

Australian Computer Society

Employment Survey

2006



ICT Professionals Shaping Our Future

www.acs.org.au

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EXECUTIVE SUMMARY

The 2006 ACS Employment Survey is the fourth in the series providing detailed information on the employment outlook for ICT professionals in Australia. Its aim is to assist ICT professionals and those contemplating a career in the industry, with a useful overview of employment conditions in the profession.

Unemployment and the Employment Outlook

A positive feature of the 2006 Survey is its further evidence of the continuing growth in the ICT profession. The Survey reported unemployment has continued to decline rapidly over the past four years (falling from 7.2% in the previous survey to 5.1% in 2006) and is currently close to the national average unemployment level for all industries. Sixty four percent of respondents state that they have not experienced any period of unemployment over the past five years.

The more positive employment outlook is also reflected in the continuing increase in the number of respondents who are in full time salaried employment. In addition, underemployment remains limited, with sixty seven percent of respondents reporting that they have not experienced any underemployment over the past five years.

The increased continuity of employment by respondents to the Survey is another indicator of a more positive employment outlook in the ICT industry and profession. Half the respondents of the Survey have worked more than ten years in the ICT industry in Australia.

Professional Development

ACS members clearly understand the importance of continuous training and skills upgrading. The overwhelming majority (almost 90%) of respondents had undertaken some form of training over the past three years, with the main types of training being ICT related, followed by personal development and business related training, no doubt reflecting the demands of the ICT industry and the profession.

Respondents, however, continue to report on the challenges faced, including the cost of courses and accessibility in some parts of Australia. Nevertheless, the majority of respondents reported a willingness to undertake new training and/or retraining.

Job Search

The internet was considered by respondents to be the best source of new ICT positions, with newspapers and recruitment agencies ranking lowly. A notable feature concerns the role of networking and word of mouth. It was by far the most evenly spread distribution of responses, indicating that some people are far more comfortable working their network to their advantage than others.

Age Discrimination and Gender Issues

A significant proportion (20%) of respondents reported that they had been discriminated against on the basis of their age. As for discrimination on the basis of race and ethnicity a significant proportion (11%) of respondents stated this to be the case, with students highly represented in this group.

A significant finding of the Survey concerns the reported 37% of female respondents who felt they had been discriminated against on the basis of sex, compared with 1.3% of males. Female respondents were more likely to be hourly contract employees or students seeking work.

Survey methodology

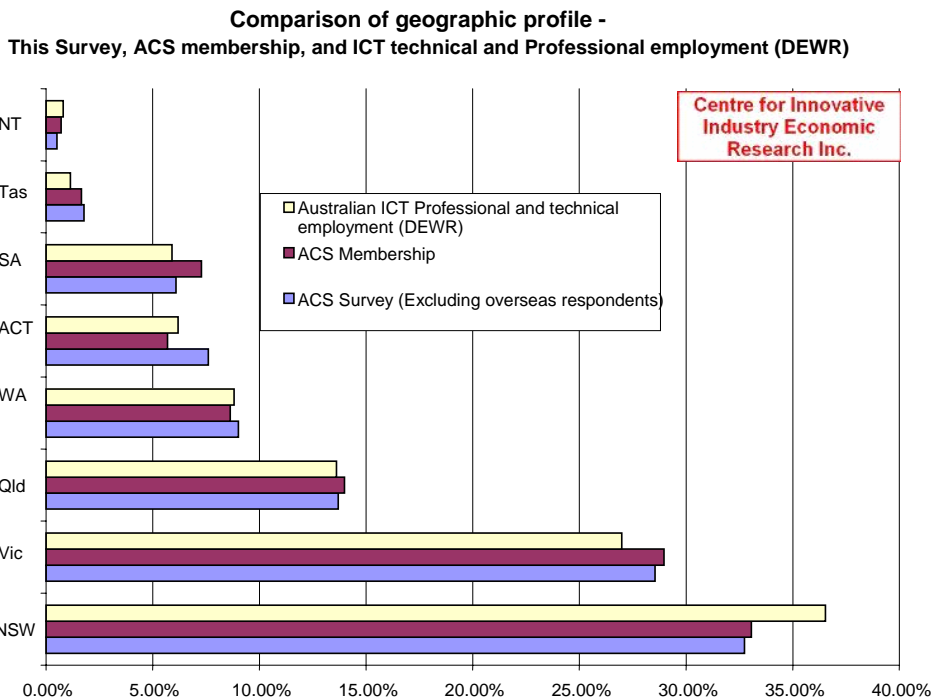
The most recent survey changed from paper based to online with a consequent change in the profile of the respondents. The increased participation in this Survey by younger members suggests that they were more likely to respond to an online survey than they had previously been to a paper based survey.

Survey Validity

The major value of a survey is in its ability to be used to model the group surveyed and to accurately reflect that cohort. It is therefore important to establish the validity or otherwise of the survey data, by comparing its structure to that for both ACS membership and to ICT professional employment.

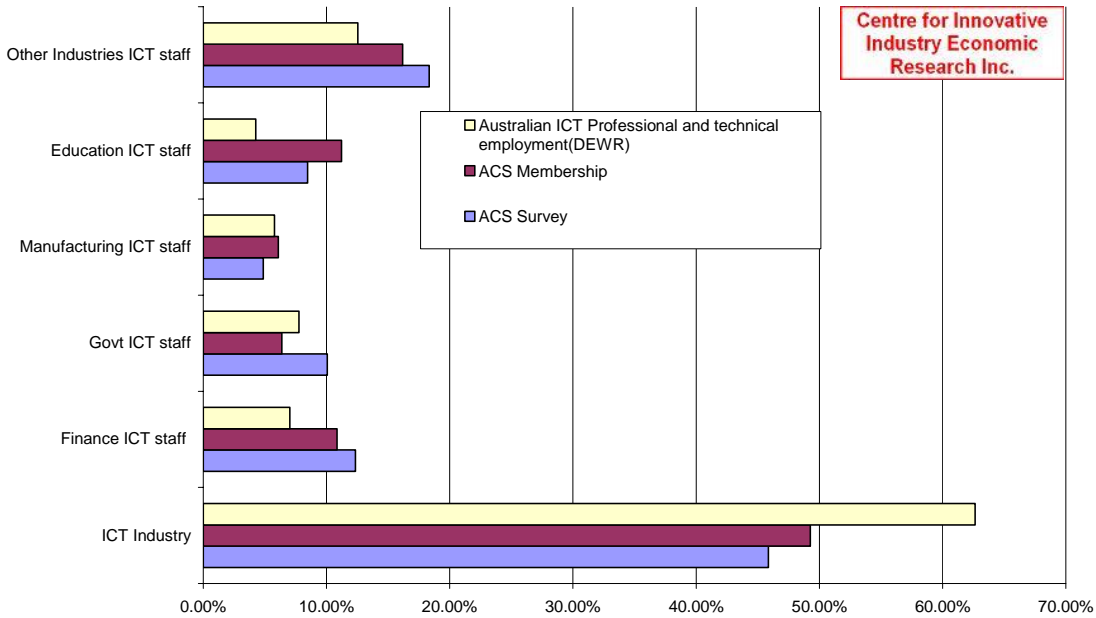
8.6% of members responded to the 2006 survey, reflecting members' continuing interest in contributing to an important aspect of ACS activities, which is to further the employment prospects of ICT professionals in Australia.

The following comparisons show the relative percentages applicable to the responses between ACS membership and total ICT professional and technical employment in Australia, based mainly on the Department of Employment and Workplace Relations data.



The geographic profile of respondents correlates closely to that of both ACS membership in the State concerned, and to the demography for total ICT technical and professional employment. Regional comparatives are therefore likely to reflect employment norms.

