Australian Computer Society

Northern Territory Survey Report

September 2007

This report was analysed and written by the Centre for Innovative Industries Economic Research Inc for the Australian Computer Society. The report was edited by Ian Dennis for the ACS.

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About ACS

ACS is the leading professional body in ICT in Australia. Members of the ACS are professionally qualified and accredited.

ACS has over 14,000 members nationally. Of these, some 50% are directly involved in the Australian ICT Industry with approximately 60% holding senior management positions. ACS also supports a large student membership.

In addition to our professional members, over 1000 ICT practitioners participate in ACS Special Interest Groups (SIG), including ICT Governance, E-Commerce, Service Oriented Computing, IT Quality and Telecommunication SIGs.

About CIIER

CIIER is an Asia-Pacific Centre, formed to create a facility, repository, and think-tank for consistent, competently researched, up-to-date, and analysed data on employment, markets, revenue streams, R&D, processes and management methods, specifically focussed on high technology, innovative, and emerging industries.

CIIER produces the *'Top 250' ICT Industry Research Report,* widely recognised as the leading creditable indicator of trends in the Australian ICT industry, in co-operation with Whitehorse Strategic Group Ltd, and conducts detailed analysis and reporting on Information Technology. Reports include the *National Study of the Australian Software Industry & Vertical Applications Markets* (The Australian software industry and vertical applications markets: Globally competitive, domestically undervalued) for the Federal Government (DCITA) in 2005-06; the *ICT Skills Snapshot* for the Government of Victoria in 2005-6; and Reports on other high technology industries, including energy and biotechnology.

EXECUTIVE SUMMARY

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 ICT professional employment.

■ 244 detailed responses

■ Nearly 10% of the NT ICT work-force

■ ICT professional and technical people

■ Range of ages, occupations, and industries

■ Telecommunications under-represented

Conducted in early 2007

The following comparisons show the relative percentages applicable to the responses, the ACS membership, and ICT professional and technical employment in Northern Territory, based, in the main, on Department of Employment and Work-place relations data.
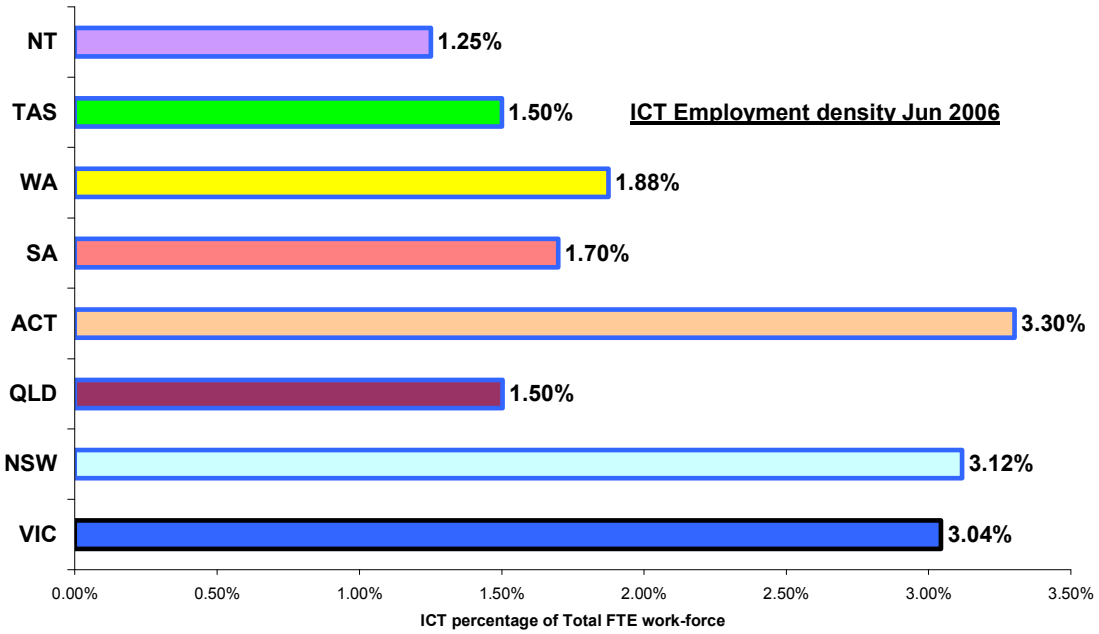
The relative seniority of respondents is underscored by the overweight representation of the senior professional grades (Member, Senior Member, Fellow), within the survey respondents.

