

No quick cure for skill shortages

from Richard Pearson

At a time when Britain's old industries are rapidly contracting there are still skill shortages in the new ones. Government action may be essential.

THE development and application of information technology is an essential ingredient for a successful economy, but since the 1970s there have been complaints that a shortage of the appropriate skills has acted as a constraint on the development of information technology in the United Kingdom. We are not alone with this problem, skill shortages at professional level are also affecting the United States and many European countries. Information technology is big business worldwide and a major source of growth. The output of the UK industry, which includes computer and telecommunications equipment, software and computing bureaux and consultancies, is now worth over £6,000 million per annum and has been growing at 20% annually in recent years. The market has been growing even faster, however, and there was an adverse trade balance in the United Kingdom of around £1,000 million in 1985.

British companies have claimed that skill shortages have held them back. Half of UK employers in the information technology field suffered skill shortages last year, the skills most sought after including software development, programming, systems analysis and particularly experience of developing and applying 'systems'. Nearly half of the companies approached for a recent survey subcontracted information technology work, often because they were unable to attract sufficient staff with specialist skills (H. Connor & R.P., *Information Technology Manpower into the 1990s*; Institute of Manpower Studies, 1986).

There are now over 200,000 professional information technology staff employed in the United Kingdom. The industry itself is a dominant employer of these skills, many of these companies each employing more than 1,000 such people. The 'user' companies, however, often rely on their existing engineers and technologists to apply the technology with little specialized training (Fig. 1).

While the public sector and many financial organizations often train school leavers or retrain existing staff for information technology jobs, the majority of employers seek to recruit either ready-trained staff or new graduates. While problems of labour turnover and stories of 'poaching' regularly hit the headlines, particularly in London's money markets preparing for the 'big bang' this autumn, labour turnover was not seen as a problem

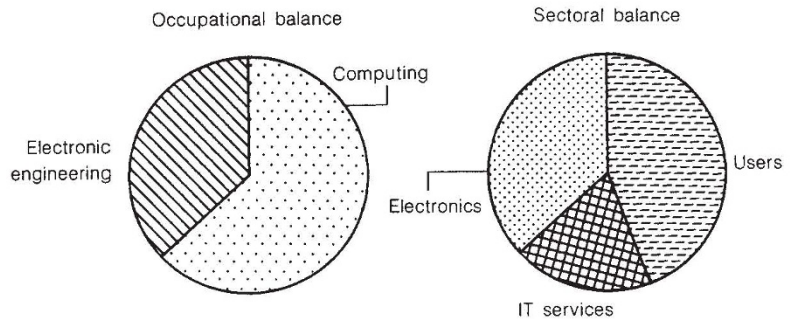


Fig. 1 Occupational balance and sectoral balance of UK information technology (IT) professionals in 1985.

for employers approached for the IMS questionnaire, many experiencing turnover rates of 5% or less. This was especially the case for electronics-based skills, with most problems occurring in the field of software and computing skills, where turnover rates were sometimes in excess of 20%. This was, however, due to many diverse factors including the imminent de-regulation in the City as institutions rush to set up computerized dealing systems, fast growing companies having large numbers of short-service staff, who inevitably have higher wastage rates, and company reorganizations where staff are not waiting to see what is in store for them, preferring to move to what appear to be more secure environments. The changing role of central data processing departments is also causing a great deal of strain. As the role of the user increases, central staff now have to develop new consultancy and advisory skills if they are not to be bypassed by user departments developing their own staff to be 'applications consultants' to advise on the purchase and installation of information technology equipment.

What then are the prospects for skill shortages to the end of the decade? With the market expected to grow by 10–20% per annum, demand for information technology professionals will clearly grow. The precise number and skills needed will be affected by many factors including economic growth, the rate of diffusion of information technology into manufacturing industry and the public sector, the changing balance between imports and exports and for the electronics sector the scale of reductions in spending on UK defence equipment. Overall the demand for information technology professionals could grow by 5% per annum and total 250,000 or more by 1990.

Higher education, which currently produces about 6,000 first-degree graduates in information technology each year, will remain the key source of newly qualified staff for information technology jobs. The demand for new graduates could grow by 50% or more over the next five years. While overall finance for higher education is being cut back there are a number of initiatives under way to boost the supply of information technology graduates, but skill shortages are likely to continue over the period to 1990, barring any major economic downturn. The biggest problem will continue to be in relation to experienced staff. For employers, improved salaries and conditions will help improve their market share of scarce skills. A greater commitment to, and investment in, training and retraining of existing staff will, however, have to be an essential form of self-help to alleviate overall shortages, despite fears of poaching, which are often over-sold. Improved utilization of existing staff and technicians will also yield beneficial results.

Finally, there is a need to support the education system to encourage girls and more students generally to study subjects relevant to information technology. Otherwise the 35% downturn in the number of 18-year-olds over the next decade will have a significant impact on the size of the pool of potential students available for information technology courses. All levels of education are also desperate for more resources. Some improvements are under way to increase skills availability, but these need to be further developed, and quickly, if skill shortages are not to remain a continuing constraint on the economy. □

Richard Pearson is at the Institute of Manpower Studies, Mantell Building, University of Sussex, Brighton BN1 9RF, UK.