**Comparison of Industry profile -
This Survey, ACS membership, and ICT technical and Professional employment (DEWR)**



Industry allocation also correlates quite well to that for both ACS membership and to total ICT technical and professional employment. The Survey response demography correlates more closely to ACS membership than to total employment, with the greatest variation in the “ICT Industry” correlation. It should be noted that the ICT Industry includes a significant number of Telecommunications specialists, a number of whom relate more strongly to engineering professional bodies.

The low response by females to the Survey is reflective of the gender composition of ACS membership. The response rate of 15% females to 85% males is also lower than the employment rate within the ICT sector, ABS and CIIER data, which shows that 24% of professionals in the ICT industry workforce are female and 76%, male. DEWR data, however, indicates that 19% of all ICT technical and professional employment in all industries is female. The survey analysis following, in relation to gender issues, should be evaluated in this light.

2006 EMPLOYMENT SURVEY ANALYSIS

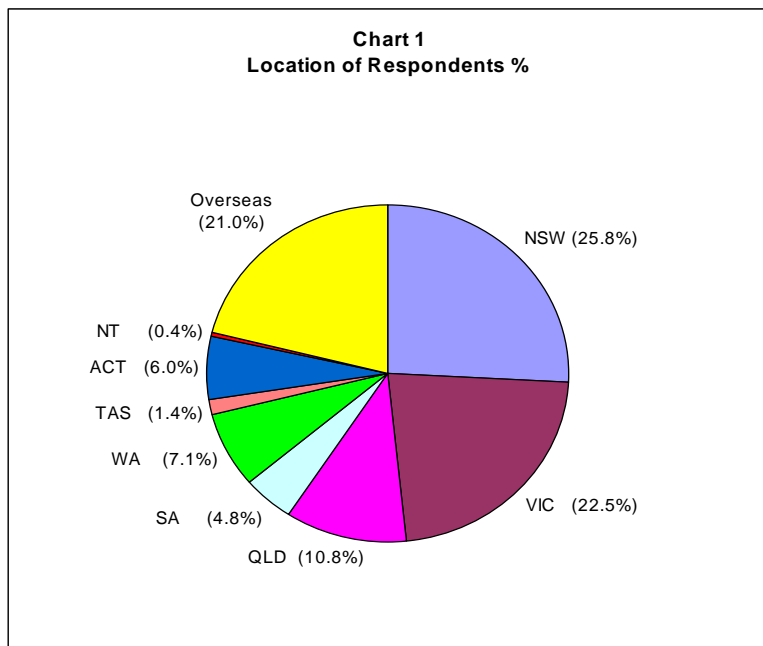
Male, younger, more working full time and longer hours, and in a wide range of business sectors.

1. Demographic Profile

The ACS employment survey achieved a response rate of 8.6% of members, a quarter of whom also responded to the corresponding survey last year.

The respondents were predominantly **male** (85%), reflecting the gender composition of ACS membership.

In terms of the **geographical spread** of respondents, NSW and Victoria provided the largest number of responses, followed by a strong contribution from overseas.



The **age profile** of the respondents to the 2006 survey was substantially different to that of previous surveys. This year's sample is more heavily weighted to the younger members than was the case in the past.

Respondents were represented from the core ICT industries and **across** a wide range of business sectors.

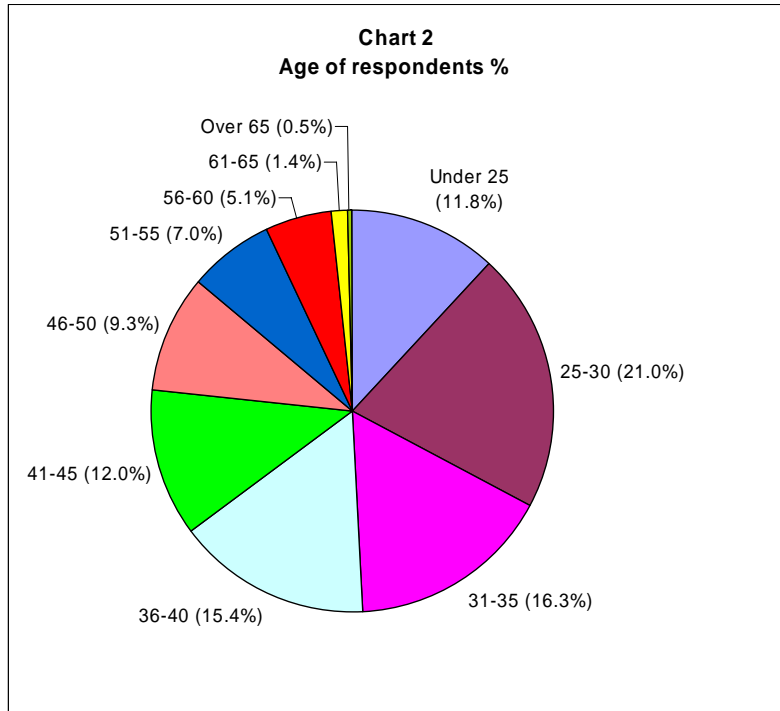


Table 1 shows the industry composition of respondents

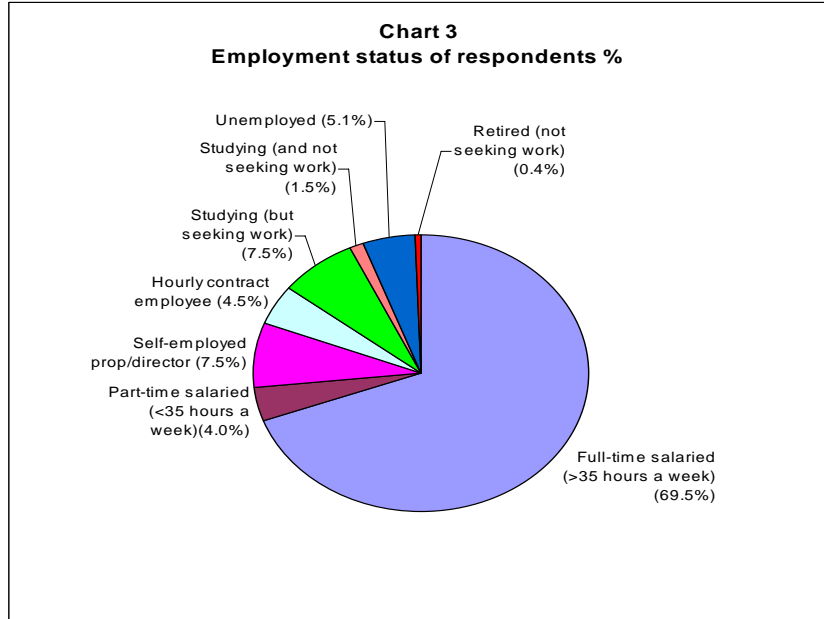
Table 1. Industry Composition %

Computer services	13.3%
Computer software manufacturing	13.1%
Consulting	11.6%
Banking and finance	10.0%
Education	8.5%
Public administration	8.1%
Manufacturing	4.9%
Telecommunications	4.4%
Retail	4.0%
Other	22.1%

This industry dispersion is indicative of the significant contribution of ICT professionals in today's business environment. A strong and healthy economy thrives on strong and innovative ICT skills.