ACS Survey Respondent profile
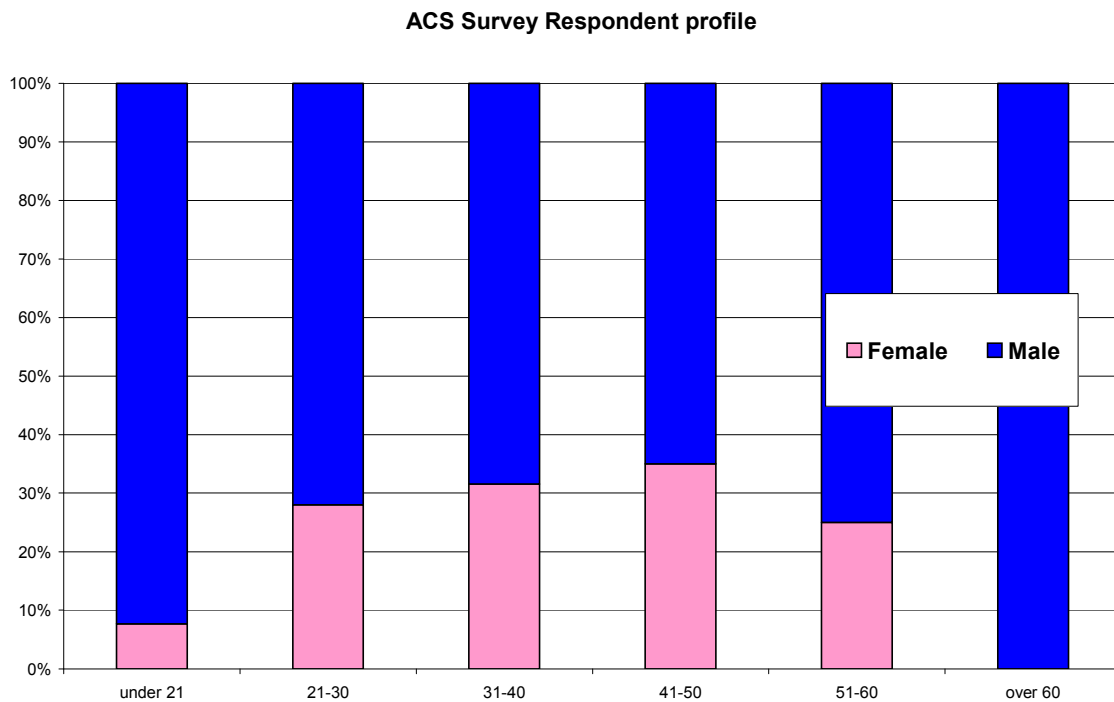
ABS and CIIER data shows 24% of professionals in the ICT industry workforce are female and 76%, male, however DEWR data indicates that 19% of ICT technical and professional employment in all industries is female. The survey analysis following, in relation to gender issues, should be evaluated in this light.
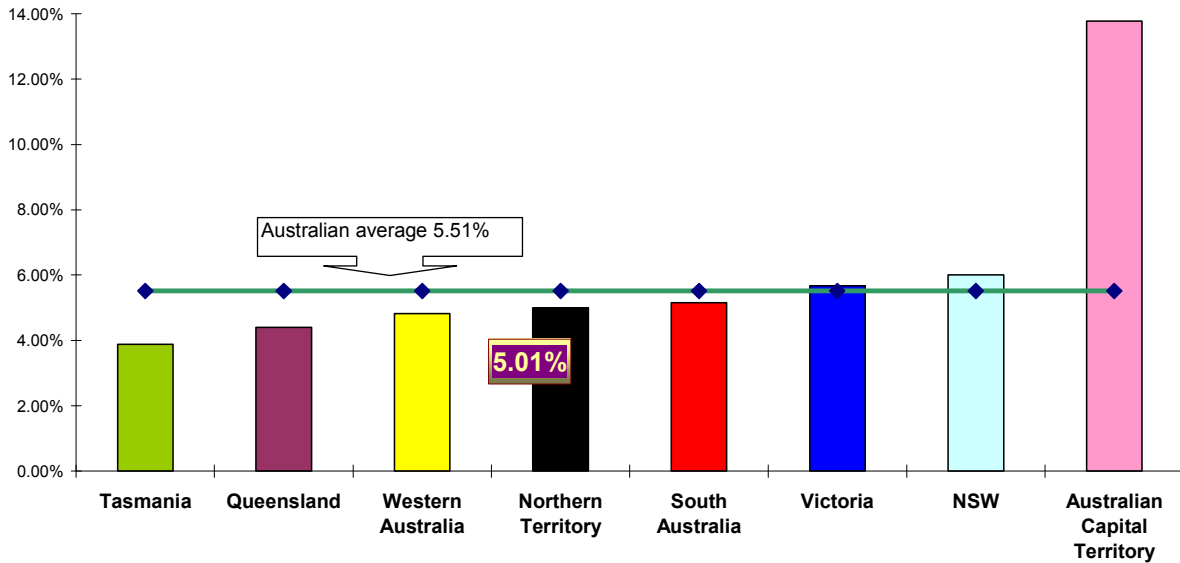
Analysis of the ACS Northern Territory Survey

Employment

ICT Employment density Jun 2006

ICT percentage of Total FTE work-force

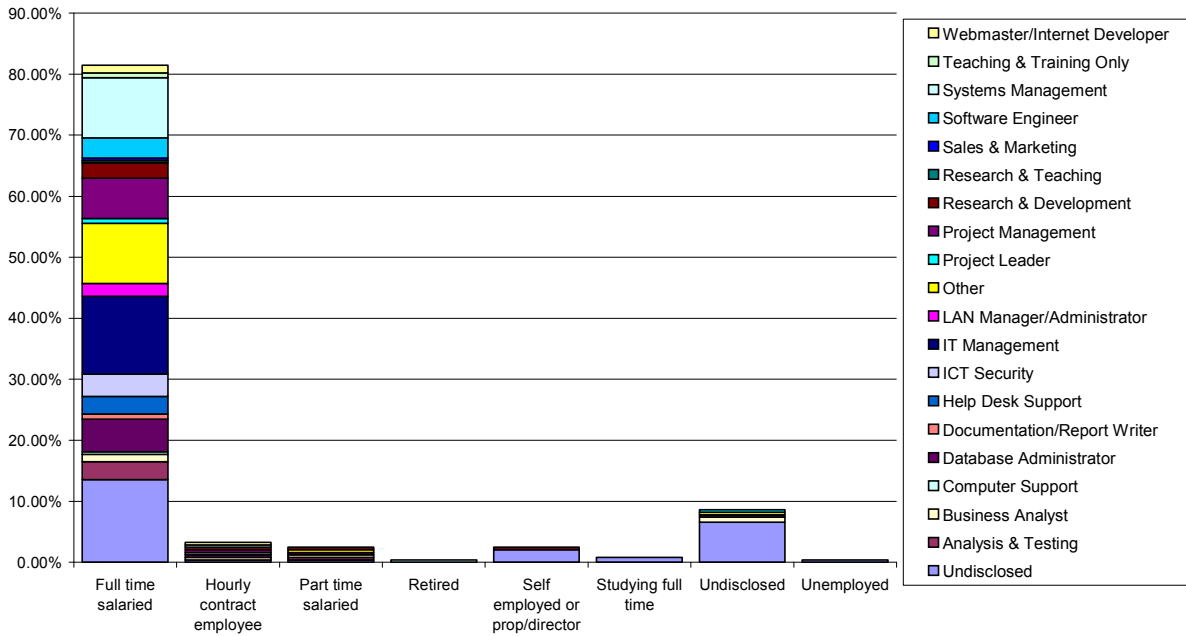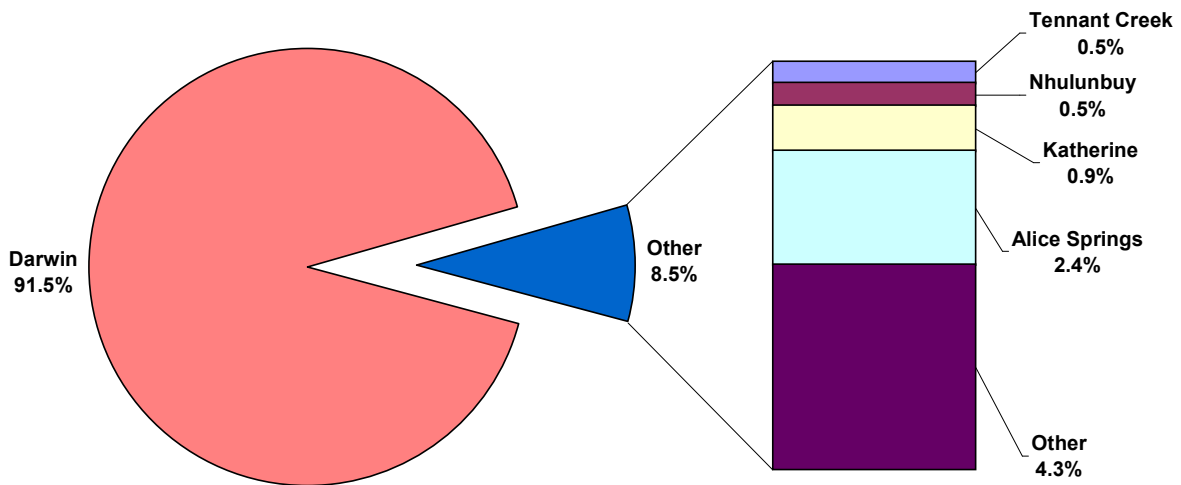| State	Value
NT	1.25%
TAS	1.50%
WA	1.88%
SA	1.70%
ACT	3.30%
QLD	1.50%
NSW	3.12%
VIC	3.04%

