

4 Promoting Professional Standards

Today's UK IT profession needs to gear up for the globalization of the IT services industry. The global economy opens up opportunities for IT professionals, not only to pursue successful careers in the UK but also to provide services from the UK to global markets and work overseas. But to nurture the development of a thriving UK IT workforce we need to focus on raising our professional standards to match (and exceed) the best in the world.

As the leading association and learned society for the IT profession in the UK, BCS has a key role in promoting professionalism and it has long championed the development and implementation of a wide range of professional standards. BCS has built a strong worldwide reputation and plays a significant role in the development of international standards. This chapter of the report describes some of the initiatives underway in BCS that will help define, promote and raise professional standards. (Further information on data protection and security standards is given on pages 50 to 54)

PROFESSIONALISM IN IT PROGRAMME

This ambitious, ground-breaking new programme was launched by BCS in 2005 to increase professionalism in IT and improve the ability of companies and other organizations to exploit the potential of IT effectively and consistently. It recognizes that we are still some way from having a mature IT profession within which professional qualifications are highly valued rather than seen as an optional extra. The crucial task is to persuade major employers, business leaders and government that professionalism is key to raising standards, achieving a greater degree of success in IT projects and deriving greater value from investment in IT systems. If we are to achieve a more professional approach to the exploitation of IT, we will need an IT profession that:

- is defined in terms of its ability to play a full part in all stages of IT exploitation;
- is seen as, and sees itself as, an integral part of the business;
- has appropriate non-technical skills, including management, business leadership skills, as core competencies;
- lays greater emphasis on the accreditation of current capability and competency;
- demands a greater personal responsibility on the part of the practitioner;
- is attractive to a wider group of entrants than at present, including those groups alienated by the current image of the profession.

Different work streams are examining the scope of the IT profession, investigating stakeholders' needs and views, developing a common IT competence architecture and identifying the competencies and qualifications required by top IT professionals. A major conference on individual and corporate professionalism is to be held in May 2006 and will be hosted by BCS in partnership with National Computing Centre (NCC), Intellect and e-skills UK. All three organizations share a commitment to lead the drive for professionalism.

The President, Charles Hughes, sponsors the BCS Professionalism in IT Programme. Deputy Chief Executive Colin Thompson is the Programme Director. Global sourcing is a fact of life for many of today's IT professionals. IT managers are responsible for designing sourcing strategies, managing the split between onshore and offshore operations and maintaining professional standards across national borders. This adds a new dimension to the demands made of IT professionals. According to Colin Thompson:

I have always believed that there is considerable overlap between the issues of professionalism and global sourcing and there can be little doubt that differences of language, culture and geography add significantly to the complexity associated with ensuring end-to-end professionalism. That is not to suggest that IT staff in other parts of the world are likely to be less competent or indeed less professional. But overall professionalism in the delivery of IT-related business change is not just the sum total of the competence and professionalism of the individuals involved; it is heavily dependent upon the quality of the relationship between IT professionals and business managers and users.

One of the central messages of the professionalism programme is that IT is no longer just about producing technical solutions to problems defined by 'the business'; it is about a partnership within which IT and other business functions work together to identify and then to exploit new opportunities. If we are to do that effectively and consistently, and we believe it to be vital that we should, then we need to be extremely careful about how we use global sourcing and we need to ensure that we produce and maintain the necessary cadre of IT professionals with the competence and capability to manage a global operation.

BOX 4.1 THE GOVERNMENT'S IT PROFESSION

'I strongly encourage anyone working as an IT professional in the public sector to register with the Government IT Profession. Let's work together to build better careers and skills in Government IT', Jim Murphy, Cabinet Office Minister.