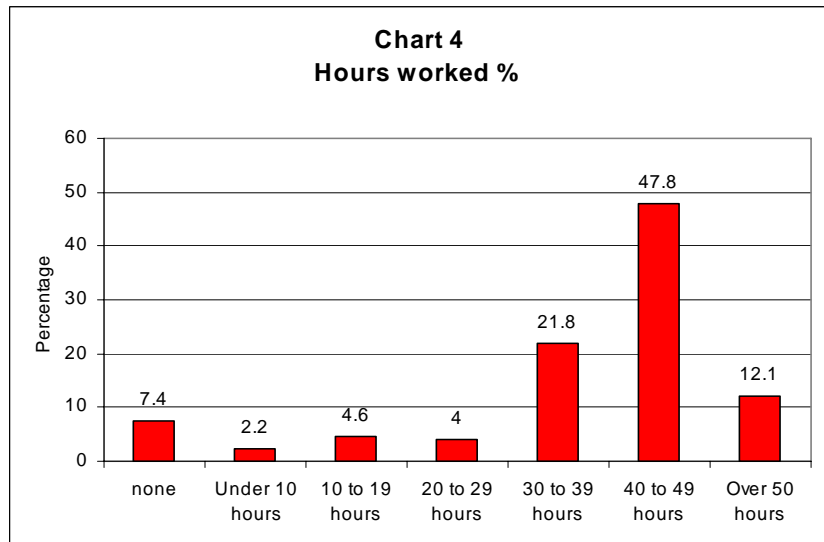
More than two thirds (69.5%) of respondents were **employed full time** (in excess of 35 hours per week) continuing the gently rising trend discernible over the past

three surveys. (Given that the survey sample was significantly younger this year than previously, it seems likely that there would be more people in full time employment). A further 7.5% were self employed proprietors or directors and another 7.5% were studying but seeking work.

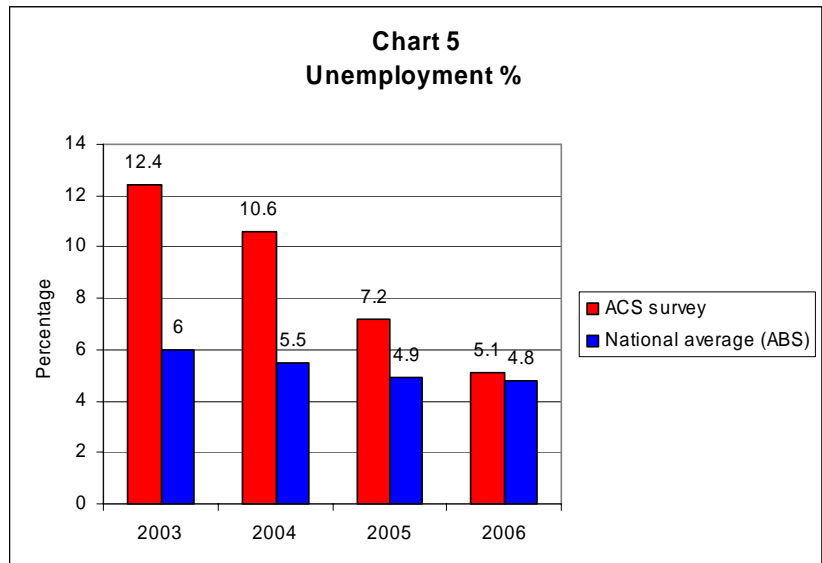


Unemployment of Survey respondents has rapidly declined and is at the national average level

Sixty percent of respondents worked 40 hours or more per week, of which twelve percent worked more than 50 hours.

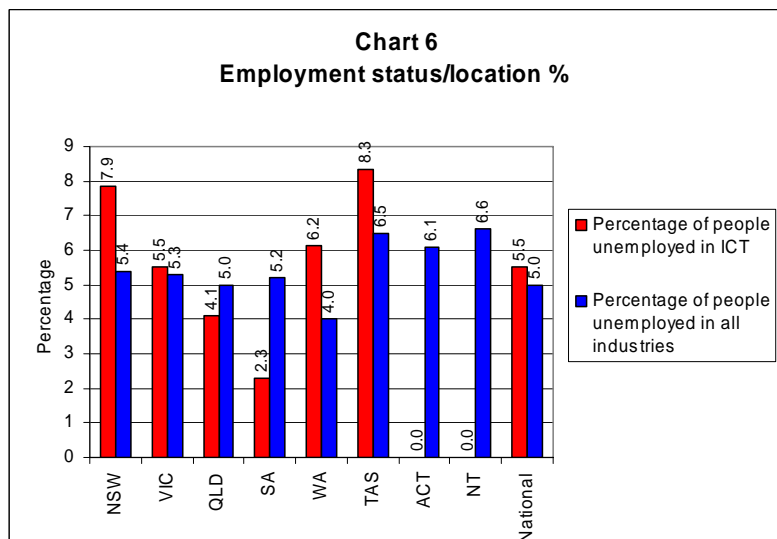


Unemployment within the survey sample, has fallen rapidly to a level closer to the national unemployment average than at any time in the 4 years over which the survey has been conducted. It should be noted that unemployment status was self-determined by the respondents, and may not correlate to “official” definitions.



.....but not as promising in New South Wales, Tasmania and Western Australia

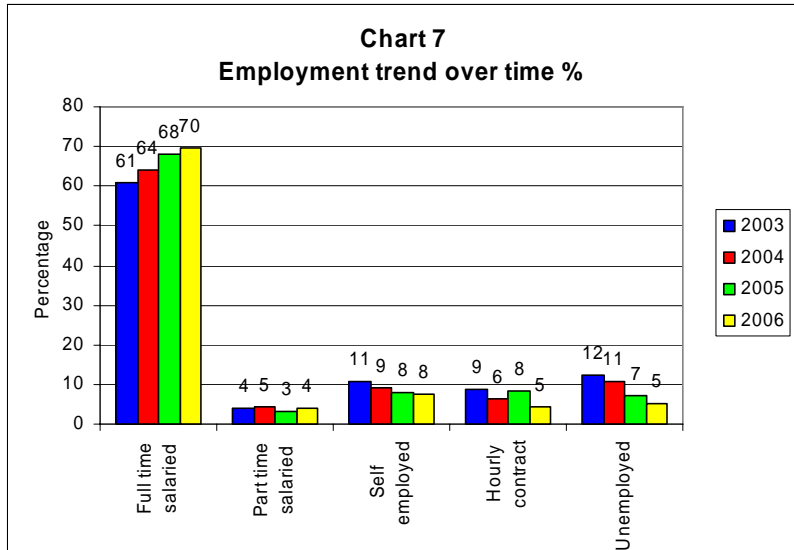
Breaking this down **regionally**, it can be seen that unemployment of survey respondents is especially lower compared with unemployment data in SA and QLD but is still higher than in NSW, Tasmania and WA.



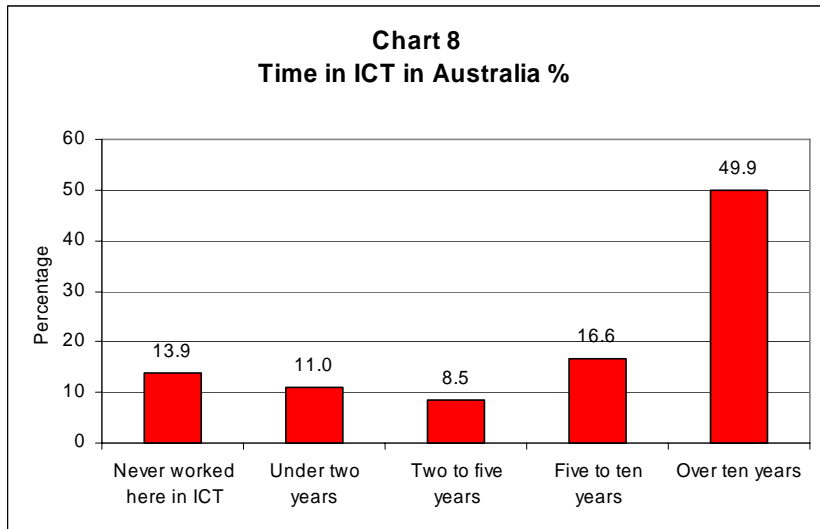
Increased continuity of employment reflects a more positive employment outlook in industry

2. Employment within the profession

Employment of survey respondents (in a full time salaried role) has risen consistently over the four years that have been surveyed.