Centre for Innovative Industry Economic Research Inc.

ICT Employment Density
(ICT technical and professional employment
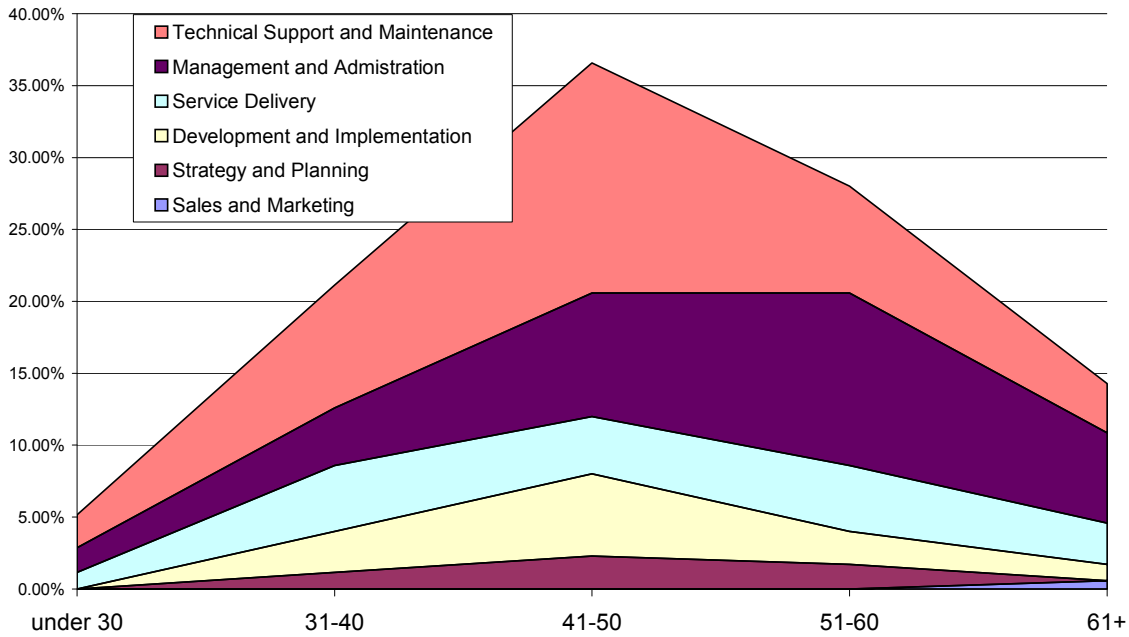**as a percentage of total FTE employment)**
DEWR March 2006

Australian average 5.51%

5.01%

Tasmania | Queensland | Western Australia | Northern Territory | South Australia | Victoria | NSW | Australian Capital Territory

NT Employment characteristics

Legend:
- Webmaster/Internet Developer
- Teaching & Training Only
- Systems Management
- Software Engineer
- Sales & Marketing
- Research & Teaching
- Research & Development
- Project Management
- Project Leader
- Other
- LAN Manager/Administrator
- IT Management
- ICT Security
- Help Desk Support
- Documentation/Report Writer
- Database Administrator
- Computer Support
- Business Analyst
- Analysis & Testing
- Undisclosed

X-axis categories: Full time salaried, Hourly contract employee, Part time salaried, Retired, Self employed or prop/director, Studying full time, Undisclosed, Unemployed

Location

Darwin 91.5%

Other 8.5%

Tennant Creek 0.5%
Nhulunbuy 0.5%
Katherine 0.9%
Alice Springs 2.4%
Other 4.3%

NT ICT Age-Group by Job skills group

The chart above clearly shows that there are completely different, and understandable, age-profiles for each of the main job/skill groups.

