

Text **Dewald Potgieter**
Senior Engineer
Arcus Gibb
ex Master's Degree student
University of Johannesburg
dpotgieter@gibb.co.za



Prof Leon Pretorius
Graduate School of Technology Management
University of Pretoria
leon.pretorius@up.ac.za



Retention of technical professionals – a reminder for engineering and technology organisations

The loss of skills and knowledge of technical professionals experienced by many organisations in South Africa has serious implications for the local and international competitiveness of these organisations. Research has indicated that there are fundamental differences between technical professionals and other staff in organisations, so that they need to be managed in a different way. Retaining talent calls for innovative human-resource practices. This article discusses various management and retention strategies

INTRODUCTION

Employee turnover in South Africa is highest for two categories of personnel: the low-level unskilled workers and the highly skilled technical professionals (Kransdorff & Klegon 1999).

Managers generally have more success in attracting and selecting talented employees than in retaining them. A possible reason for this is that the training and development of technical professional talent are rarely integrated into technical professionals' career paths (Von Glinow 1995).

There are fundamental differences between professional culture and corporate culture due to the differences in the background of professionals and that of their organisational counterparts (Gouldner 1957; Bailyn 1994). The characteristics of technical professionals play a distinct role in how they should be managed (Manz & Sims 1990; Katz & Tushman 1993). There is some conflict between what professional employees want and need in a job situation, and

what management requires (Van de Ven & Delbecq 1986) and this conflict can extensively influence the retention of technical professionals (Raelin & Leonard 1995).

A comprehensive review of the literature by Kerr et al (1987) concluded that the following characteristics are critical to professionals:

- Expertise – normally gained from prolonged specialised 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

MANAGING TECHNICAL PROFESSIONALS

These characteristics result in key dilemmas in managing technical professionals (Raelin & Leonard 1995). 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 (Raelin 1985).

The nature of the work performed by technical professionals causes them to resist organisational control. Highly specialised 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, and this often leads to conflict (Raelin 1985; Presthus 1988; Benveniste 1997).

The relationship between the organisational manager and the professional is not improved when the manager downgrades the values of professional workers. These values influence all aspects of their behaviour, including their loyalty, their commitment and their productivity – all of which are important to the employing organisation (Presthus 1988). How can these concerns and conflicts be addressed?

Management should recognise that a certain amount of conflict is natural and it should be used in mutually beneficial ways. Managers need to learn when and where professional values must take precedence over organisational rules and regulations (Benveniste 1997), and when it is essential that those values must take a back seat to the organisational controls.

The consequences must be considered because productivity, loyalty and commitment are at stake and will not be enhanced by rejecting the values of the professionals. The skilful management of professionals requires knowledge of their loyalties, not only to the organisation, but also to their professional associations and standards. Failure to do this will inevitably result in mismanagement of these valued human resources (Benveniste 1997).

Just as it is difficult to describe a typical technical professional, so is it difficult to describe the typical organisation. Each

organisation has a different organisational culture, and how each organisation will respond to the suggestions made here will undoubtedly vary.

MOTIVATING TECHNICAL PROFESSIONALS

It is widely accepted that the retention and productivity of workers is a function of how well the individual is motivated. The research and findings of Maslow (1943) and Herzberg et al (1959) are the cornerstone of much of the work done in the field of human motivation and job satisfaction.

Once technical professionals have been appointed, it is important to continue to motivate them throughout their organisational careers. Yet how can the manager induce these employees to pursue the company's goal and not just their own goals? What is particularly different about motivating professional employees is that they respond to different types of rewards (Kerr 1985).

The "work itself" is an important motivator. In addition, career development is important, particularly since technical obsolescence threatens almost all technical professional specialities (Dalton et al 1990). Miller (1996) rightly points out, however, that professionals respond to continuing education and development for personal development reasons as well. Some organisations have recently discovered this and are acting on it. Transnet Freight Rail, for example, attempted to introduce a "Professional Practitioner Scheme" whereby professionals are treated differently from non-professional employees in terms of compensation and training.

Other basic extrinsic benefits are likely to appeal to professionals, such as a private office and a personal assistant or the dedicated assistance of a technician.

REWARDING AND COMPENSATING TECHNICAL PROFESSIONALS

Financial or economic rewards do not form the most important retention strategy to the same extent for technical professionals. But although they have a particular 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 salaries and benefits with those of employees having similar workloads and responsibilities, whether inside their own organisation

or elsewhere. Any evidence of significant inequities, whether in absolute compensation or relative increases, will not be good for attitude or performance (Ewing 1987).