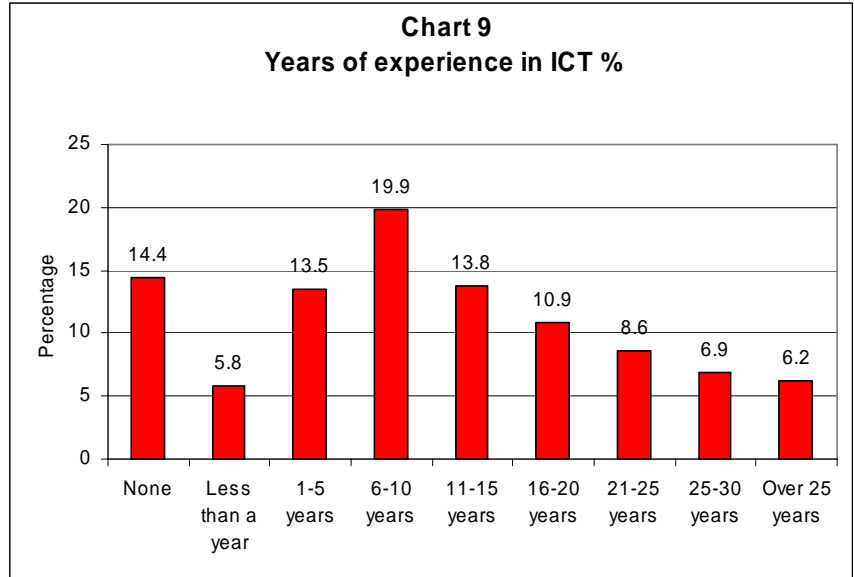
Half the respondents of the 2006 ACS survey (which is heavily weighted to younger members) had worked more than ten years in the ICT industry in Australia. Fourteen percent have never worked in the IT industry in Australia.



The average length of time that respondents have worked in the ICT industry is close to twelve years. However, the

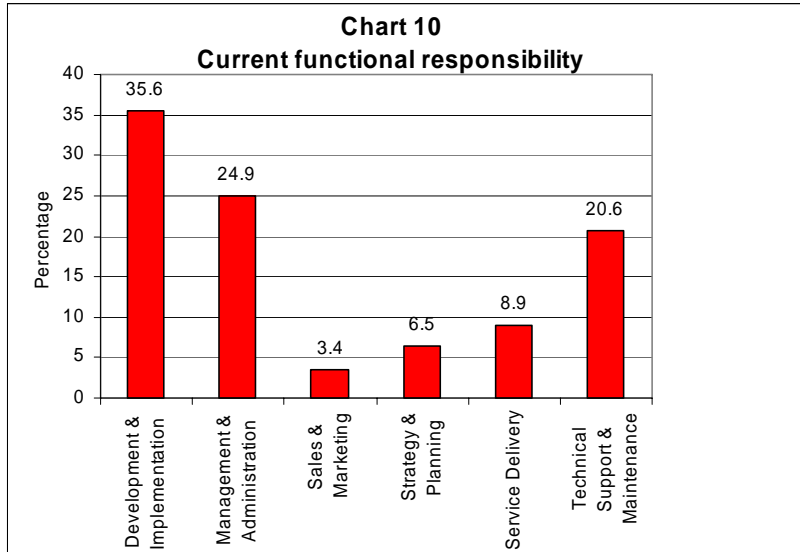
median time is closer to ten and a half years reflecting the heavier weighting of younger respondents in the latest survey.

Most respondents are in development and implementation and management and administration



3. Functional Experience

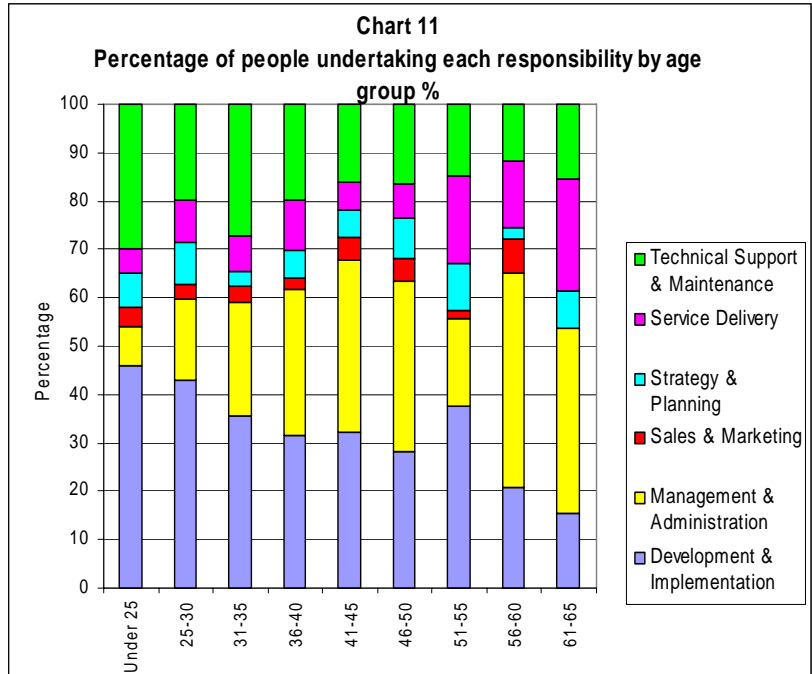
More than a third of respondents (35.6%) currently have development and implementation as their main ICT job responsibility. The next most common responsibility (24.9%) is management and administration.



There appears to be a correlation between age and functional responsibility, with younger respondents more commonly in development and implementation or technical support and maintenance. Older respondents were more likely to be in management and administration.

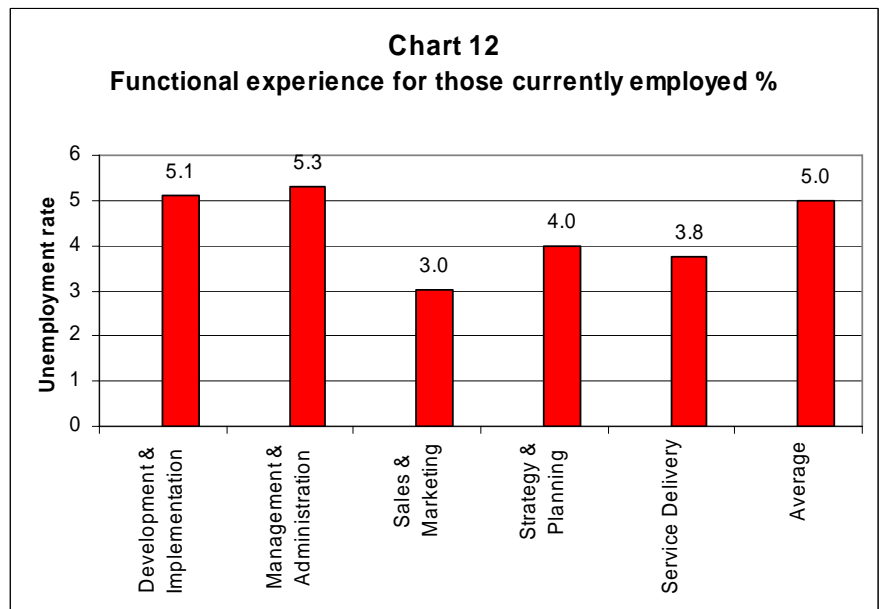
Table 2. Percentage of People Undertaking Each Responsibility by Age Group

	Development & Implementation	Management & Administration	Sales & Marketing	Strategy & Planning	Service Delivery	Technical Support & Maintenance
Under 25	46.0	8.0	4.0	7.0	5.0	30.0
25-30	42.9	17.0	2.7	8.8	8.8	19.8
31-35	35.4	23.6	3.5	2.8	7.6	27.1
36-40	31.6	30.1	2.2	5.9	10.3	19.9
41-45	32.4	35.2	4.8	5.7	5.7	16.2
46-50	28.2	35.3	4.7	8.2	7.1	16.5
51-55	37.7	18.0	1.6	9.8	18.0	14.8
56-60	20.9	44.2	7.0	2.3	14.0	11.6
61-65	15.4	38.5	0.0	7.7	23.1	15.4



Functional responsibility in development and implementation and management and administration is more robust in employment terms

When asked if they had been unemployed at some time over the past 5 years, those with some experience of unemployment were most likely to have current functional responsibility in sales and marketing; strategy and planning; technical support and maintenance; and service delivery. Those least likely had current experience in development and implementation or management and administration.