The National analysis indicates a younger overall age profile for development and technical support, peaking in the 21-30 age-group, with a slightly older age profile for service delivery, peaking at the 31-40 age-group, an older age profile for management and administration, peaking at the 41-50 age-group, and a more even profile for strategy and planning, which, although it does peak at the same point as management and administration, is much less subject to age-group variation. NT data shows
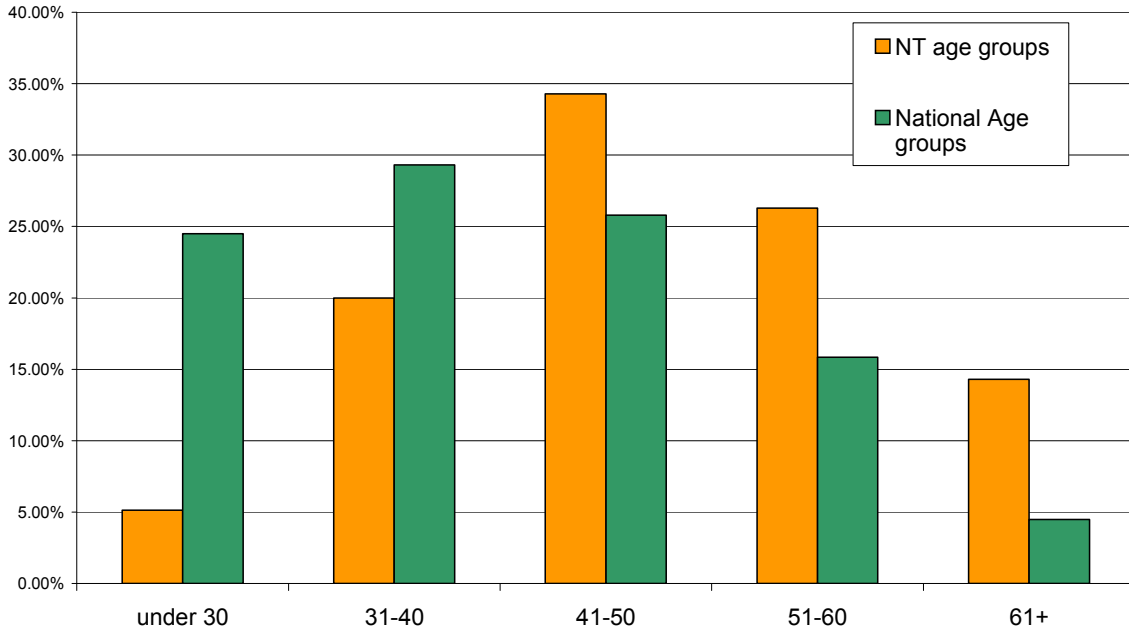
NT Age-group by Job (detail)
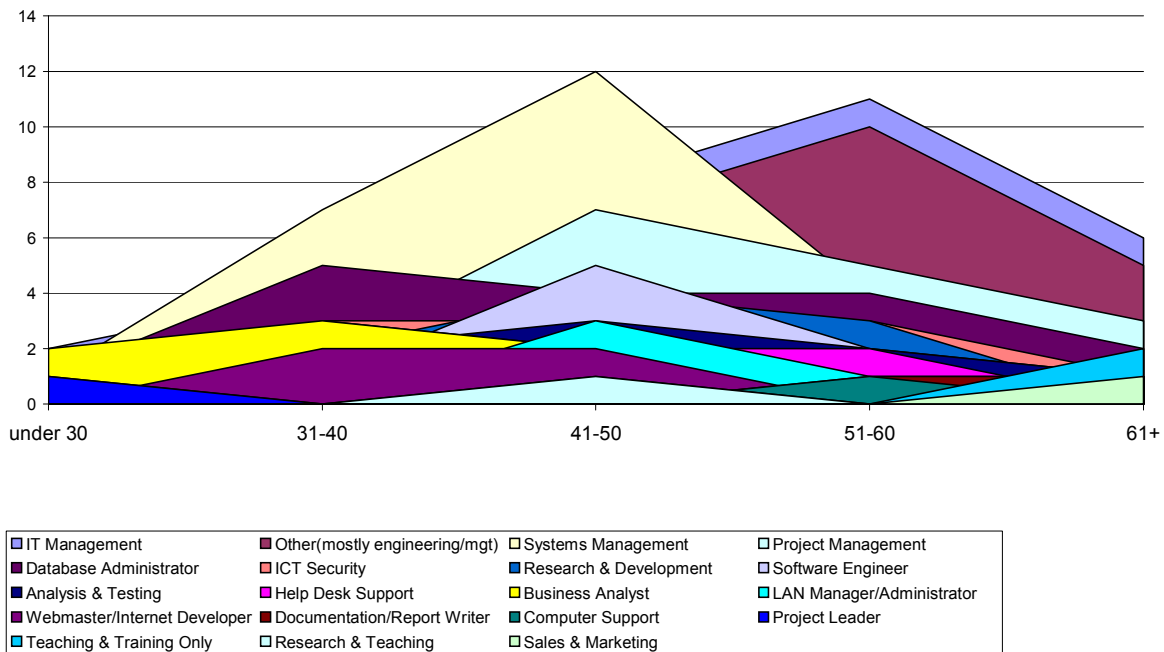
The process of quantifying likely future shortages in ICT skills groups can be greatly assisted by an improved understanding of age-profiles as such knowledge allows for more accurate projections of

ICT Age Profile NT v National

Suitable applicants for each ICT vacancy
(DEWR)
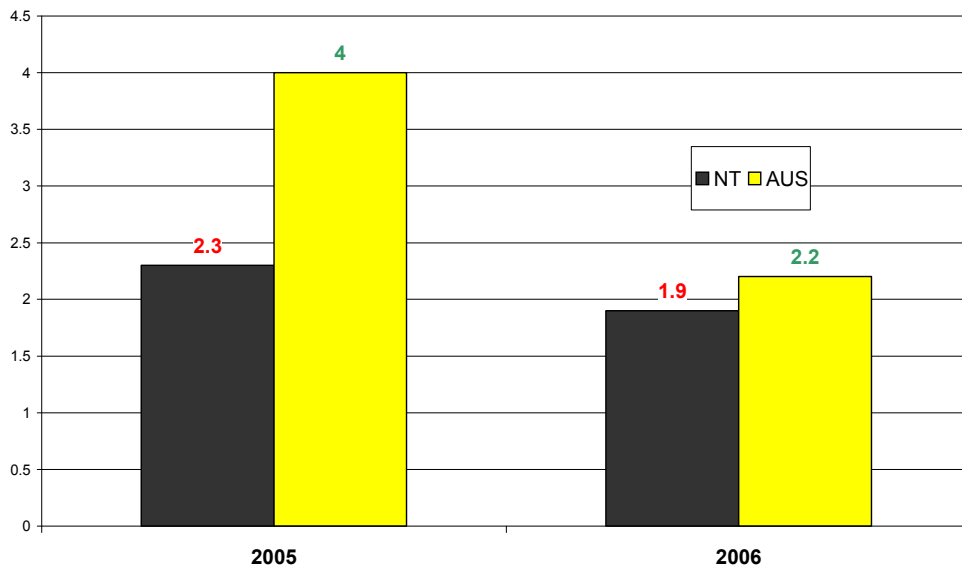
Longevity of employment

Employment sector

Legend:
- Private Sector - employee
- Private sector - proprietor/director
- Other
- NT Government Public Service
- Australian Public Service (Federal)
- Local Government (DCC, PCC, etc)
- VET
- Tertiary Institution
- Secondary or Primary Schools