The Government IT Profession brings together all IT professionals in the UK public sector; including government departments, non-departmental public bodies (NDPBs) and local government. It stretches from new entrants through to the members of the Chief Information Officer (CIO) Council. The aim is to create a joined-up, government-wide profession, providing a career of mutual benefit to the individual and the government. This initiative is part of the Professional Skills for Government programme and is sponsored by the CIO Council. Rolling out the vision to the estimated 50,000 people who work in government IT will take time. Implementation is, however, already underway in several departments, with further roll-outs to IT professionals planned for spring 2006.

'It's about the whole public sector acting as a team', Ian Watmore, Permanent Secretary and Head of the Prime Minister's Delivery Unit.

The Government IT Profession competency framework is illustrated in Figure 4.1 and shows the career path available to aspiring and current government IT professionals. It is supported by a detailed skills framework based on SFIA. The career path includes the following.

(Continued)

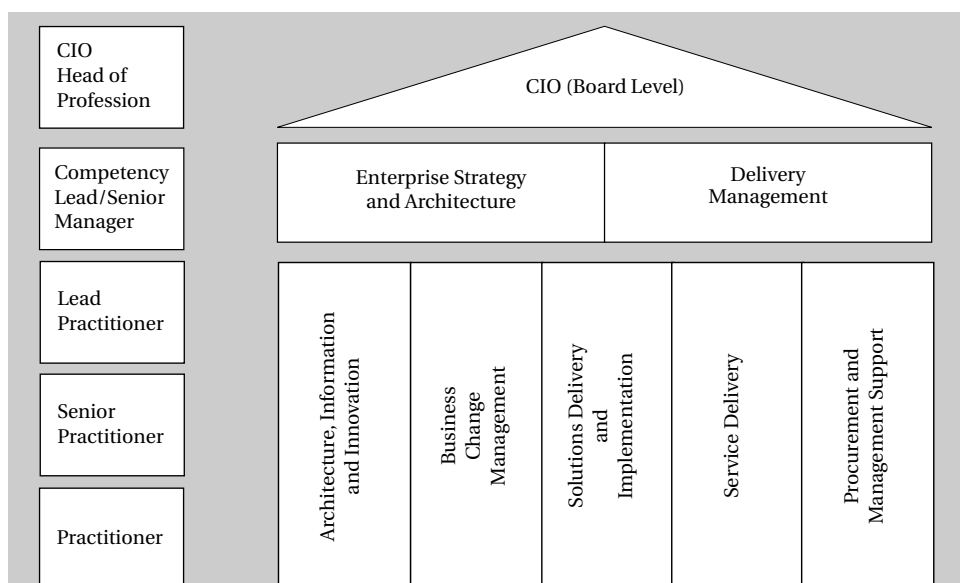


FIGURE 4.1 Government IT profession competency framework

- The CIO: a board-level appointment for the most senior IT professional in an organization. Every government IT professional can aspire to this post. All major public sector bodies will designate a CIO at main board level to establish and deliver the IT strategy for their organization.
- Delivery managers and enterprise strategy managers: senior appointments in IT. In very large, complex IT environments there may be several of these managers.
- Leaders for each competency. The skills framework describes five core competencies: architecture, information and innovation; business change management; solutions delivery and implementation, service delivery; and procurement and management support.

Most central government departments and agencies will have a competency lead for each of the five areas. The competency leads support the development of IT professionals within and wishing to join the competency.

This information was provided by IT Professionalism Directorate, eGovernment Unit. Further information can be found at www.cio.gov.uk/ITProfession.

BOX 4.2 NCC-IMPACT CIO COMPETENCY FRAMEWORK

Alistair Russell of NCC-IMPACT writes about this work:

The role of the CIO in today's business arena has never been more important in leveraging and adding real value to organizations through the exploitation of IT. NCC-IMPACT are leading a key work stream within the overall Professionalism in IT Programme, centred on identifying those competencies that are critical to the success of CIOs in organizations.

Our aim is to identify the competencies required for the most senior IT roles in the 21st century. The programme involves working with our CIO members in FTSE 250 organizations and their public sector equivalents in central and large local government. In addition, we are working with our partners in BCS, Intellect and senior figures from the IT profession to complete the programme of work.