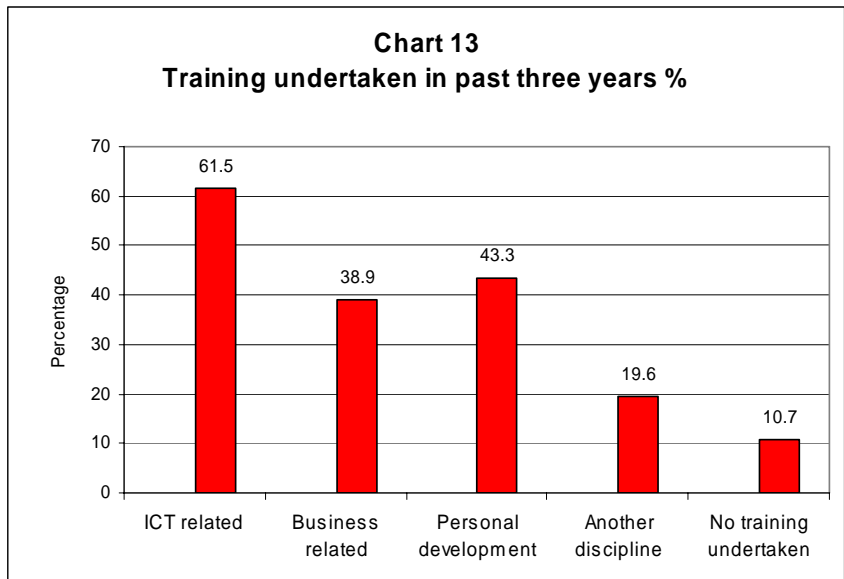
Underemployment was most commonly reported amongst those in technical support and maintenance, which is a positive for users of ICT services. It was also a greater threat to those in strategy and planning than in other areas.

Development & Implementation	Management & Administration	Sales & Marketing	Strategy & Planning	Service Delivery	Technical Support & Maintenance	Average across functions
67.4	69.9	64.3	58.9	66.2	57.6	65.3

4. Training

ICT Professionals see the importance of continuous training and skills upgrading

When asked what training they had undertaken over the past three years, almost 90% of respondents indicated they had undertaken some form of training. Those least likely to have undertaken training were hourly contract employees, followed by those retired and those studying. Self employed proprietors were most likely to have undertaken training, along with those working full time



39% had undertaken business related training

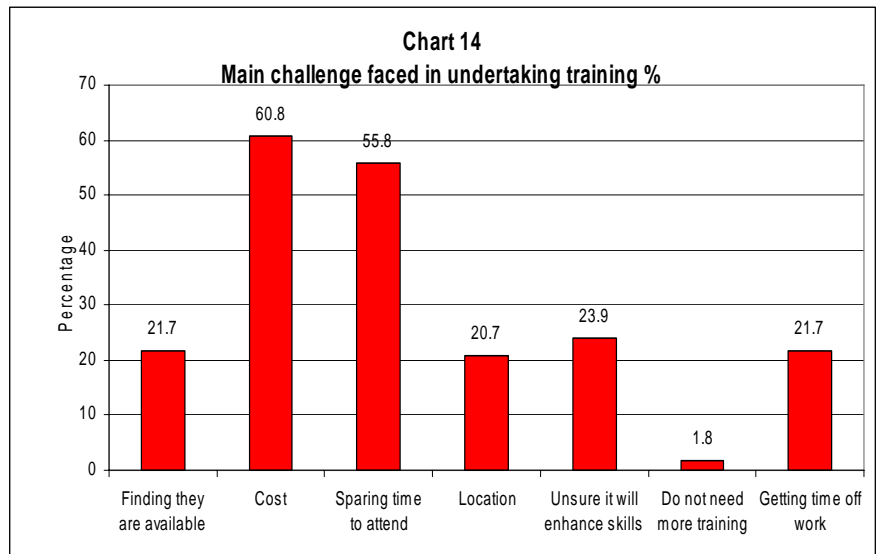
Sixty two per cent had undertaken ICT related training. Next most common was personal development with 43% of respondents undertaking some in the past three years. Thirty nine percent had undertaken business related training.

Twenty per cent of respondents had training in other disciplines and of these, the highest proportion were self employed proprietors.

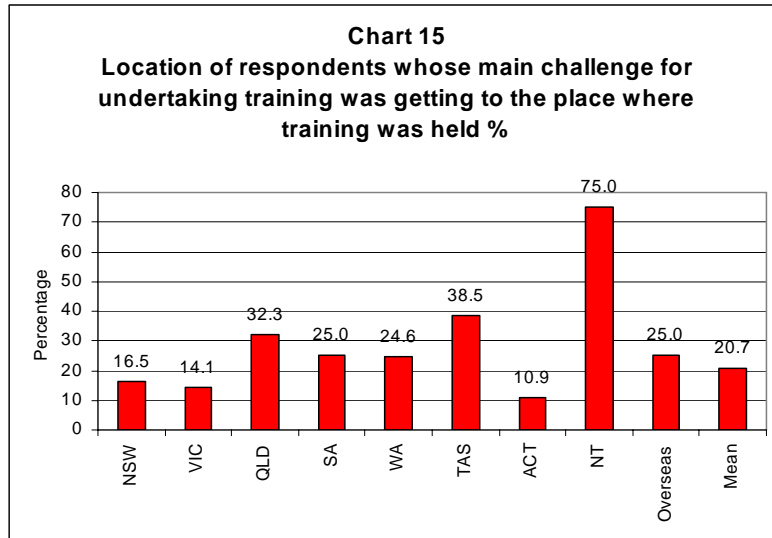
Those currently unemployed also undertook training in other disciplines but the nature of this training would need to be more fully understood before any firm conclusions could be drawn.

Some Challenges: costs, time and accessibility

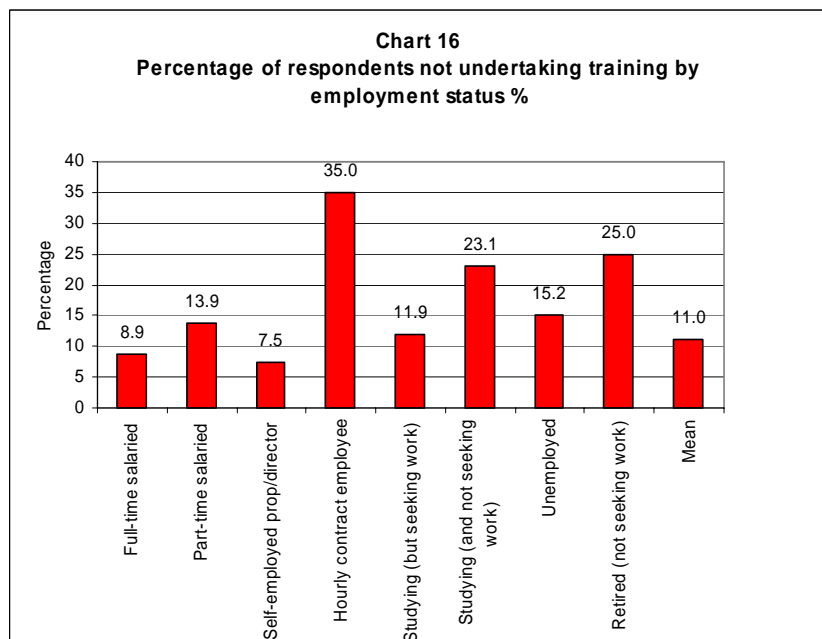
Sixty percent of respondents indicated that cost of courses was a major challenge. Over half (55.8%) indicated sparing the time to attend was the main challenge.