Other incentives for technical professionals include time off, the freedom to select tasks or projects, the freedom to implement their own ideas, flexible working hours, and funds for personal goals unrelated to organisational goals.

Promotion into management has been the usual route for technical professionals interested in advancement. 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 (Von Glinow 1993).

PERFORMANCE MANAGEMENT

Performance appraisal is possibly management's best tool in controlling human resources and their productivity (Fombrun & Laud 1993) 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.

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. In the process of evaluating these workers there are important new questions: What aspects of the technical professional's performance should be evaluated? Who should evaluate that performance? How should it be evaluated? (Newman & Hinrichs 1990). These three categories represent the "measurable domain of individual job performance".

In most organisational settings that include technical professionals, the immediate superior is responsible for the performance evaluation, but that choice may not be appropriate (Newman & Hinrichs 1990). The credibility of the evaluator has been documented as a major factor influencing the acceptance of that evaluation (Ilgen et al 1989). 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. Peer ratings are a popular form of evaluation and another rating system, prevalent in universities, is rating by subordinates. A third option is having technical professionals rate themselves, in addition to having their superiors rate their performance. Finally, performance may be evaluated by outsiders, such as psychologists or experienced managers trained in evaluation techniques (Newman & Hinrichs 1990). Note that feedback to the person being evaluated is a critical element of the process.

ORGANISATIONAL STRUCTURE ACCOMMODATIONS

Managing a professional work force involves recognition of the fact that conflict exists, and reducing this conflict. Three structural accommodations have been discussed regularly in the literature and are listed below. Miller (1996) 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 as solutions to accommodating the career concerns of technical professionals.

Dual ladder structure

In an attempt to reduce the professional-organisational conflict and to provide technical professionals with alternative career paths, organisations 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" (Kerr et al 1987). 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" (Kerr et al 1987).

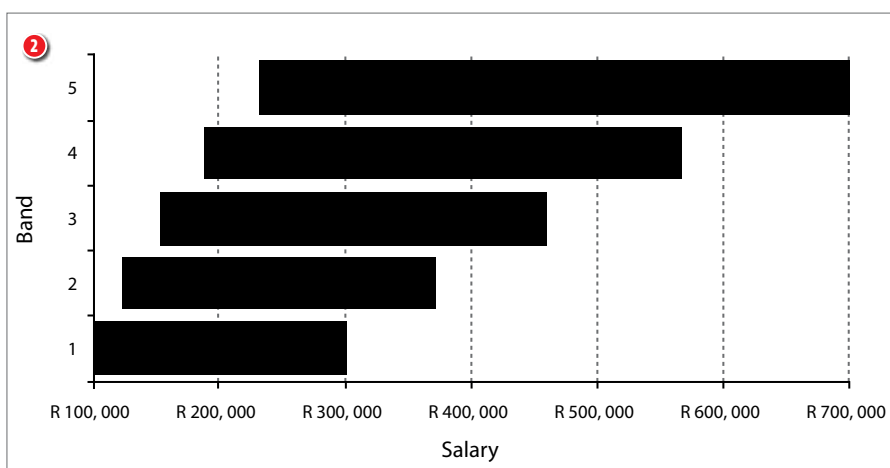
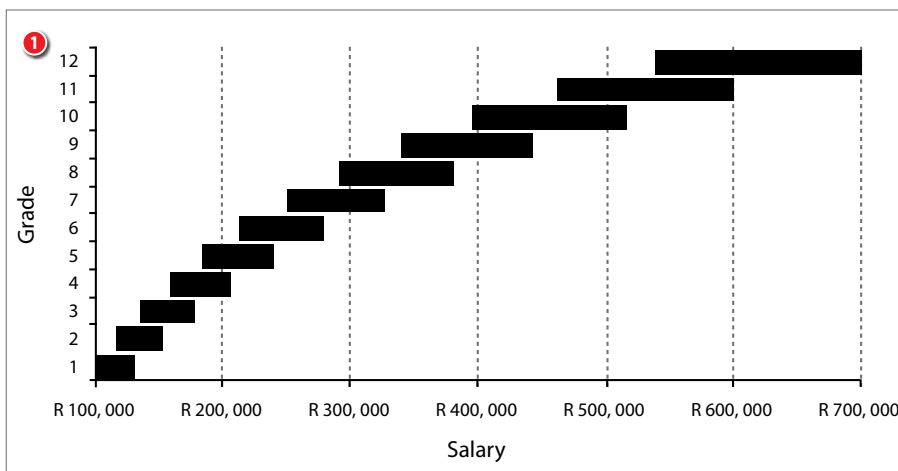
Triple hierarchy