(Continued)

Our academic partner is Dr Steven Glowinkowski, a key figure in the field of competencies and performance who has conducted a number of research projects over the last 25 years. Competencies are defined as those characteristic behaviours that lead to successful performance outcomes. Competencies are critical when considering the difference between average and outstanding performance and how they underpin organizational climate, which our research has shown differentiates between a high and average performing organization.

To develop an effective competency framework, we recognized that we needed to achieve wide participation across the CIO population. The first stage was to analyse quantitative and qualitative data obtained from nearly 100 responses to a questionnaire. A series of focus groups involving over 60 of IMPACT's CIO members formed the second stage and provided further data. The focus groups addressed such questions as:

- What key challenges face CIOs?
- What differentiates a CIO from their CXO colleagues?
- What differentiates the excellent from the average CIO?

A robust framework is essential if we are to be clear on what excellence in performance looks like. The outcome from this initiative will inform the professionalism programme as a whole and should support a range of subsequent pieces of work, such as talent management and development in IT, career planning and competencies for the CIO's core team.

CHARTERED PROFESSIONAL STATUS

The CITP designation is set to become the definitive gold standard for the IT profession in years to come. Introduced in 2004, CITP is based on the industry standard IT skills architecture, SFIA (see pages 35–6). This standard, which is open to all IT disciplines, is a major part of building a mature profession able to improve the capability of organizations to exploit IT. Four major employers, IBM, CSC, Deloitte and Accenture, have been accredited to award the CITP qualification. There are plans to extend the right to award CITP status to other relevant chartered bodies under licence.

Individuals with CITP status should have at least a minimum level of expertise across five areas: technology, application, management, interpersonal skills and ethics. They should be able to demonstrate a deep understanding of the nature of IT and the problems associated with the implementation of IT products and services. They must adhere to the codes of conduct of their awarding body and should demonstrate a personal and professional commitment to society, their profession and the environment.

BCS shares a dedication to promoting professional excellence with the Engineering Council and the Science Council. Currently BCS is the only professional body that is able to confer the three accolades: Chartered Engineer (CEng), Chartered Scientist (CSci) and Chartered IT Professional (CITP). This allows IT professionals to choose the chartered status that most appropriately matches their professional situation. It also reflects the increasing diversity of roles and career patterns within IT.

BOX 4.3 INTELLECT PROFESSIONALISM PROGRAMME

Professionalism is a key factor for the ICT industry if it is to sustain its competitive advantage in the global marketplace and improve its reputation and image. Intellect aims to harmonize and sharpen industry thinking on supplier professionalism and the standards, behaviour and responsibilities that this entails.

Intellect already has a programme of activities to improve the practice, reputation and image of the ICT industry and support UK plc's ongoing leadership in the global ICT market. The new Professionalism Programme will complement existing activities and is designed to ensure that IT professionalism is embedded within all aspects of the supply chain. The programme is being developed in conjunction with the eGovernment Unit, major customer groups, professional institutions such as BCS and *Computing*.

The programme incorporates extensive stakeholder debate through the professionalising IT initiative jointly undertaken with *Computing* during March 2006. Published guidelines designed to help suppliers demonstrate that they operate to professional standards and help customers assure themselves of the quality of their ICT suppliers should be completed in Autumn 2006. Intellect has recently released a scoping paper (Intellect, 2006) on professionalism outlining initial thinking on the issue. BCS President, Charles Hughes, is a member of the working group that produced the paper.

This information was provided by Sureyya Cansoy, Programme Manager, Professionalism Programme. The scoping paper can be accessed at www.intellectuk.org/markets/groups/corp_prof/default.asp.

Further information about Intellect can be found at www.intellectuk.org.

