Human resource strategies and organisational structures for managing gold-collar workers

Peter J. Holland
School of Management, University of Tasmania, Hobart, Australia

Robert Hecker
School of Management, University of Tasmania, Hobart, Australia

John Steen
School of Management, University of Tasmania, Hobart, Australia

Introduction

The rapid expansion of the information technology (IT) industry has resulted in significant skill shortages in many advanced western market economies (AWMEs). In Australia the ability to develop and retain key IT staff is becoming a major human resource management issue. The alternative for many organisations is the loss of key staff and intellectual capital, as well as market share, to competitors as e-commerce, globalisation and the pace of technological change accelerates. The following paper examines human resource policies and organisational structures for developing and retaining these resources, through two case studies of organisations in the IT and telecommunications sector in Australia. Concludes that developing HR policies in order to recruit and retain staff, and linking these to appropriate organisational structure, is becoming of increased importance in order to encourage employees to remain with a company.

Knowledge as competitive advantage

The mechanisms that enable firms to leverage knowledge-based assets for sustainable competitive advantage are the subject of contentious debate (Sanchez, 1997). At the present time methodological discourse in management studies has highlighted a number of recurring problems for this research agenda, for example the difficulties of finding appropriate proxy indicators for the measurement of knowledge (Carter, 1996; Glazer, 1998). However, beyond these debates of what is actually meant by the commonly used categories of information, knowledge and know-how are research questions that require empirical evaluation.

This is particularly important given the growing recognition of the role of intangible resources for generating sustainable competitive advantage (Leonard, 1995). Furthermore, economic studies have documented a sustained rise in intangible investment across OECD countries. In general, from an organisational perspective, strategic prescriptions for leveraging knowledge-based assets to create competitive advantage can be split into two categories. Metaphorically, one of these groups views the firm as a “knowledge fortress” whilst the other views the firm as a more porous “knowledge sponge” (Steen and Innes, 2000; Innes and Steen, 2000). “Knowledge fortress” strategies include patenting, secrecy agreements and retaining staff who are regarded as being knowledge carriers (Boisot et al., 1997). In this case, successful management of information reflects the old mercantilist economic regime where competitiveness was dominated by the ownership of capital (Macdonald, 1998). Conversely, “knowledge sponge” strategies accept and accommodate the movement of information into and out of the firm, often via capricious mechanisms such as informal networks that are largely beyond the firm’s control (Macdonald, 1998). The trade-off for the loss of information is the gain in information that results from exchanges through information networks.

Information may move across the boundary of the firm via several different mechanisms. Staff turnover will bring new opportunities to create new networks beyond the firm. Also there is evidence to suggest that people who are only weakly associated with the organization can be the providers of new information (Granovetter, 1973). Such weak associations could include peripheralised organisational structures, which may take the form of sub-contracting employees for specific projects.

From the fortress perspective, information-permeable peripheral structures are highly undesirable. Knowledge that had been created within the firm at great cost is being
lost, possibly to a rival over which the firm previously held competitive advantage. Solving this dilemma from a fortress perspective requires drastic action, as Boisot et al. (1997, p. 74) explain:

Firms routinely claim ownership of their employees’ tacit knowledge when they feel that they have contributed to its creation. Yet ownership is not possession, and possession (ownership claims made by the firm notwithstanding) may well remain with an employee when he or she leaves the firm. The firm can deal with the issue in one of two ways: it can either seek to extract tacit knowledge from the employee prior to departure while asking for a commitment to secrecy thereafter, or it can create incentives for the employee to stay.

However, from a sponge perspective peripheral structures can be benign if not advantageous, particularly in high-technology industries (Macdonald, 1998). Discussion of peripheral structures from a sponge perspective seems diametrically opposed to the fortress position.

It can be argued that it is in the company’s interest to ensure that its key employees go wherever they can be most productive, even that they be helped to depart to a better job. A happy ex-employee joins another information network in his new employment, but still retains links with his old network and can channel new information into that old network (Macdonald, 1996, p. 236). The rationale behind this somewhat counter-intuitive view is that in information intensive industries no organisation can compete without access to the information of other organisations (Macdonald, 1998).