A variation on the dual ladder, the "triple hierarchy," provides three different promotion opportunities: (1) the managerial hierarchy is available to those who want promotions into managerial positions; (2) the dual ladder or technical ladder is available to those who want only professional and technical positions; and (3) a "liaison hierarchy", the third ladder, 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 organisational goals are most likely to cause conflict (Kerr et al 1987).

In those areas with high potential for conflict, managers have no authority. Such areas tend to vary by organisation. Table 1 briefly describes some areas where the liaison hierarchy would take precedence over the managerial hierarchy in most organisations.

Table 1 Comparable areas of managerial and liaison authority

Managerial hierarchy	Liaison hierarchy
Purchasing of general clerical supplies and equipment	Purchasing of specialised 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 and office personnel	Supervision and coordination of professional 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



① Example of a conventional salary grade structure

② Example of a broadbanded structure

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 (Miller 1996).

Broadband structures are very different from conventional salary structures. There are fewer organisational 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 (Miller 1996).

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 organisation from exchanging an excellent

programmer for a mediocre manager. Figures 1 and 2 illustrate the difference between a conventional and a broadbanded structure.

CONCLUSION

Managing talent is difficult and time-consuming, but very rewarding (Kerr et al 1987). Too often, senior management has the best of intentions for developing people, but they fail to invest the time and resources needed to realise these benefits. Organisations with long-term, sustained success are those that focus on growth and achievement by retaining the best talent (Miller 1996). An organisation can create the best business strategy, make the right acquisitions and invest in the right programmes, but if it does not have the necessary talent, those strategies will fail to be implemented, the advantages from acquisitions will fail to materialise and investment will not earn the desired returns (Kerr et al 1987).

The central managerial challenge of the future is to design systems that have a reflexive capability built into them (Kerr 1985). These systems must monitor and match the needs of technical professionals with the goals of the organisation. This is no easy challenge, since the goal of maximising the productivity of technical professionals may cause conflict due to the values of these workers (Bailyn 1992).

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, but financial rewards alone have little importance for these workers, despite the repeated emphasis in the literature on

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 that the professional performs. Equally important is that the work should retain its meaningfulness over the course of the professional's career

salary plans and complicated compensation options (Ewing 1987; Jones 1963). Instead, professional, career and content rewards tend to be more valued by these workers (Ewing 1987). 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 that the professional performs. Equally important is that the work should retain its meaningfulness over the course of the professional's career (Jones 1963). Hence, paying attention to career development is a very important challenge for managers of these workers.

Equally important to technical professionals is the design of appropriate performance appraisal systems that are attentive to their standards of evaluation (Resnick & Mohrman 1992). 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 assess performance accurately within the context of the organisation's culture (Fombrun & Laud 1993).

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.

Due to the "cultural" differences between professionals and non-professionals, various accommodations with regard to the organisational structure

could be made to help technical professionals feel comfortable in the organisation. Some options are: 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 organisation (Kerr et al 1987; Miller 1996).

RECOMMENDATIONS

Managers and the organisations they work for would be well advised to increase their capacity to meet new challenges in the following ways:

- Managers should recognise that managing professional employees is significantly different from managing non-professionals. This is partly because professionals have a different set of values and characteristics, which have been gained through their socialisation in the technical specialty. Managers need to be cognisant of those values and characteristics if they are to anticipate tension points and enhance the fit between the individual and the job.
- They should recognise 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 organisational pressures, while simultaneously making them aware of the importance that their work holds for the organisation's wellbeing and its continued competitive advantage.
- They should attempt to develop human resource practices and policies that have had some success in retaining the professional workforce.

- They should articulate the organisation's vision, clearly establish the organisation'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 organisations' practices.
- They should utilise rewards that are relevant for technical professionals. Ideally, these rewards 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. Organisations 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 simply to test their infrastructural ability to accommodate change. Organisations also change because of change itself, but professionals must clearly see the need for such change; otherwise, they may not support the change or they may even sabotage it. Therefore, communication is vital.

NOTE

The list of references is available from the editor. □