QUALITY STANDARDS

If British IT professionals (and UK companies) are to maintain and develop their skills and reputation in the global marketplace for UK software, systems and services they need to demonstrate knowledge of a range of quality standards and the skills required to work at this level. It is important that we ensure that UK standards are comparable or higher than the best offered by offshore IT companies such as those that have reached CMMi Level 5.

BCS has long been involved in the development of IT-related quality standards and was a key player in the creation of the TickIT Scheme in the early 1990s. TickIT is the IT Sector implementation of ISO 9001:2000 (with ISO/IEC 90003 for software) for accredited independent third-party certification, recognized by both the UK and Swedish governmental accreditation authorities. The scheme is based on the twin principles of auditor competency and added-value guidance to both suppliers and customers of IT products, systems and services derived from best practice.

The primary role of BCS in the scheme is to define and monitor the requirements for TickIT Auditor training, experience, competence and professionalism, in conjunction with the Institute of Quality Assurance (IQA) International Register of Certificated Auditors. BCS is also, however, a major contributor of good practice guidance on all aspects of software and systems development, by virtue of the wealth of professional expertise amongst its rapidly growing membership.

Following an initiative led by BCS, a new Joint TickIT Industry Steering Committee (JTISC) has been formed to create a stronger platform from which to develop the scheme and re-align it with the changing needs of the 21st century IT industry. JTISC has three parent bodies, BCS, BSI Standards and Intellect, and the first meeting was held in January 2006. Representing BCS, Arthur Dransfield is chair of the new committee and describes the way in which TickIT is adapting to future needs in the era of global sourcing:

In parallel with sponsoring the formation of JTISC, BCS set up a working group to review the Society's approach not just to the current TickIT scheme, but to the needs of the IT sector for software quality improvements in general. TickIT has been an undoubted success over the past 15 years, but the industry is moving on, and new approaches are also now available – the Software Engineering Institute's CMMi being the current headline. The working group delivered an interim report at the end of 2005, in which it reaffirmed the Society's commitment to maintain intellectual leadership in the TickIT Community and the further development of the TickIT Scheme. The report highlighted the complementary nature of the TickIT and CMMi approaches in the overall arena of quality management and software quality improvement, and supported proposals to bring together the best features of both schemes into a hybrid structure as the basis for the next generation of TickIT scheme for the 21st century. This same approach was also actively supported by the inaugural JTISC meeting, and one of the first Task Groups to be established is now specifically addressing this objective.

For further information on TickIT visit www.tickit.org and on IQA visit www.iqa.org.

BOX 4.4 ESOURCING CAPABILITY MODEL (eSCM)

The offshore market, led by India, has placed great emphasis on compliance with internationally recognized standards such as the Capability Maturity Model Integration (CMMi), ISO 9001 and Six Sigma. Carnegie Mellon University's Software Engineering Institute (SEI) devised CMMi to describe an organization's ability to exert quality control and improve the productivity of its processes.

