and ensure that all relevant parties are exposed to that thinking.

- They should design jobs and work relationships to take advantage of technical specialties. For example, rotating professionals through multiple roles and job responsibilities can sensitise them to new ideas and opportunities.
- They should establish career-sensitive tracking systems so that career development becomes an integrated part of their organizations' practices.
- They should utilize rewards that are relevant for technical professionals. These rewards ideally should be linked to performance, but in some cultures they might be linked to effort, risk-taking, or other relevant behaviours.
- They should study the change process and learn from their experiences. Organizations change owing to internal and external factors, including departures from tradition, new leaders with new visions, crises or other startling events, key decisions on the part of senior management, or tests of their infrastructural ability to accommodate change. Organizations also change because of change. But professionals must clearly see the need for change, otherwise, they may not support the change, or they may even sabotage it. Therefore, communication must be re-emphasized.

9.7 CONCLUSION.

This dissertation has explored the major issues surrounding the management of technical professionals. Just as it is difficult to describe a typical technical professional, so is it difficult to describe the typical organization. Each organization has a different organizational culture, and how each organization will respond to the suggestions in this dissertation will undoubtedly vary.

Retaining talent calls for innovative human-resource practices. These practices are best exercised when the organization's reward system is in sync with its culture.

The mediation strategies discussed are designed to help management integrate technical professionals more successfully into organizational life. The ideal is that one-day professional accomplishment will become consonant with managerial proficiency. It is the author's hope that this dissertation will help transform this vision into reality.

9.8 FUTURE RESEARCH.

In future, organizations will become increasingly dependant on their technical professionals due to the ever-increasing complexity of systems and processes developed and maintained by technical professionals and used by organizations and society.

Possible future research relating to the relationship between technical professionals and their employing organizations may include the following:

- The effects of employment equity on the retention of technical professionals.
 - Organization specific retention strategies.
 - Measuring the success of retention strategies.
 - Implementing dual ladders, triple hierarchies and broadbanding.
 - Controlling self-evaluation, peer evaluation and evaluation by subordinates.
-

Inspiration might usefully be drawn from George Bernard Shaw: "Other people see things and say: "Why?" ... But I dream things that never were – and say: "Why not?"



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