Employment sector groups

ICT industry
31%

Government and
Government
Agencies
57%

Other Industry
12%
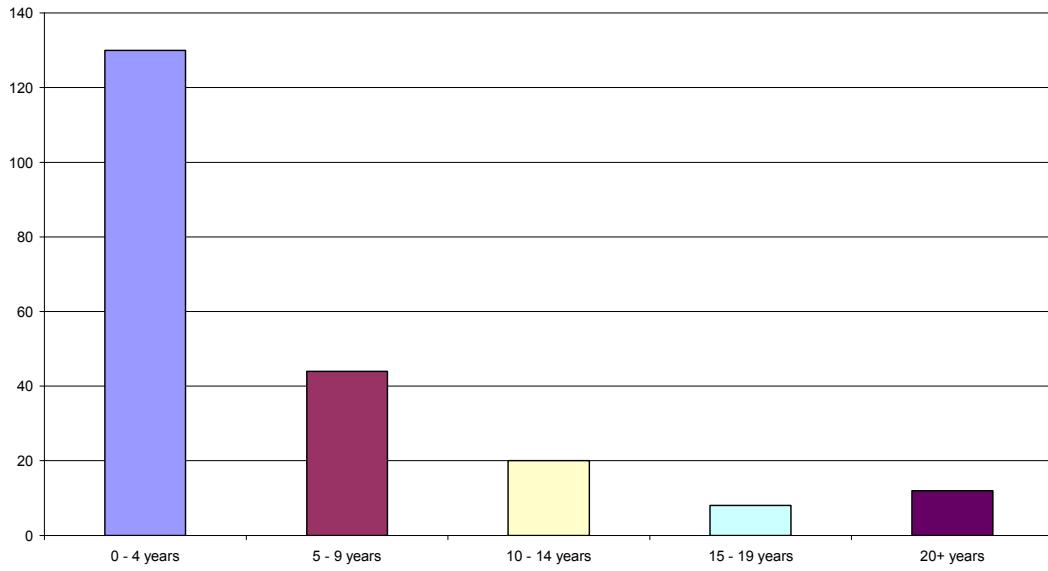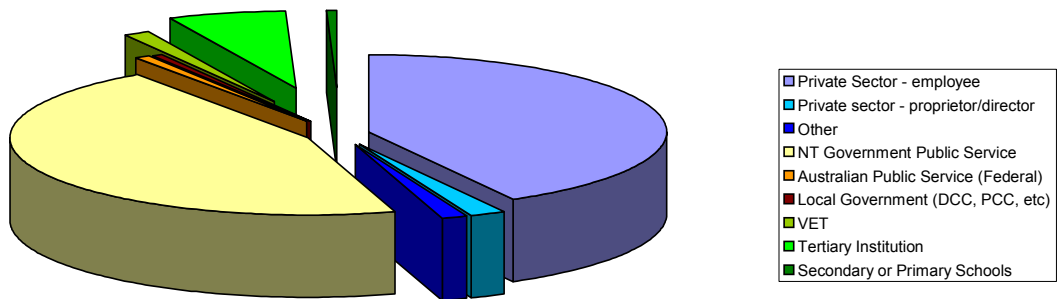
Detailed employment sector
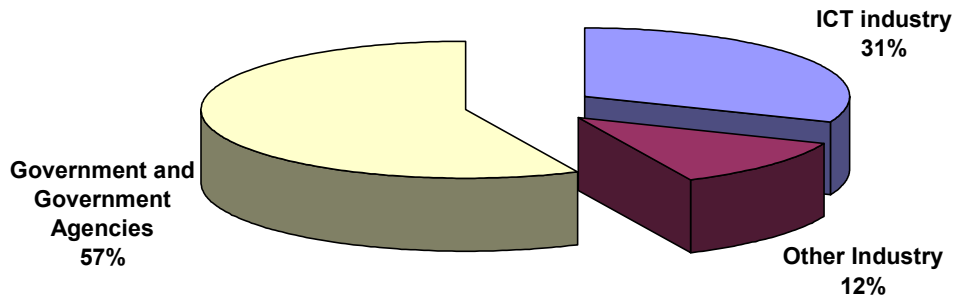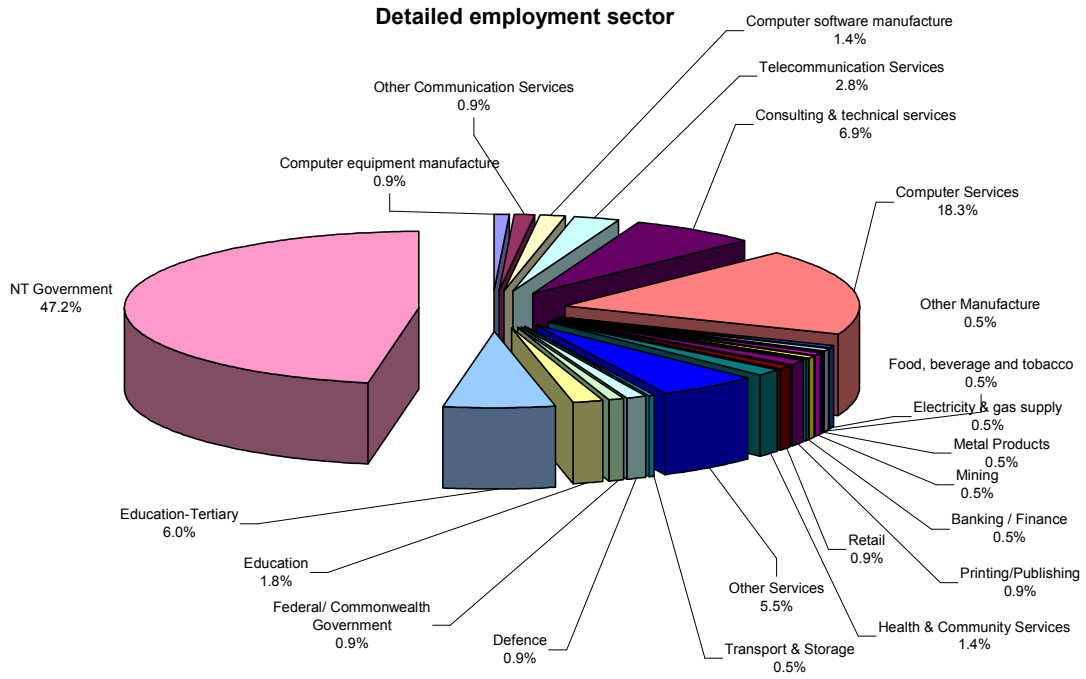
Gender Issues