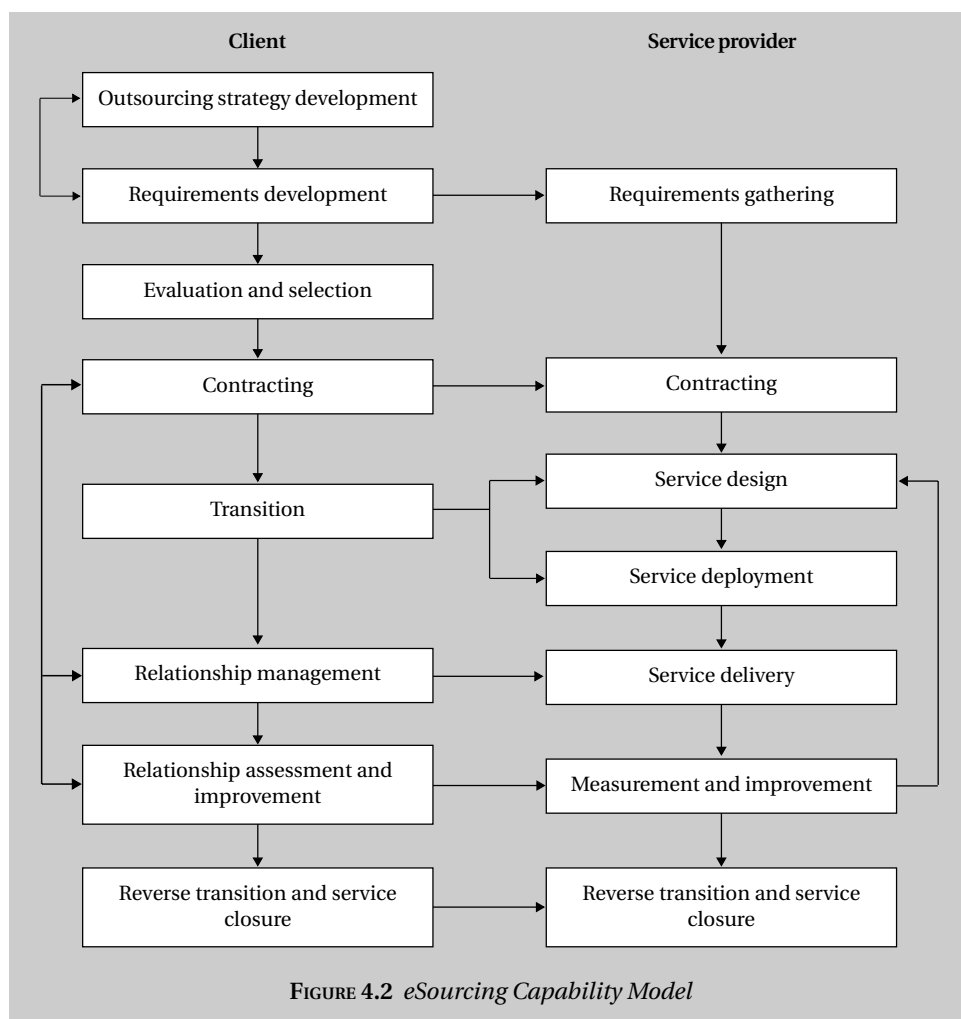
Carnegie Mellon University's School of Computer Science (IT Services Qualification Centre) and a number of leading IT companies devised eSCM. It draws on global research and comprises best practices for sourcing relationships. The purpose of the model is to provide a framework against which suppliers can benchmark their service delivery practices (principally outsourcing) and determine their levels of maturity. The model provides for five levels of maturity in the same way as CMMi and a process framework for the entire sourcing lifecycle, as illustrated in Figure 4.2.

In common with the CMMi, there is no concept of certification of maturity levels. The model is purely provided to enable suppliers to improve their internal processes. A number of suppliers will, however, use the model to try to gain competitive advantage by claiming a certain level of maturity. This is already beginning to happen in India where the outsourcing industry is well established.

This information was provided by Arthur Hill, Company Quality Manager at Detica, Intellect representative on the JTISC and member of the Policy Advisory Committee of the UK Accreditation Service.

Further information on eSCM can be found at itsqc.srv.cs.cmu.edu/escm.

(Continued overleaf)



PROFESSIONALISM IN HEALTH INFORMATICS

The term health informatician broadly encompasses IT professionals, knowledge managers, patient data handlers, designers, developers, implementers and trainers. They may be in NHS or private medicine, academia or be part of the supplier community. In all cases the aspiration is for the professionals involved to work to the same code of conduct and maintain the same standards. Informatics in and for the health sector supports clinical care in hospitals and surgeries; the management of hospitals and primary care facilities; and strategic planning. It covers internal staff and those in external bodies that provide services and solutions, and those who undertake research, teach or professionally develop staff, both specialists and end users.

