



ACS Submission to the Senate Inquiry into the Industry Skills Councils

INTRODUCTION

The ACS is the recognised professional association for those working in Information and Communications Technology, attracting a large and active membership from all levels of the ICT industry. A member of the Australian Council of Professions, the ACS is the public voice of the ICT profession and the guardian of professional ethics and standards in the ICT industry, with a commitment to the wider community to ensure the beneficial use of ICT and to support and develop the local ICT sector.

In developing this submission, the ACS has drawn upon the direct expertise of its members to identify the skills they consider necessary for graduate ICT professionals. In particular, we canvassed the views of:

- professionals working in academia, ICT curriculum and course development;
- members working in industry; and
- firms that hire ICT professionals.

As well as addressing the specific issues raised by the terms of reference for the Review, this submission covers issues and recommendations associated with:

- professional development and ICT course accreditation offered by the ACS;
- skills shortages; and
- greater articulation between VET and higher education providers.

BACKGROUND

The ACS has, as an integral part of its mission, a role to advance professional excellence in information and communication technology. The ACS achieves this by:

- accrediting tertiary ICT courses;
- accrediting and certifying ICT professionals;
- providing ongoing professional development for its members, such as the ACS Computer Professional Education Program; and
- providing high quality education programs such as the ACS Diploma in Information and Communication Technology.

The ACS has also recently implemented a Professional Year Program for recent international student ICT graduates to improve their job readiness and employability. This program will be made available to domestic students who wish to improve their work readiness.

The ACS puts significant effort into developing courses and professional skills development programs that match the changing needs of employers and meet market needs. It also brings together key stakeholders from industry, government and academia to facilitate information exchange on higher education course development.

The ACS believes that there is a need to further increase the number of ICT graduates in order to ease a number of skill issues that the industry is facing. Increase the ICT skills resources will help to ensure continuing productivity enhancement for various economic sectors and global competitiveness of Australian economy.

Through its professional development programs, the ACS plays a significant role in delivering relevant ICT higher education, skilling Australian ICT graduates and ensuring that Australian ICT professionals acquire and maintain the skills they need for a successful career.

The primary goal of our professional development programs is to encourage and mentor Australian ICT professionals to keep abreast of technology developments, upgrade their skills or retrain in new ICT specialisations, and remain responsive to the changing skills needs of employers.

Accreditation of ICT Courses

A vital component of the ACS professional development and professional standards program is the accreditation of ICT courses offered by higher education providers. The ACS provides accreditation for all 39 of Australia's universities.

Accreditation provides:

- a partnership between the ACS and tertiary education providers in establishing a professional basis for the ICT industry;
- a process where courses are evaluated for their ability to meet the requirements of a professional body;
- a statement to students, employers and governments that the basic educational requirement for professional ICT practitioners are being met; and
- a basis for national and international benchmarking of ICT professional education and reciprocal recognition with other countries.

Accreditation considers specific course content and structure and course infrastructure in order to gauge the suitability of graduates as ICT professionals. The ACS assesses ICT courses offered by higher education providers by evaluating:

- the content and structure of the course against the ACS's core body of knowledge;
- the staff and educational resources used in the delivery of the course; and

- the quality assurance processes the university has in place for admission standards, assessment and the ability of the profession to influence the course content, structure and teaching methodology.

The accreditation process is not intended to inhibit creativity or the development of new initiatives in the education of ICT professionals. Rather, the ACS seeks to encourage and facilitate such initiatives, and accreditation ensures that ICT higher education courses meet national and international quality standards.

The ACS accreditation process examines:

- the objectives and graduate profiles of a particular course, the methods adopted to achieve those objectives and the measures of effectiveness;
- the duration of the course, with regard to the standards for entry and course objectives;
- the breadth, depth and balance of subjects offered and the amount of intellectual effort required by the course;
- methods of assessment of student progress and measures of efficacy of those methods;
- the ways in which the industry/profession provide input into the course and other advisory mechanisms;
- relative emphasis on teaching skills relating to the study of the discipline;
- the teaching staff conducting the course, including numbers, professional qualifications, experience, research and educational expertise; and
- the accommodation and facilities, including equipment, library, laboratories, workshops and other instructional resources necessary for the course.

Articulation Pathways

The ACS recognises the need to develop an education and training pathway that provides schools, VET institutions and universities with an improved understanding of the professional and educational skills required for ICT-related courses, in order to meet the needs and expectations of industry.

The ACS promotes ICT careers to high school students through initiatives like National ICT Careers Week (run jointly with the AIIA), Young Aus-Innovators National ICT Prize (with NICTA), participation in careers advice evenings and various other activities.

The ACS has developed a framework focusing on pathways from VET through to university degrees and workplace experience. The link from schools to VET and through to universities needs to be addressed.

The proposed delivery model for articulation includes an Advisory Board of the Australian Capability Framework for IT (ACF-IT), with representation from schools, VET, universities, industry, governments and trade bodies. The role of the Board is to establish objectives and deliverables for: professional development, career management, statement of capability and accreditation. The internationally recognised Skills Framework for the Information Age (SFIA) forms the basis of this approach.

GENERAL COMMENTS

1. Entry Pathways

The government, industry, the VET and higher education sectors should collaborate to broaden the entry pathways into ICT by offering traineeships, apprenticeships and the like to recruit and train students in ICT jobs. We need clearly articulated pathways from school student to trainee/apprentice, right through to ICT professional.