Females - Skills distribution
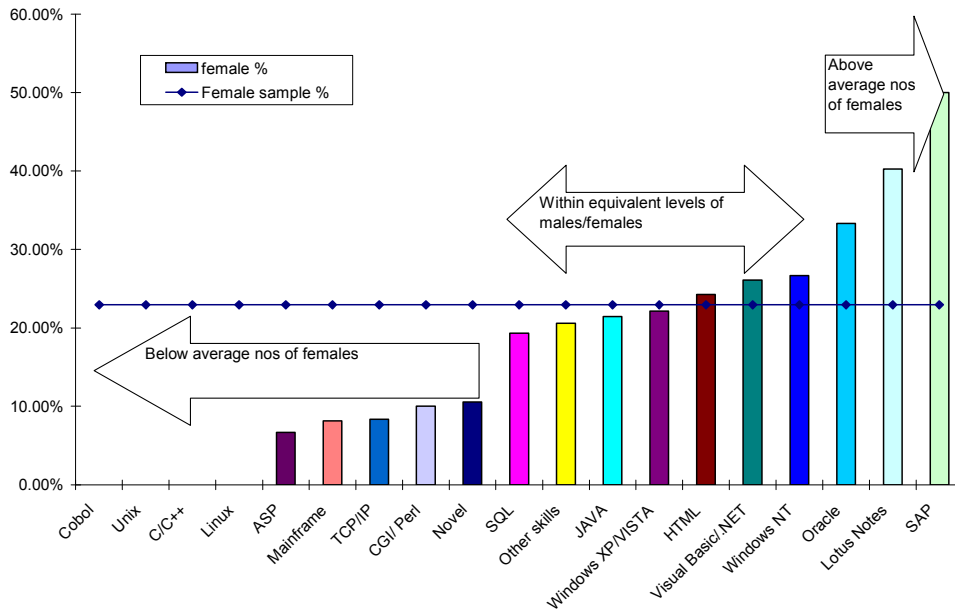
ICT Employment Competencies and Skills

Nearly 40% of respondents classified their skills group as "development and implementation", whilst just over a quarter felt that they could more accurately be described as "management and administration". Service providers were the next largest group, followed by strategic planners. Sales and marketing represented a small 2% of respondents, perhaps suggesting either a lower than optimum level of accredited ICT professionalism in this group, or a perception by ICT sales and marketing professionals who are ICT practitioners, that ACS does not offer them appropriate networking and professional development opportunities.

Core Competency groups

Legend:
- Management
- Analysis & Programming
- Computer Support
- Research & Teaching

57%
23%
18%
2%

Core competency detail

Legend:
- IT Management
- Other
- Systems Management
- Project Management
- Computer Support
- Consulting
- Programmer/Analyst
- Sales & Marketing
- Webmaster/Internet Developer
- Business Analyst
- Help Desk Support
- Database Administrator
- LAN Manager/Administrator
- ICT Security
- Software Engineer
- Documentation/Report Writer
- Project Leader
- Research & Teaching
- Analysis & Testing

Skills Mix - NT

- SQL 6.9%
- HTML 7.9%
- Mainframe 5.9%
- Linux 4.5%
- JAVA 3.4%
- Windows NT 9.0%
- TCP/IP 10.1%
- Lotus Notes 11.1%
- Other skills 12.3%
- Windows XP/VISTA 14.7%
- Other 14.3%
- Visual Basic/.NET 2.8%
- Unix 2.6%
- Oracle 2.5%
- ASP 1.8%
- CGI/ Perl 1.2%
- Cobol 1.1%
- Novell 1.1%
- C/C++ 1.0%
- SAP 0.2%

Skills mix - size and anticipated changes

Legend:
- ☐ Skills used now
- ■ Expected Skills Variation in the Future

Categories (top to bottom):
- HTML/Web Development
- Windows XP/VISTA
- MS Office 2003/2007
- TCP/IP
- Linux
- JAVA
- SQL
- Visual Basic/.NET
- MS Communications Server / Communicator
- Oracle
- Other
- Unix
- C/C++
- Lotus Notes
- ASP
- Windows NT
- CGI/Perl
- SAP
- Novell
- MIS
- Cobol
- PeopleSoft
- Mainframe

X-axis: -10.0%, -5.0%, 0.0%, 5.0%, 10.0%, 15.0%, 20.0%
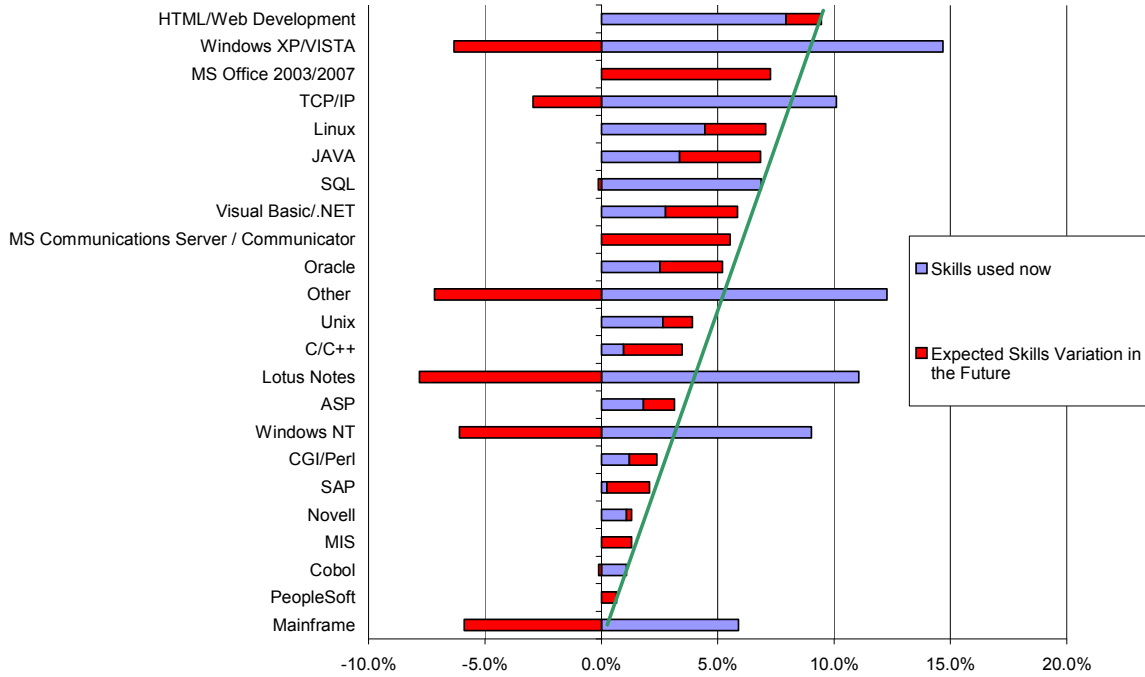
Academic and other qualifications