In the future, organisations competing in dynamic industries may face the challenge of striking a balance between maintaining the stock of intellectual capital and absorbing and exchanging new knowledge and employees through external networks (Macdonald, 1998). These external networks could be created by maintaining a core of established professionals with a periphery of professionals who are loosely associated with a number of firms. While direct peripheralisation of professionals can erode the knowledge stocks of the firm, indirect peripheralisation may enhance the firm’s absorptive capacity for new knowledge and thus enhance the possibility of competitive advantage in the long term.

In addition to the possibility of the peripheralisation of professionals being driven by the advantages of enhanced information exchange, it is possible that the type of information being used by firms may also result in the shift of professionals from the core to the periphery of the organisation.

This balance between core and peripheral employment strategies is becoming a major human resource issue, particularly in IT management and development as organisations seek competitive advantage in the development of this aspect of their business and as this labour market (for gold-collar workers) becomes increasingly tighter globally.

### The gold-collar labour market

The changing dynamics of the labour markets in many AWMEs over recent years has often been highlighted by the development of precarious employment and job insecurity. However, those with high demand skills in tight labour markets have been big winners. These workers are increasingly being termed “gold collar” because of their specialist skills which attract large salaries. Research by the Australian Centre for Industrial Research and Training (ACIRRT) notes the psychological contract these employees work to has significantly changed the employer-employee relationship. As ACIRRT (1999, p. 3) research identifies: Sometimes known as “gold-collar workers” this latter group of workers has benefited considerably from technological change and economic deregulation. Often found in the cutting edge of computer technology in banking or in publishing, “gold collar workers” have found high paying jobs which stimulate and challenge them. They often spend extremely long hours at their job, they are young, ambitious and very well paid. Their loyalty, however, is owed less to their employer than it is to their career. As a result they are highly mobile, lured by new jobs, which offer technical challenges or opportunities for self-development.

This lack of organisational commitment, combined with the shortage of these skilled professionals particularly within the IT industry in Australia, has created a major concern for organisations. As Birrell et al. (1999, p. 63), comment: If Australia cannot produce the required number of computing professionals then its capacity to be a global competitive player in the knowledge industries is said to be under threat.

Employment in the IT and telecommunication industry has expanded rapidly in the last years of the twentieth century; even calculations made in 1995 significantly underestimated the actual demand for IT professionals. The Australian Federal Government calculated the number of IT professional required in Australia by 2004-
2005 would be of the order of 146,000 (AGPS, 1995). The number of IT professionals by 1998 had already exceeded 134,000, with current shortages estimated to be between 30,000 and 60,000 (Slamet, 1999). Depending on the source, future estimates have demand ranging from 9 to over 46 per cent per annum, significantly dwarfing the previous estimates by more than 100,000 IT workers (DCIT&T, 1998).

In terms of public policy in this area, the federal government has initiated several discussion papers but limited initiatives. In response to these problems the industry itself, through its association the Australian Information Industry Association (AIIA), has developed a committee to investigate initiatives in this area. The Information Technology and Training Taskforce (IT&T Taskforce) has recommended the development of a new institute to broker courses between education institutions and the IT and telecommunications industries (Illing, 1999). Whilst the institute is seen as a conduit between the higher education sector and industry, and has received federal government support, this initiative needs to be put into the context of education and training funding, which is the key constraint for Australian universities at present. As Illing (1999, p. 22) points out:

The two key factors that are restricting universities’ capacity to help solve this problem are declining government funding for local students and “enormous” financial pressure on them to increase fee-paying international students. Shifting resources into the big growth areas of IT would mean taking away from other courses at a time when universities have already had to pare back their academic programs.