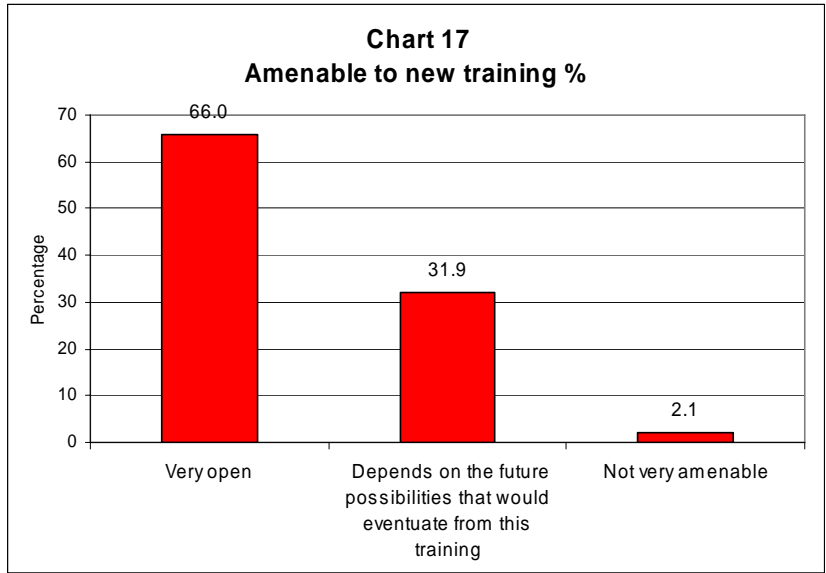
Getting to the places where training is held was the least common challenge, but it was striking in its regional profile. Respondents from NSW, Victoria and the ACT were least concerned. Beyond that, respondents in other states were challenged to a greater extent.



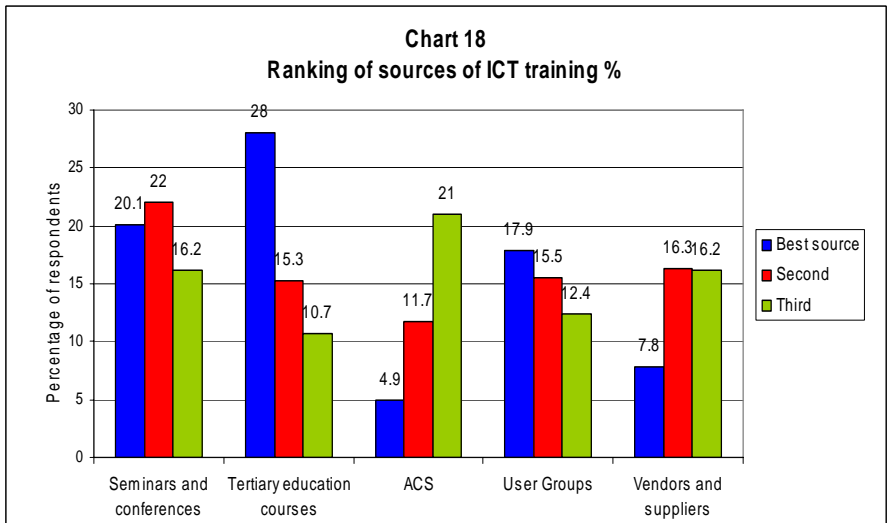
Two thirds of respondents indicated that they were very open to undertaking new training and/or retraining. Slightly less than a third (31.9%) indicated that it would depend on the future possibilities that would eventuate from the training. Just 2% indicated they would not be very amenable to new training. Part time salaried and those studying were most amenable to training while self employed proprietors and hourly contract employees were the least amenable. The unemployed were the most likely to look at future possibilities that would be likely to eventuate before undertaking the training.



Tertiary education was highly rated



The most highly rated source of ICT training was tertiary education courses. More respondents nominated seminars and conferences overall, but more chose tertiary courses as the best source of training. Seminars were chosen as the second best form of training by a substantial majority.



5. Qualifications

Only 5% of respondents reported no formal qualifications. They were most likely to be self employed proprietors or hourly contract employees or still studying.

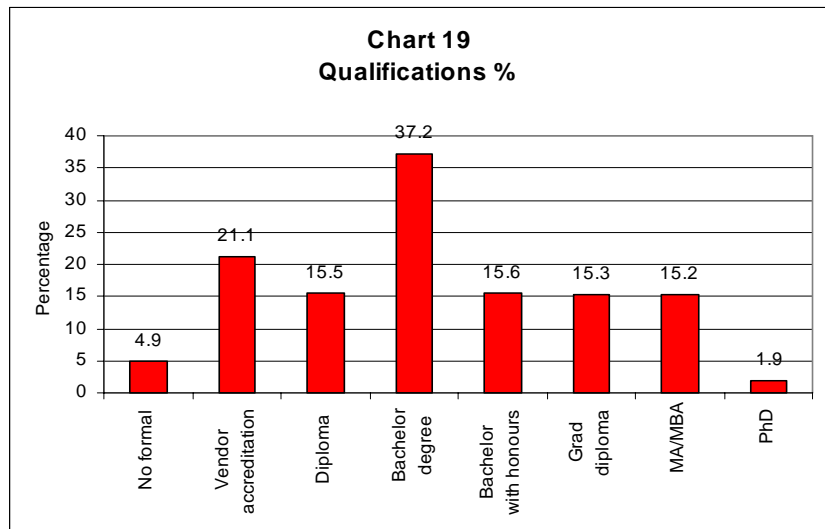
Fifteen percent of respondents had a diploma and those with a diploma were twice as more likely to have vendor accreditation than those with a university degree or a postgraduate diploma.

Overwhelming majority have formal qualifications

Thirty seven percent had a bachelor's degree and a further 16% had honours. Fifteen percent had a graduate diploma and a further 15% had a master's degree. Two percent had a PhD.

Qualifications were unsurprisingly clustered around areas such as computer science, information technology, maths, science and engineering. A significant number of qualifications were held in business related disciplines including MBAs. It is likely that many of these also had IT qualifications, in order to qualify for ACS membership.

Some commentators have expressed the view that ICT professionals do not have a sufficiently broad view of the organisation's goals and direction. This evidence would suggest that a significant cohort of ICT professionals also have business qualifications. This may go some way towards overcoming that perception.



6. Sources of Jobs

*Internet best source
for job seekers*

Respondents considered the internet to be the best source of new ICT positions and newspapers the worst.