- Certificate 3%
- Diploma 3%
- Undergraduate/Post Graduate 7%
- Masters/Doctorate 2%
- No formal qualification 51%
- Other degree 1%
- Microsoft Certification 12%
- CISCO Certification 2%
- Other vendor certification 19%

Soft skills claimed

Intrapersonal skills	51.43%
Innovation	53.14%
Leadership	57.14%
Communication skills	71.14%
Interpersonal skills	72.29%
Ability to work in a team	75.71%
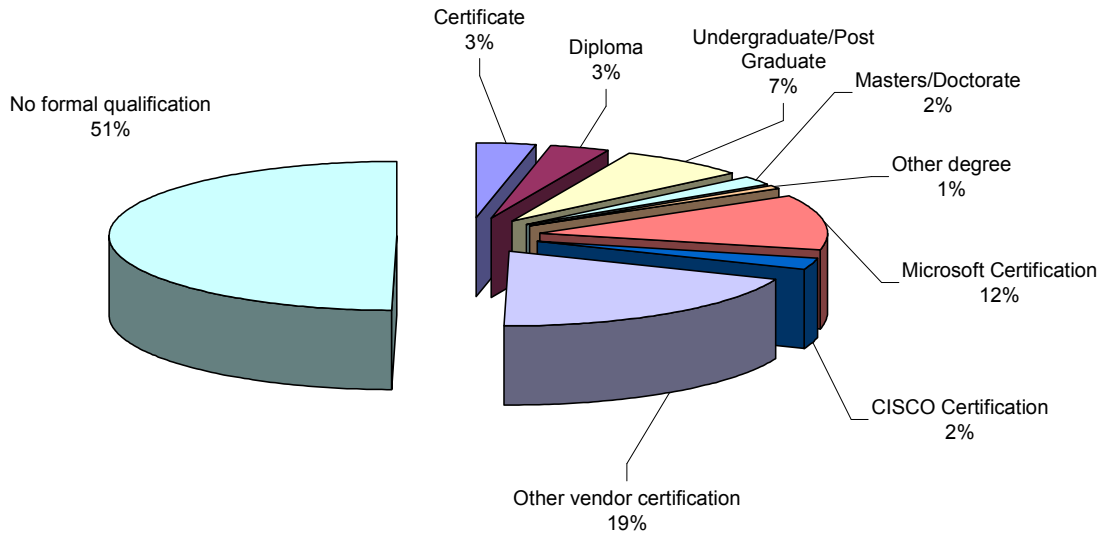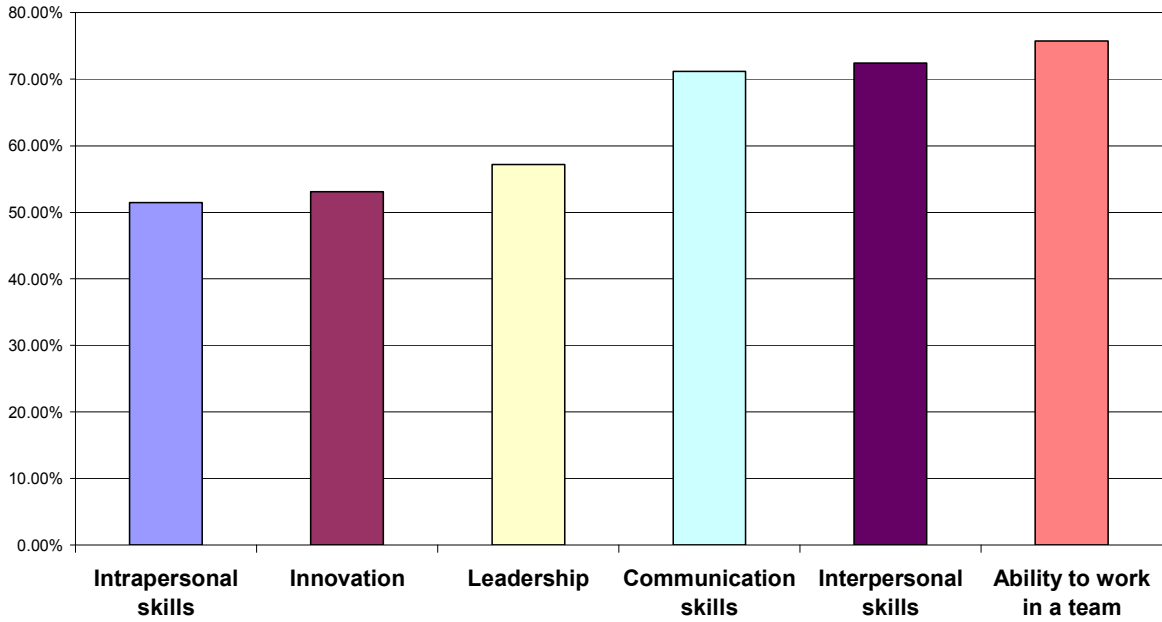
Skills training barriers