Further, the only policy initiative the federal government has adopted to alleviate this shortage is the traditional approach of successive Australian governments to labour supply problems: increased immigration. In this case the government has relaxed immigration restrictions on overseas students applying for permanent residence under the Skilled Australian Linked category on completion of their course (Birrell et al., 1999). However, this will not solve the net imbalance in demand, nor substantially increase the amount of IT professionals required. In a global context it should also be noted that the USA, which can offer more opportunities, is also adopting a skilled temporary entry program (Lowell, 1999). This is likely to increase the pull effect on the Australian industry, with an estimated 5,000 Australians already working in Silicon Valley (Slamet, 1999). It is clear, therefore, that organisations cannot expect public policy or industry initiatives to correct this chronic shortage of IT professionals in the short to medium term. In this context, organisations must seek to retain and develop these highly skilled and in-demand staff through sophisticated human resource policies and work patterns.

What motivates gold-collar workers?
The key to developing human resource strategies that attract, develop and retain these key employees is to understand what motivates them. As Barnes (1999) points out: “They think differently, they behave differently and need differently.” Typically, gold-collar workers are self-focused and less interested in the traditional benefits of employment such as job security and working conditions (Zawacki, 1999). The full-timers in the organisational core will be the new minority and the idea of constant retraining, job-hopping and career retraining will be the norm (O’Hara-Devereaux and Johansen, 1994).

These fundamental changes to the nature of employment, especially in the IT industry will further speed up the move away from the traditional working relationship as exemplified in the traditional psychological contract. The onus, for many gold-collar employees, will be to manage their own careers. This will require them to direct their own training and development for a broader range of skills, and accepting greater role ambiguity and responsibility (Arnold, 1996). The “new” psychological contract has been operationally redefined in terms of a bipolar construct of “relational” or “transactional” contract (Millward and Hopkins, 1996; Robinson and Rousseau, 1994; Rousseau, 1990, 1995; Rousseau and Parks, 1993). The relational contract aligns more with the traditional working relationship between employee and employer, while employee benefits rather than organisational citizenship, on the other hand, drive transactional contracts.

HRM practices are one of the major mechanisms through which the employment relationship can be developed to ensure both the employees and employer come to understand and benefit from this new relationship. With changes in the modern psychological contract with a move towards more specificity in time and performance continuums, Rousseau and Wade-Benzoni (1994) have arranged these two features in a matrix to produce four major types of psychological contracts: transactional; transitional; relational; and balanced.
Transactional contracts are more likely to focus on monetary exchanges that are shorter in duration but entail well-specified performance standards. They enable organisations to be more market responsive by selecting individuals who already have specialised education and experience, e.g. temporary IT hires for projects. Transitional contracts contain no guarantees concerning future employment and no explicit performance demands, e.g. peripheral IT workers during the current spate of mergers and acquisitions. Relational contracts have open-ended membership with incomplete performance requirements attached to membership. Organisations that create relational contracts with their employees are more likely to spend resources to develop employees, most notably in the training of staff to develop knowledge, skills and abilities that are specific to the company, e.g. family businesses. Balanced contracts tend to be more relationship oriented but have clearly defined performance terms, e.g. high involvement teams in software development. What type of psychological contract that is perceived to be in operation therefore heavily influences motivation of gold-collar workers. But all are reliant on the important issue of a challenging work environment requiring recognition, appropriate rewards and self-actualisation, as well as opportunities for innovation and creativity. The challenge is therefore to develop a dynamic environment that facilitates appropriate structure and strategies to recruit, retain and develop these key employees.

Flexible specialisation

Flexible specialisation is based on the premise of an emerging dynamic economic environment characterised by fragmented and niche markets. To accommodate this ceaseless change in work patterns requires the continual redefining of the way the organisation is structured (Thompson and McHugh, 1995). These simultaneous changes Sparrow and Marchington (1998) described as parallel flexibility.

Evidence of world-competitive organisations adopting the flexible specialisation approach to the organisation of resources has been identified in a variety of regions including the Romagna and Bologna region of northern Italy, Baden-Württemberg in Germany and Silicon Valley in the USA (Sabel, 1984; Fiore and Sabel, 1984; Amin, 1989, 1994). A small core organisation is surrounded by satellite organisations, which are autonomous but highly integrated in their relationship with the core organisation (Amin, 1991). This structure allows the core organisation to reduce fixed cost investments, whilst maximising labour market flexibility and control in highly dynamic markets. Whilst mainly identified at a regional level, Miles and Snow (1995, p. 449) have noted the evolution of this model in the “network organisation” which incorporates many of the features of flexible specialisation, but takes the form of a “global matrix”. Within this organisational framework they note that managers need to practice “a new philosophy of management” (Miles and Snow, 1995, p. 448).