UKCHIP has been established to recognize fitness to practise on behalf of patients and professionals. High standards of competence and quality are important to IT for the NHS. The (currently voluntary) register recognizes levels of experience, qualification and job roles. Where experts, specialists or professionals wish to work for the NHS without crucial domain knowledge they can, for a limited time period, be put on a pre-registration list that demonstrates their commitment to gain experience of the sensitivity and distinguishing complexity of health data and processes.

It is seen as important, given some perceptions and concerns about the robustness of remote third-party services, that staff of offshoring or outsourcing service providers should also register key staff at appropriate levels from data preparation to application system developers and testers. UKCHIP requires a continuing declaration of professional development from all its registrants; and recognizes evidence of vocational work-based activities to maintain quality in parallel with traditional courses and conference attendance. UKCHIP already has registrants who are based overseas who intend to work with the NHS or enter the NHS, and meeting the UKCHIP specifications provides a common and increasingly recognizable currency for professionalism.

This information was provided by Jean Roberts, UKCHIP Board and BCS Health Informatics Forum. Further information on UKCHIP can be found at www.ukchip.org.

BOX 4.5 PROFESSIONAL CONTRACTORS GROUP (PCG) QUALITY SCHEME

Freelance IT contractors provide flexible, dynamic, specialist skills in the UK and, just like other IT professionals, need to move up the value chain and develop new skills to meet the challenges of globalization. One of the obstacles for microbusinesses is that public sector bodies often insist that their suppliers have ISO 9001 certification (one of the leading internationally recognized quality standards). The PCG Quality Scheme (QS) is an ISO 9001 certification scheme created specifically to meet the needs and working practices of the independent contracting sector. The scheme is accredited by the UK Accreditation Service (UKAS) and bundles all the mandatory components required for ISO 9001:2000, and a few more besides, in a single, comprehensive fixed-price package designed explicitly to suit contractors. The package includes:

- a fully supported website with forums specifically for ISO 9001;
- a 1-day training course;
- experienced mentors to give advice on quality matters;
- mandatory internal and external audits;
- a fully hosted Electronic Quality Management System (EQMS) and technical support throughout.

PCG (QS) helps contractors improve their company's image, showing their commitment to providing a high level of service and ensuring a disciplined approach to effective data management and traceability. It is the first scheme of its kind and is being delivered at a fraction of the cost of any credible alternative, enabling freelance businesses to operate in a more professional manner by highlighting businesses of the highest integrity.

This new QS was presented to the Lisbon Network at the European Parliament in Brussels in November 2005. PCG believes that one of the most direct ways of increasing the competitiveness of the economy is to open public procurement, which represents 16 per cent of the European Union's gross domestic product, to smaller businesses and the self-employed. According to John Thomas, PCG Chief Executive, 'The UK's freelance workforce of around 1 million people includes some of the brightest and best talent in the country. Large private enterprises discovered the benefits of engaging freelance contractors for specific projects a long time ago, and we hope that our innovative ISO 9001 certification scheme will encourage the public sector also to take advantage of the expertise, experience and good value that freelancers can offer'.

For further information see www.pcgqs.org.uk.

INTERNATIONAL LINKS AND QUALIFICATIONS

BCS has well-established links with various international bodies and this enables it to promote the UK IT sector, encourage the adoption of professional standards worldwide and assist in the development of professional associations in other countries. BCS is represented in the General Assembly and on the Council of the International Federation for Information Processing (IFIP), the International Medical Informatics Association (IMIA), the European Federation for Medical Informatics (EFMI) and the Council of European Professional Informatics Societies (CEPIS).

BCS has active relationships across Europe in three generic areas:

- policy-related activities with similar professional bodies in other countries;
- practical relationships with these organizations to develop professional qualification offerings jointly where the market makes no adequate provision;
- collaboration with other organizations to promote the international uptake of BCS qualification products and publications.