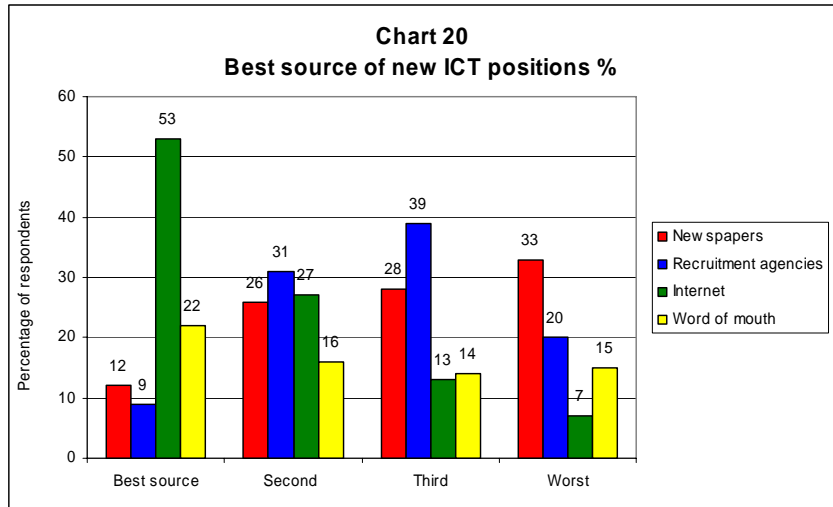
This is not surprising given the change in advertising shown by the ANZ job advertisement series. Over the past four years the balance between internet advertising and newspaper advertising has changed substantially.

	No. of Jobs advertised on Internet	% Change	No. of Jobs advertised in Newspapers	% Change	% Change in job ads all media
2002-03	63402	7.6	21013	3.3	6.5
2003-04	81453	28.5	21540	2.5	22
2004-05	115338	41.6	21866	1.5	33.2
2005-06	166533	44.4	20450	-6.5	21.4

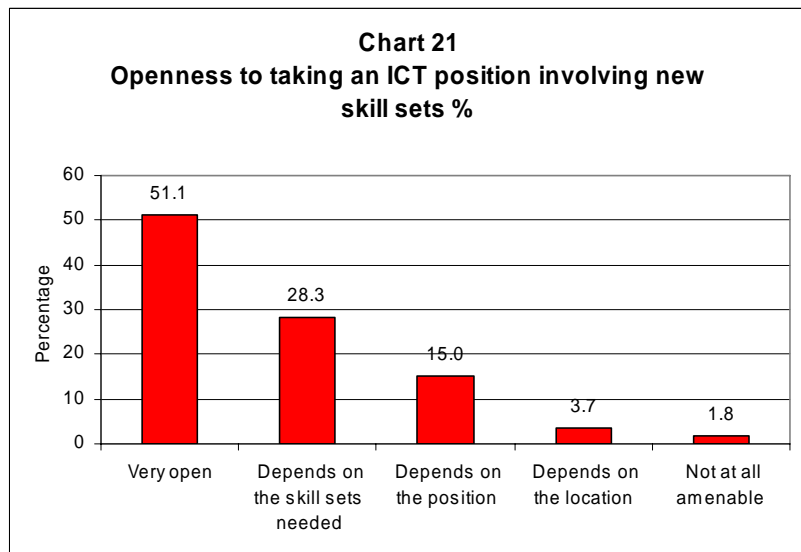
Source: ANZ Job Advertisement Series

Recruitment agencies scored the lowest ranking as the best source of new positions.

Networking and word of mouth was found to be effective by some respondents and less effective than other methods by others. It was by far the most evenly spread distribution of responses which indicates that some people are far more comfortable working their network to their advantage than are others and this is a skill that those who have responded negatively to this option could look to enhance in the future.

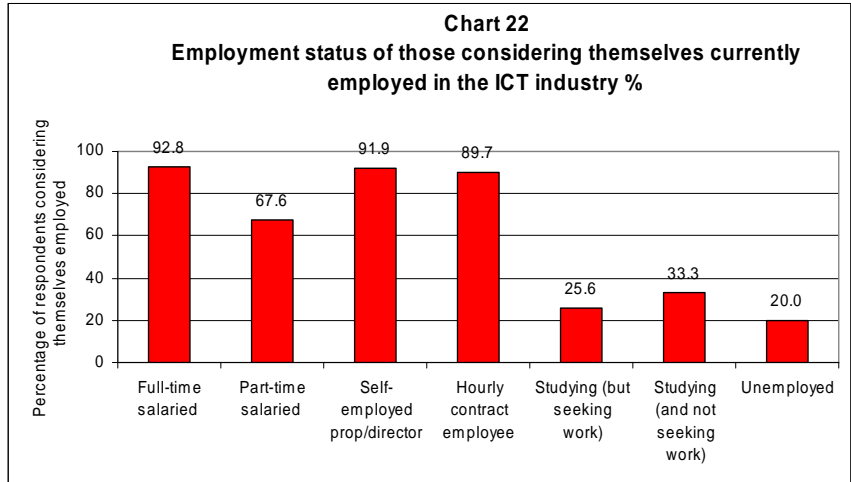


Half the respondents indicated that they would be prepared to take an ICT position involving new skill sets. A further 28% would be prepared to consider it depending on the skill sets needed. Other caveats included the nature of the position and location to a lesser extent. Only a handful of respondents were not at all amenable to reskilling.



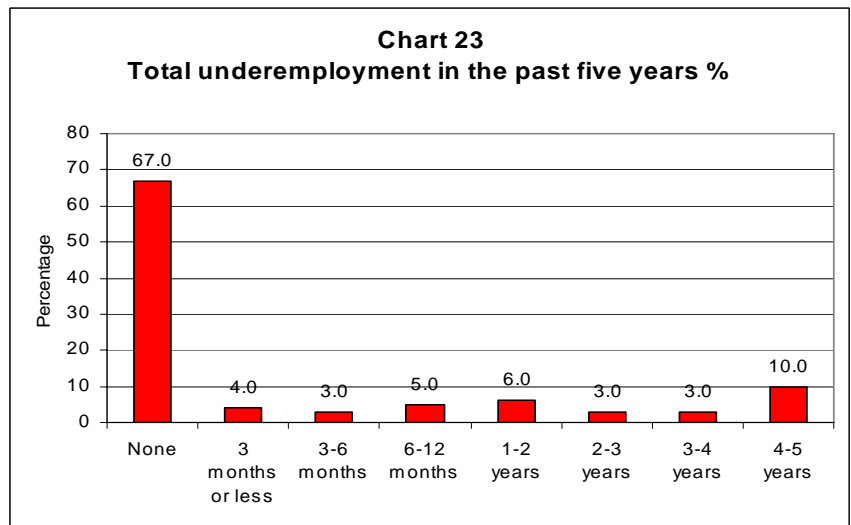
Eighty three percent of respondents considered themselves to be currently employed in the ICT profession. While respondents consider themselves to be employed in the ICT profession, they also operate within other industry groups as shown in Table 1.

When asked what period of time they had spent unemployed over the past 5 year, 64% of respondents had remained in employment. While any period of unemployment is potentially devastating to those experiencing it, the high proportion of people remaining employed after the bursting of the “dotcom bubble” indicates a strong resilience in the Australian ICT profession.



Underemployment in the profession is limited

When asked what period of time they had spent underemployed in the past 5 years there was a similarly limited effect across the industry. Two thirds of respondents had not experienced underemployment over the past five years.

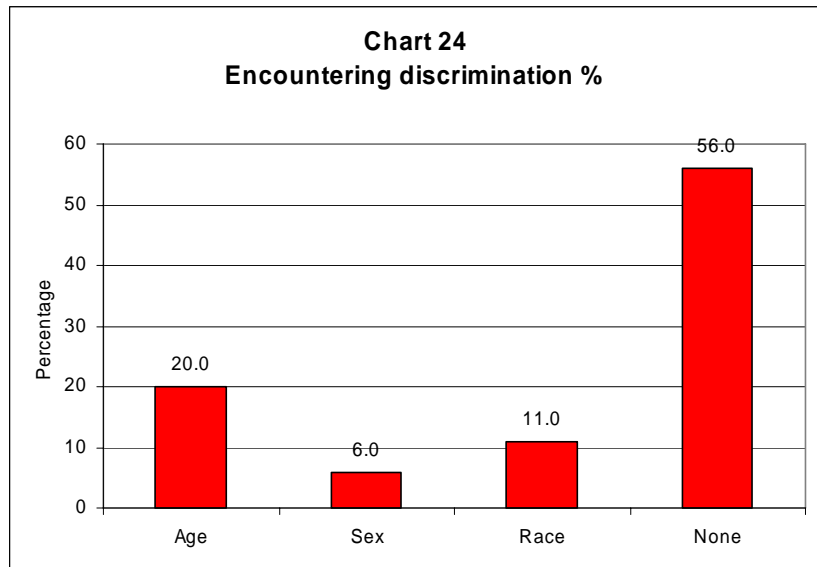


7. Discrimination

Significant discrimination persists, with age being singled out

Although the majority of respondents had not encountered discrimination in their working life, significant numbers of respondents had been discriminated against on one basis or another.