The flexible firm model

The flexible firm or core-periphery model is a distinct organisational structure to accommodate the development of multiple forms of flexibility and employment conditions within an organisation (Atkinson, 1984; Atkinson and Meager, 1986; Atkinson and Gregory, 1986). Thompson and McHugh (1995, pp. 174-5) note that the flexible firm provides competitive advantage through the restructuring of the employment relationship.

[The flexible firm model] is based on a break with unitary and hierarchical labour markets and organisation of internal means of allocating labour, in order to create a core workforce and a cluster of peripheral employment relations.

In place of the traditional hierarchical structures, the flexible firm model redefines the organisation into two broad segments –

Peter J. Holland, Robert Hecker and John Steen

Human resource strategies and organisational structures for managing gold-collar workers

the core and the periphery. The make-up of the two segments signals the different types of flexibility required by the organisation. The core reflects the need for the organisation to develop a permanent, highly-skilled group of employees with internal career paths (Atkinson, 1984; NEDO, 1986; Wood, 1989). As a result, “core” employees experience a high degree of job security, with resources provided for training in firm-specific skills that readily bought in. In contrast, the peripheral workforce is associated with the organisation’s development of qualitative or numerical flexibility.

Where either the core or peripheral workforce need supplementing, the secondary peripheral workforce accommodates this through part-time, temporary or sub-contracting work (Morris and Imrie, 1991). This provides increased numerical and functional flexibility with minimal organisational commitment or disruption. The new organisation therefore takes the form of a core with a variety of peripheral activities to serve its changing requirement. The focus of the flexible firm model is to closely match organisational (labour) resources with work demand, increasing the efficiency of the human resources utilisation whilst dampening the effects of market volatility and uncertainty, thereby increasing organisational effectiveness (Atkinson, 1984, 1987; Blyton and Morris, 1991).

Despite the mixed evidence relating to the development of these models, they have generated significant debate (Amin, 1991; Burgess, 1997; Hunter et al., 1993; Legge, 1995; MacInnes, 1988; Pollert, 1988, 1991; Procter et al., 1994). What is distinctive is the implication of a distinctive strategy on the part of management in the design of the organisation’s development of qualitative or numerical flexibility.

Methodology
This paper reports on two case study organisations in the IT and communication industry, taking a qualitative approach to this research. The authors undertook semi-structured interviews with managers associated with the human resource aspects of the organisations studied. This method allowed the managers to discuss issues relating organisational structure, human resources management and IT issues within the context of each organisation’s specific needs. The focus of this paper is therefore to:

- identify developments in policies and practices to attract, develop and retain these key staff;
- assess the extent to which these policies have been successful in retaining these key employees; and
- identify how the organisation structured their work environment to provide these key staff with a dynamic, flexible and challenging work environment in particular for gold-collar employees.

Case study one – SoftwareCO
Background
SoftwareCO was founded in 1983. It has its headquarters in the USA and employs more than 4,600 staff in 40 countries worldwide. It has an annual turnover of over US$1 billion. SoftwareCO is a leading supplier of networking IT, providing support applications for the development of e-business. SoftwareCO in Australia is headquartered in Sydney with offices in all the major mainland cities. It employs over 200 staff.

HR strategies and organisational structure
SoftwareCO identified the issue of attracting and retaining its IT staff as a major problem in the late 1990s. The key aspect of SoftwareCO’s strategy for attracting, developing and retaining its gold-collar workers was the understanding that they required a challenging and stimulating environment in which to develop their skills. The key challenge for SoftwareCO was that as an SME it was not able to provide these challenges continuously in-house. In this context, the organisation developed a partnering program with its network of distributors and customers. This approach has the dual effect of providing partners with the appropriate skilled staff and at the same time providing these staff with ongoing career and skill development. From an organisational perspective it also allows for growth in the core knowledge, skills and ability of the organisation’s human resources. The program also focuses on attracting potential IT staff by providing them with in-house training and employment both with SoftwareCO and its partners.