Geoff McMullen, Past President of BCS writes about BCS activities in Europe:

BCS was a founder member of CEPIS, the Council of European Professional Informatics Societies in 1988–9. CEPIS is organized, like BCS, into a number of specialist areas, which change over time. Each specialist group produces periodic papers, recommendations and reports, which usually are addressed to European organizations with an interest in ICT-related policy. Over time, BCS has contributed to groups interested in skills, professional qualifications, security, legal aspects of IT, publications and technology futures. Such collaborations offer useful opportunities for networking and enable BCS to ensure that its voice is heard where ICT policy is formed. BCS representatives attend the biannual meetings of CEPIS council and BCS is currently represented on the CEPIS executive committee.

CEPIS's most significant success has been the creation of the European Computer Driving Licence (ECDL), the world's leading IT user certification programme. A more recent development has been a practitioner qualification, EUCIP (European Certification of IT Professionals). BCS is the UK licensee for ECDL and is represented on the board of directors of each. ECDL skills card sales have made a vital contribution to BCS income for the last 7 years.

Extensive documentation of CEPIS activities can be found at www.cepis.org along with useful links to other member societies. Further information on ECDL can be found on page 57 and at www.ecdl.com.

A little more than 15 per cent of BCS members live outside the UK and some of these international members have created active local groups. These international sections are based in Belgium, Canada, the Channel Isles, Greece, Hong Kong, Isle of Man, Mauritius, the Middle East, Pakistan, Singapore, Sri Lanka, Switzerland and the USA. Further information about the international sections can be found at www.bcs.org/international.

BOX 4.6 FUTURE IT PROFESSIONAL OPPORTUNITIES IN THE UK

Graham Marwick, Project Manager in Application Services Delivery at IBM Business Consulting Services, was a BCS Individual Excellence Award medallist in 2005.

While a project manager for a global SAP implementation based out of Amsterdam in The Netherlands, I worked with people based in both India and Eastern Europe. My entire team of infrastructure techies sat in Bangalore, India, with high-speed access into the client's systems. The main advantage was cost savings. It is simply the case that technical resources in places such as India are cheaper than the UK and the USA, purely due to the fact that salaries and real estate cost less in those countries (although this is changing and India is now getting more and more expensive). This does not mean, however, that all work can be sent to India and done for half the cost. There are still important roles to be played by the UK or any other European country.

I personally split my resources into two groups. These are (1) what I call the do-ers (the guys on the ground, making the program and configuration changes), and (2) the management (the managers, the team leaders, and the technical architects). It is common to send most programming work to the do-ers in somewhere such as India because work tends to be done quickly, cheaply and to a very high standard. However the opportunities that I see ongoing for professionals in the UK are still vast.

I have spent a large amount of time running SAP support projects out of the UK. This has given me a lot of exposure to India and South America, where 90 per cent of the technical work is done. It is vital, however, for IBM to have IT staff working with project managers in the UK. We need IT professionals who not only understand the technology but also appreciate business management principles. Our UK-based IT staff need a good understanding of project management and the financial aspects of our IT solutions. We have IT professionals with these skills working alongside bid project managers, technical architects, accountants and organizational strategists. These are the people who scope upgrade work as technology evolves. With the need for extensive liaison with our clients this work tends to be done in the UK or at the client's headquarters.

All of this leads to what I believe needs to be a global marketplace. In this day and age, we cannot accommodate borders and boundaries. Project managers must have access to global resources. We can scope, design and manage projects from the UK, and then transfer the groundwork to India, China or Eastern Europe. As the world evolves, this process will evolve. Through natural economics, prices will rise in countries such as India and Eastern Europe, where skill levels will increase, as will standards of living and salaries. Technical work will then move on to other areas of the world such as South America. Globalization is truly making the world a smaller place. Poorer countries are getting richer, the distribution of wealth is fairer and the opportunities for development, both personal and organizational, are becoming greater.