Greater collaboration and articulation between the VET and higher education sectors should work towards developing a post school education system that exists on, essentially, an interoperable continuum. This system should seek to recognise the value of prior learning and work experience, and help bridge the gap between school, VET and university study, rather than continue to foster the two very separate and largely incompatible systems that currently exist.

The ACS believes this approach would vastly improve student choice and flexibility in being able to select the career development pathway that best suits their needs and circumstances. At this stage, ICT professionals are largely considered to be people who undertake university study and a broader range of entry points would open up new opportunities for a career as an ICT professional to those with other study and work experiences.

The ACS also believes that work integrated learning, in all its forms, is becoming increasing imperative for new ICT graduates so that they better meet the needs of ICT employers. WIL programs can be designed to suit most ICT higher education degrees and can improve student work readiness and better help them fit into work life and achieve their work goals.

2. Industry Skills Councils

The main Industry Skills Council dealing with ICT is Innovation and Business Skills Australia (IBSA), which encompasses six industries: Business Services, Cultural and Creative Industries, Financial Services, Education and Training, Information and Communications Technology, and Printing and Graphic Arts.

Despite recognition in the latest IBSA Environmental Scan that, “The ICT industry will continue to be at the forefront of change and will become even more heavily integrated into all other industries as new technologies are widely adopted,” this body currently has no representatives from the ICT sector or profession on its Board.

Given the critical and pervasive nature of technology and its significant economic stature – ICT employed over 532,000 workers and generated revenues of more than \$85 billion in 2008-09¹ – the ACS is calling for the appointment of additional representatives from the ICT profession to provide this important perspective on skills development.

IBSA has traditionally enjoyed strong representation from the telecommunications sector on ICT related skills matters, partly because of the strong focus the Industry Skills Councils place on employment and trade representation. However, due to changes in emerging technology and economic development, new skills requirements are coming increasingly from the digital economy and software fields rather than telecommunications.

It is important that the composition of the IBSA ISC reflects these changing trends in order for it to understand and respond effectively to the skills needs of the ICT sector and wider business community into the future.

3. Skills Australia

Established in 2008 to provide expert and independent advice on Australia's workforce skills and development needs, Skills Australia seeks to:

- identify training priorities to respond to those needs;
- increase workforce participation;
- improve productivity and competitiveness;
- identify and address skills shortages; and
- promote the development of a highly skilled workforce.

Skills Australia's primary function is to provide advice to the Minister on Australia's current, emerging and future workforce skills needs and workforce development needs.

To do this Skills Australia will:

- analyse current and emerging skills needs across industry sectors;
- assess evidence from commissioned research and industry stakeholders to inform Australia's skills and workforce development needs;
- distribute information from research and consultations with stakeholders widely to enable entrepreneurs, businesses and workers to have the necessary information to inform their training and employment decisions;
- provide Government with recommendations on current and future skills needs to help inform decisions to encourage skills formation and drive ongoing reforms to the education and training sector; and
- establish and maintain relationships with relevant state bodies to inform advice on current and future demands for skills and facilitate alignment of priorities for responses to skills needs.

While the Industry Skills Councils and Skills Australia clearly have different roles and functions in informing skills development policies and processes, confusion remains about how industry can best engage with each body and provide input to their work.

ICT-RELATED RECOMMENDATIONS

As the professional ICT association, the ACS is committed to working with other stakeholders to increase available learning and development opportunities for those seeking to work in the ICT sector.

The following recommendations are designed to maximise the number and breadth of pathways into the ICT industry and provide a clear articulation path for those wishing to progress to professional-level roles.

1. The Government, industry, ISC, Skills Australia, VET and higher education providers must develop a coordinated and progressive action plan to address the ongoing enrolment issues in ICT programs and the subsequent, growing gap between supply and demand in Australia's essential ICT skills. Advisory bodies such as the Industry Skills Council should also develop a more collaborative and targeted action plan to support such work.
2. Australian post-school education should be revamped to enable greater collaboration and articulation between ICT education programs provided by the VET and higher education sectors. Ideally, we would like to develop an interoperable continuum of ICT education encompassing both VET and university programs, rather than the two very separate and largely incompatible systems that currently exist. The IBSA Industry Skills Council is encouraged to seriously consider its role in encouraging such collaboration with the ultimate goal of providing Australia's ICT profession with the optimal mix and quantity of ICT skills.
3. Given the increasingly pervasive nature of technology both as a key economic driver and powerful enabler of productivity, ICT skills are becoming more important to every industry sector. To help ensure the effective development of ICT skills to meet current and future needs, appropriately skilled ICT professionals should be appointed to the IBSA Industry Skills Council.
4. Further, the Industry Skills Councils should consider establishing a dedicated ICT Skills Council in recognition of the ICT industry's employment size and economic significance. The ACS is ideally positioned to act as a conduit for the planning and formation of such a body, which would serve the needs of the ICT community and through it, the broader economy.
5. Industry Skills Councils and Skills Australia should hold industry consultations together on topics and subjects of interest. This helps a coordinated input by and engagement with related stakeholders.

¹ Australian Computer Society, Centre for Innovation Industry Economic Research, Australian ICT Statistical Compendium 2009