To facilitate the development of these work patterns and practices the organisation has restructured its organisational form. The organisational structure increasingly reflects the core-periphery model. The organisation developed the second periphery
by subcontracting out the main core employees to it partner organisations. Using the fortress/spponge categories, this is a clear usage of the sponge organisational structure that would imply all of the information-flow benefits discussed earlier. Using military metaphor, SoftwareCo is strategically organised for a competitive war of movement and manoeuvre rather than of defence and attrition.

Outcomes
The success of the partnership agreement is reflected in the turnover of IT staff, around 5 per cent, against an industry average of 15 per cent. The achievements of this program have resulted in the organisation including it in their recruitment and selection process. SoftwareCo identifies people with the appropriate skills (interestingly business and management skills) who are looking for career development. In particular SoftwareCo has identified a series of high performance competencies that can deliver success at entry-level positions. These include customer service, problem solving, communication skills, team working and project management. In terms of the developmental side of this approach to training, SoftwareCo has initiated management training programs to provide more senior IT staff with the skills to advance their career paths into middle and senior level management. As one manager noted:

IT professionals need to have business, communication and leadership skills in order to fully understand their clients’ mission statements and the role technology plays in meeting corporate goals and objectives. As an industry, we need to do a better job of teaching our people these skills because they are the fundamental building blocks for successful organisations. Those who ignore them are likely to fail.

Case study two – Telco
Background
Telco is one of Australia’s biggest organisations, with over 50,000 employees and revenues totalling Au$18.2 billion in 1998/1999. Its principal business is to provide telecommunications services for domestic and international customers. Despite being clearly a dominant player in the market, Telco, as part of a radical restructuring, has cut 34 per cent of its workforce in the last decade to maintain its position in the market (Marsh, 2000).

HR strategies and organisational structure
Although Telco maintains, and will continue to do so, a core of IT employees, much of the businesses that would previously have started as a project within Telco or as a straight business acquisition, especially in the area of IT, have now been pursued as objects of alliances. The strategy behind this is the understanding that the IT market is highly dynamic, competitive and segmented, and as such it is SMEs which have the capacity to exploit niche markets. In addition SMEs can attract highly skilled IT people who seek a challenging environment. Early in 2000 Telco had developed six SME alliances with the CEO, predicting more in the future (Donnan, 2000).

The development of alliances is seen as a way of re-configuring the organisational structure to the dynamic nature of the market and thus maintaining a dominant market position. Increasingly the structure of the organisation reflects the flexible specialisation model (Piore and Sabel, 1984), with Telco at the core maintaining autonomous control of the satellite organisations. The senior executive in charge of convergent business, in discussing the use of alliances for gaining access to IT talent, stated: “these companies have their own style and they do things their own way. If we bought them they could be destroyed by the Telco culture”. Although Telco may not be deploying a classic fortress structure to prevent the leaking of information, it is clear that it erects boundaries which is consistent with the fortress model.

Outcomes
The selection of relationships Telco has undertaken indicates an attempt to maintain a standing in current markets and provide a springboard into a variety of new and emerging areas in both telecommunications and e-commerce at a national and regional level as a service provider, product developer and broker. The partnerships and alliances over the past two years range from the disappointing to the near disastrous as several relationship were terminated and others restructured. In fact, several of the former partners have since out-performed Telco in their business sector since the termination of the relationship.