- No market reward for skills 22.1%
- Insufficient budget 15.9%
- Government policy/Outsourcing 15.0%
- Population too small 12.7%
- Time availability 10.9%
- Other 9.7%
- Lack of trainers 9.1%
- Wasted budget 4.4%
- Staff turnover 3.5%
- Industry jargon 3.2%
- Other 2.9%
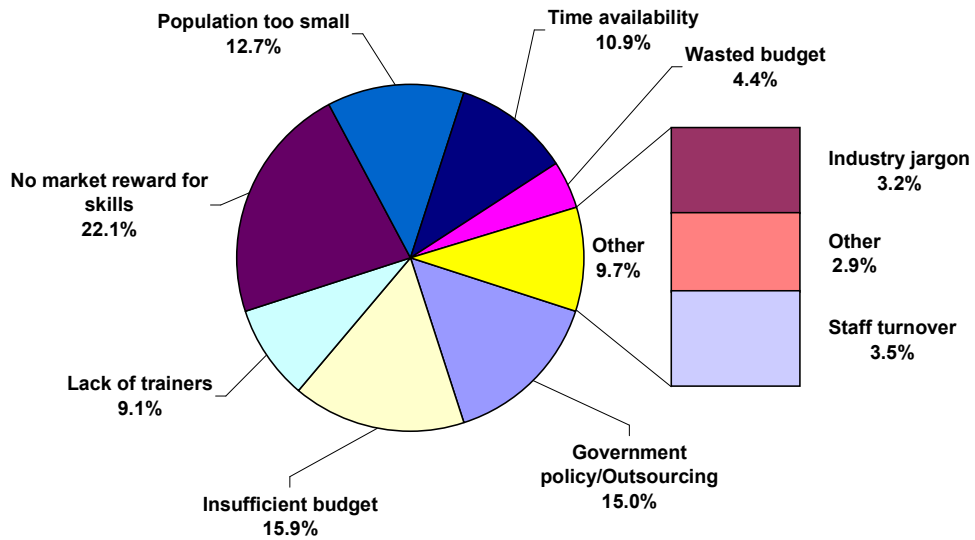
- Training refusal due to lack of funds - training allocations spent on non-training items
- Time - Work & family pressures inhibit opportunities as less people are required to do more work thereby impacting on available free time.
- The lack of training is often complained about but management while acknowledging the problem, rarely want to fund it.
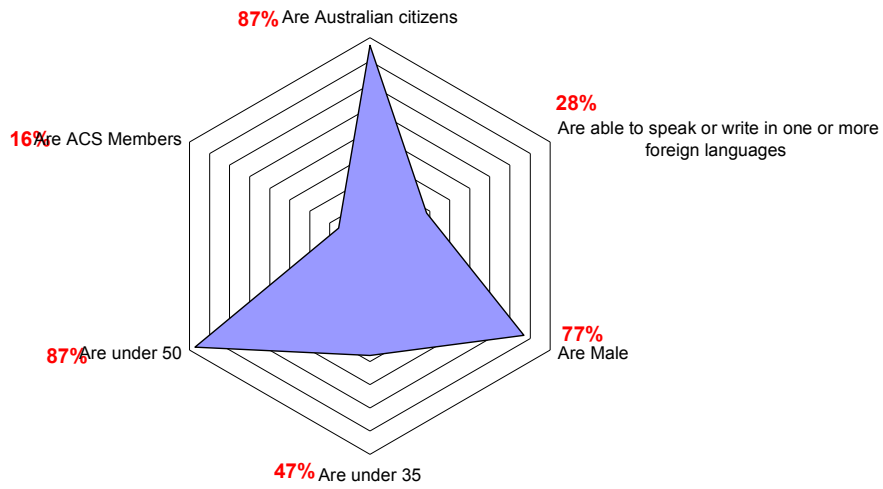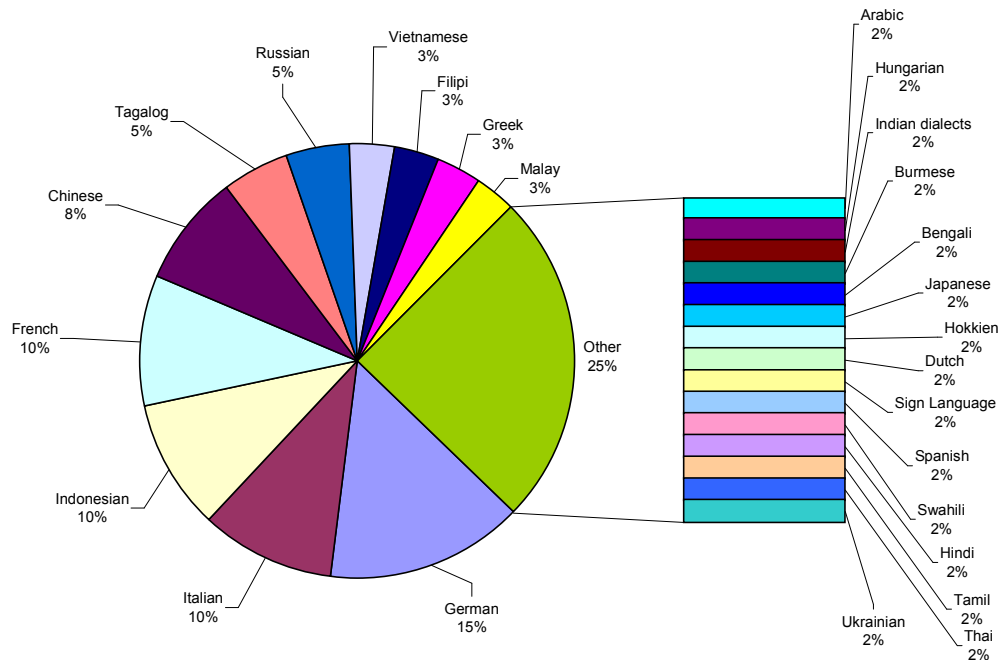- Some Businesses do not take a responsible or long term view in training of staff and do not budget for it.
- Not sure if the market in the NT supports having highly skilled people.
- Not a wide range or industries or companies to work for.
- Limited number of people to do the actual training
- Limited market drivers for ICT skills
- Lack of qualified trainers in the NT. Is expensive to go down South for training.
- Government has limited its outsourcing to a few big players
- Employers regularly hire people from outside of our region, leading to the progression for people locally being limited in opportunity.
- Currently salaries are too low to build up a decent skill base in my area. Average turn over of staff is less then 6 months.
- ALSO THE FACT THAT PEOPLE DOWN SOUTH DON'T THINK WE "NEED" ANYTHING AND THAT WE ARE ALL COUNTRY HICKS UP HERE.

Respondent Profile

Respondent profile

87% Are Australian citizens

28% Are able to speak or write in one or more foreign languages

16% Are ACS Members

77% Are Male

87% Are under 50

47% Are under 35

NT ICT Languages spoken

Russian 5%
Vietnamese 3%
Filipi 3%
Greek 3%
Malay 3%
Tagalog 5%
Chinese 8%
French 10%
Indonesian 10%
Italian 10%
German 15%
Other 25%

Arabic 2%
Hungarian 2%
Indian dialects 2%
Burmese 2%
Bengali 2%
Japanese 2%
Hokkien 2%
Dutch 2%
Sign Language 2%
Spanish 2%
Swahili 2%
Hindi 2%
Tamil 2%
Thai 2%
Ukrainian 2%

Respondent Profile

15%
Have entered into an Australian Work Place Agreement (AWA)

3%
Have had employment conditions improved as a result of the AWA agreement

96%
Believe they have the relevant skills to undertake their current role

30%
Have received a promotion in the last 12 months

70%
Would consider undertaking further studies at Charles Darwin University

20%
Have changed employers in the last 12 months

85%
Believe additional training would increase their employment opportunities or lead to a promotion or salary increase

100% Are willing to undertake additional training to acquire new skills