One in five respondents reported that they had been discriminated against on the basis of their age. There was a clear divide between those aged 45 or over and those under 45. The former group was much more likely to have encountered age discrimination.

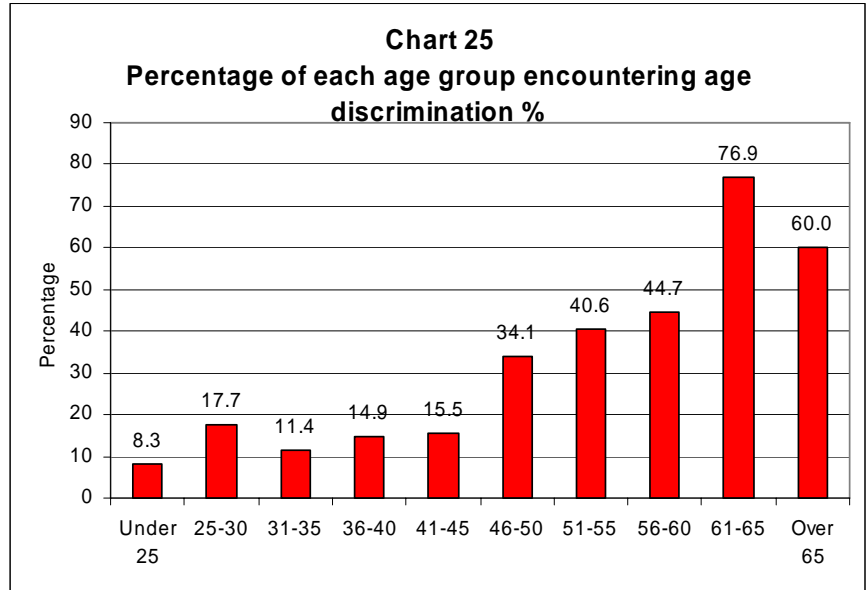


The high proportion of people in the self-employed proprietor category who have encountered age discrimination suggests that they have had a lack of other opportunities. As the population ages and skilled workers become scarcer it will be important to ensure workers do not face age discrimination. We cannot afford to assume that people will be prepared to take the self-employed option to continue to meet the needs of ICT employers.

Students encounter discrimination

Eleven percent of respondents had encountered discrimination on the basis of their race or ethnicity. Those most highly represented in this group were students. The continued granting of visas to foreign students to work in ICT in Australia, when local ICT graduates and ICT professionals can find it difficult to gain employment, may exacerbate this discrimination in the short term.

Female response rate low and reflects the gender composition of ACS membership

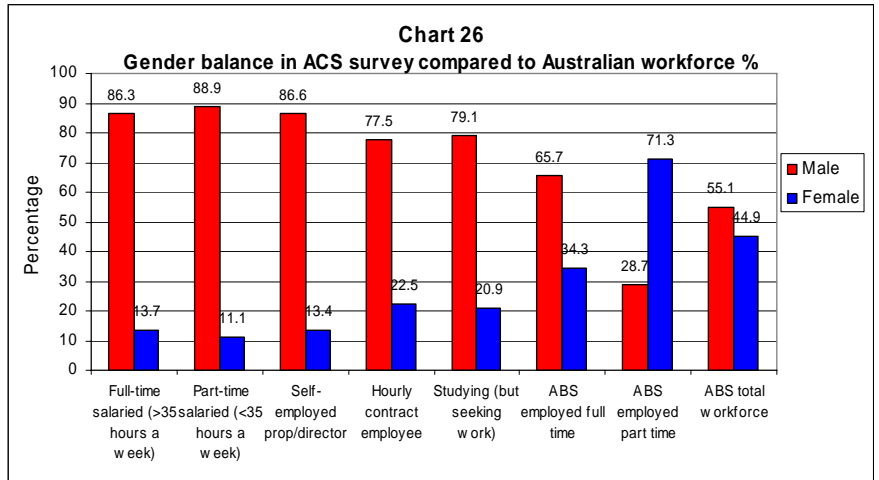


8. Gender Issues

The lower than optimum response by females to this survey reinforces the perception of a deeper problem in a diminishing interest in ICT careers by young talented women.

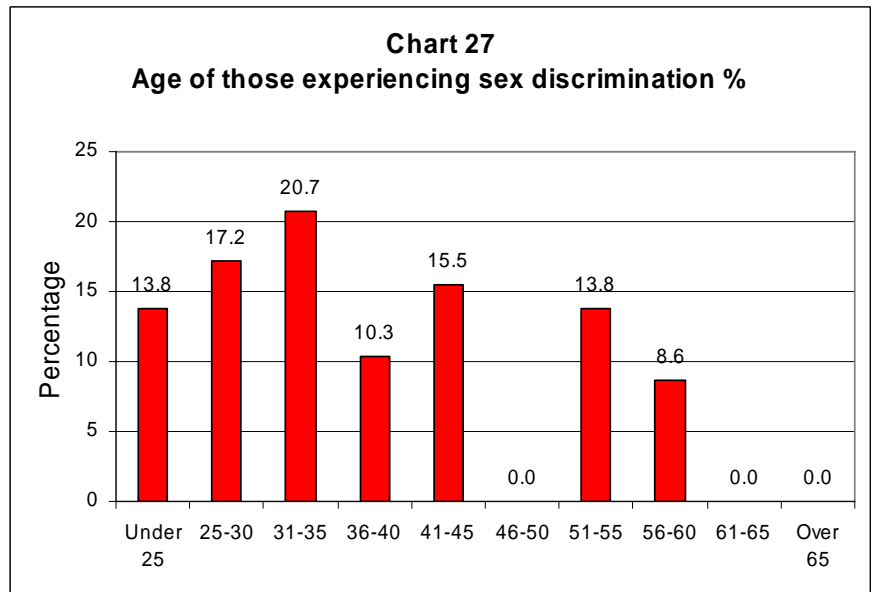
Female discrimination is significant and in the younger age groups

Of further concern is the fact that 37% of the female respondents felt they had been discriminated against on the basis of sex compared with 1.3% of males. This sense of discrimination is most strongly felt in the younger age groups, which bodes ill for retaining younger women in the industry and improving the gender balance over time.



The female respondents to this survey were more likely to be hourly contract employees or students seeking work. They were less likely than their male counterparts to be full or part time employees. This indicates, to the extent that they are representative of women in the ICT industry, that they are less engaged by the industry than are the males.

They are more likely to have a bachelor's degree than their male counterparts, but less likely to have honours or a master's degree.



9.

9. Age and Means of Communication

Younger members more likely to respond to online surveys.

The survey methodology changed from paper based to online between the previous surveys and the current survey. The difference in the age profile of respondents was clear. Younger members responded in much greater proportions than they had done previously with the paper based surveys.

The change reinforces the view that younger people have a greater uptake of electronic communications than older people. However, the reverse also appears to be true – younger people may be more reluctant than older people to use non-electronic means of communication. This may have major implications for the way in which organisations interact with their members across age demographics.