Whilst the “dot.com meltdown” of early 2000 had some bearing on the problems, the poor selection of partners, combined with Telco’s influence on these peripheral organisations, manifested itself in several ways. Several of the partner organisations were considered market leaders (with quality staff). Whilst, on the one-hand, Telco acquired these disparate businesses to allow them to run as stand-alone units, the natural tendency to centralise and unify management and decision making caused the
major dislocations in the relationships and the loss of business units and staff. From Telco’s perspective, it believed that the satellite organisations could maintain their culture and dynamic qualities as semi-autonomous and not autonomous units at a management level. The pathological consequences of dividing organisations into distinct compartments have been well known since the classic works of Merton and Selznick in the 1940s (Hassard, 1993). Furthermore, a hybrid fortress-type structure such as this neglects the critical importance of information flow across the boundary of the firm and precludes the possibility of deploying a sponge strategy which would foster informal relationships.

**Discussion**

SoftwareCo’s strategy of developing its core workforce reflects the relational and balanced psychological contract approach where it identified niche training and development opportunities as central to its core business and long-term strategy. Interestingly, these skills were mainly business and managerial related. The success of the partnership agreement is reflected in low turnover and SoftwareCo becoming an attractive employer. In addition, SoftwareCo has been able to develop its relationships with its partners as both sides see the benefits of the association. As a manager at SoftwareCo notes: “it has enhanced the knowledge and communication between the organisations through better service, problem solving, communication skills, team working and project management”. This approach also reflects the increased use of the sponge type of organisational structure where the customers and partners provide the first peripheral layer and those staff who leave to set up on their own provide an secondary periphery of information linkage, indicating the development of a long-term strategy. The development of a management-training program provides more senior IT staff with the skills to advance their career paths within the (core) organisation.

Conversely, management at Telco is becoming over-stretched as it attempts to manage an incredible acquisition spree. The move of such a large organisation to acquire these various e-commerce organisations to develop a foothold in these new and emerging markets appeared a logical strategic move. However, the difficulties with many of its alliances and partnerships could be traced back to the lack of planning as to how the relationship would develop, both in terms of the organisational structure and human resource strategies. The original intention was not to take a controlling position, but Telco’s approach of putting senior executives into these organisations who brought with them a culture of cutting staff at the first sign of problems led to many of the organisations losing key staff either voluntarily or through headhunting. The continued downsizing and restructuring in Telco over the last decade and a half has driven the move from balanced psychological contracts to transactional contracts. This approach to a changing external environment has also tended to be used as the fallback for human resource strategic approaches when mergers and acquisitions appear problematic.

The evidence suggests that Telco is not good at managing its stake in smaller technology companies. Much of the push towards the use of alliances and partnerships came from senior executives. The move towards a flexible specialisation model of organisation appears to be more limited by Telco’s ability to pick appropriate partners and maintain these partners as autonomous units within these markets than by the utility of the model for use in a high technology workplace.

**Conclusion**

An overview of the cases indicates that developing human resource strategies to recruit and retain key employees is becoming of increased importance as the market for employees with these skills becomes tighter. Whilst both organisations have adopted different strategies, it is clear that only SoftwareCo has identified the need to develop a challenging work environment. This has been achieved through the development of its human resource policies, which focus on retaining the services of these highly skilled employees. The success of these policies has been facilitated by the development of a core-periphery structure, which reflects the sponge metaphor by incorporating customers and partners into the overall organisational structure.

Most gold-collar workers desire a challenging work environment and learning opportunities to maintain their cutting edge skills and knowledge. These employees therefore become the core of the organisation’s intellectual capital. Organisations therefore have to manage the work environment of these employees proactively, creating opportunities that allow them to explore and apply the latest technology, have ongoing training and
development available, and provide a more flexible work environment with a broader range of career opportunities. As Barnes (1999, p. 2) notes:

Recognising these points of difference and learning to build appropriate work environments is the first step in fuelling their considerable talents ... Failing to do so will open the door for them to leave, because the reality is that gold collar workers have so many options readily available to them that they are more likely to move on if they are not completely satisfied with their current work experience.

SoftwareCo and Telco illustrate these points well. Only through the development of appropriate human resource strategies linked to appropriate organisational structures can these advantages be truly achieved.

References

Department of Communication, Information Technology and the Arts (DCIT&T) (1998), Skill Shortages in Australia’s IT&T Industries, December.