New Zealand
ICT
Tertiary Education & Job Series
December 2012

garry.roberton@wintec.ac.nz

Note:
Indicates new/significant change
Insights for December 2012

- Polytechnic Sector ICT Enrolments for 2012:
  - Down approximately 9 per cent on the 2011 enrolments for ICT certificates, diplomas and degrees
  - Down 37 per cent on the 2002 peak ICT enrolment figure

- Most mature markets have declining numbers of IT graduates (Slide 21)

- Trademe IT Job Adverts:
  - Down 15.8 per cent for the month (continuing the downward trend for the last four months, a 33 per cent decline since August)

- Seek ICT All NZ Job Adverts:
  - Total job adverts;
    - Down 14 per cent for the month
    - Down 20 per cent on December 2011
    - Down 17 per cent on December 2010
    - Down 60 per cent on the 2007 peak figure
  - All major programming languages (Java, C#, PHP and .NET) down by between 21 and 26 per cent for all NZ

- According to Forbes 6 of the top 18 jobs for 2013 are in ICT (Slide 17)

Note: Data analysis performed on Monday 10th December 2012
Institutes of Technology & Polytechnics (ITP)
ICT Enrolment Trends (Certificate, Diploma & Degree EFTS)
2002 (Peak) to 2012

Enrolments (EFTS)

Source: CITRENZ Data (Accessed December 2012)
2007 peak before the recession

Seek & Trademe
ICT Job Advert Trends
All NZ

Source: Seek ICT (Accessed December 2012)
Seek ICT Job Advert
Monthly Trends
2010 - 2012

Source: Seek ICT (Accessed December 2012)
Seek ICT Job Advert Trends
Change for the Month of
December 2012

Source: Seek ICT (Accessed December 2012)
Seek ICT Job Advert Trends
Year to December
2012

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<thead>
<tr>
<th></th>
<th>Auckland</th>
<th>Waikato</th>
<th>Wellington</th>
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<th>Total NZ</th>
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<td>543</td>
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Source: [Seek ICT](Accessed December 2012)
Seek ICT Job Adverts by Industry Certification
December 2012

*Monthly change for;
  - Microsoft:
    - All NZ decreased...............21%
  - Linux:
    - All NZ decreased...............19.5%
  - Cisco:
    - All NZ decreased...............24.6%

<table>
<thead>
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<td>365</td>
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Source: [Seek ICT](Accessed December 2012)
NZ totals for all three management certifications down slightly (approx. 2%).
Auckland experienced an increase for all three:
- PMP up 17 per cent
- Prince up 17 per cent
- ITIL up 1 per cent

Source: Seek ICT (Accessed December 2012)
Seek ICT Job Adverts by Programming Language
December 2012

All NZ:
- Java decreased............26%
- .NET decreased............21%
- Canterbury up............21%
- PHP decreased............25%
- C# decreased............22%
- Wellington down..........25%

<table>
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<tr>
<th>Location</th>
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<th>Canterbury</th>
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<td>Canterbury</td>
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<td>47</td>
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</tr>
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</table>

Source: Seek ICT (Accessed December 2012)
TIOBE [The Importance of Being Earnest]
Programming Community Index
December 2012

December Headline: Objective-C on its way to become "language of the year" again

Source: TIOBE (Accessed December 2012)
December Headline: Objective-C on its way to become "language of the year" again

- 1 month to TIOBE announcing the programming language of 2012
- Objective-C continues to rise
- Other mobile phone application languages such as C, C++ and Java are rising too but not fast enough to compete seriously with Objective-C

If you are not in the mobile phone market, according to TIOBE, you are losing ground

Source: TIOBE (Accessed December 2012)
Seek ICT Job Adverts
by Role
December 2012

Notes: Significant changes for this month:
- Prog/Dev down by 16 per cent (down 10 per cent last month)
- System Support down by 18 per cent
- Mobile apps up by 8 per cent

Seek ICT Job Adverts
Mobile Apps
Distribution by Major Regions
December 2012

Notes: Significant changes for this month:
- Auckland up by 22 per cent
- Wellington up by 16 per cent
- Canterbury down by 28.6 per cent

Source: Seek ICT (Accessed December 2012)
Virtually no change for this month, following a 16.5 per cent decrease last month. However, Auckland experienced a 20 per cent increase (at the expense of Wellington? - Down 52%).

Source: Seek ICT (Accessed December 2012)
Increases occurred this month for the following roles:

- Analyst 36 per cent
- Developer 44 per cent (6 per cent last month)

Source: Seek ICT (Accessed December 2012)
Seek ICT Job Adverts
Filtered by DBA/Developer
December 2012

Changes for all NZ for the month:
- SQL Server down by 20%  
  (Wellington down by 31%)
- SAP down by 11.4%  
  (Canterbury up by 4%)
- Oracle down by 14%  
  (Canterbury up by 14.5%)

Source: Seek ICT (Accessed December 2012)
Forbes: The Top Jobs for 2013

Occupations requiring a bachelor’s degrees that have produced the most jobs post-recession include:

**No. 1 Software Developers (Applications and Systems Software)**
70,872 jobs added since 2010, 7% growth

**No. 2 Accountants and Auditors**
37,123 jobs added since 2010, 3% growth

**No. 3 Market Research Analysts and Marketing Specialists**
31,335 jobs added since 2010, 10% growth

**No. 4 Computer Systems Analysts**
26,937 jobs added since 2010, 5% growth

**No. 5 Human Resources, Training and Labor Relations Specialists**
22,773 jobs added since 2010, 5% growth

**No. 6 Network and Computer Systems Administrators**
18,626 jobs added since 2010, 5% growth

**No. 7 Sales Representatives (Wholesale and Manufacturing, Technical and Scientific)**
17,405 jobs added since 2010, 4% growth

**No. 8 Information Security Analysts, Web Developers and Computer Network Architects**
15,715 jobs added since 2010, 5% growth

**No. 9 Mechanical Engineers**
13,847 jobs added since 2010, 6% growth

**No. 10 Industrial Engineers**
12,269 jobs added since 2010, 6% growth

**No. 11 Computer Programmers**
11,540 jobs added since 2010, 3% growth

**No. 12 Financial Analysts**
10,016 jobs added since 2010, 4% growth

**No. 13 Public Relations Specialists**
8,541 jobs added since 2010, 4% growth

**No. 14 Logisticians**
8,522 jobs added since 2010, 8% growth

**No. 15 Database Administrators**
7,468 jobs added since 2010, 7% growth
Local Scene

- **Scoop Business** - Flying New Zealand’s ICT Flag (Tues 20\textsuperscript{th} Nov 2012)
  - Strong message from Communications and Information Technology Minister Amy Adams addressing ICT professionals in Wellington;
  - New Zealand’s ICT sector is being urged to “fly its flag” more aggressively to promote its value as a key driver in the economy and attract much needed talent
  - $20 billion growth industry, employing more than 40,000 people and nipping at the heels of agriculture as the country’s main export earner
  - Key issues addressed; skill shortages, education, government procurement processes, more effective use of ICT solutions in provision of public services and boosting the industry’s profile locally and on the global stage
  - A key challenge - the industry’s low visibility, which needs to change in order to help address major barriers to growth such as shortages of local talent
  - The Government’s Network for Learning initiative is bringing digital education into schools while actively encouraging schools to promote ICT as a creative and rewarding career pathway
  - At a tertiary level, funding has been boosted for digital/technology courses and Government is working with training institutes to ensure graduates are delivering the skills needed by industry
Global Scene

- **Australia – [TechRepublic](#):** Plumbing the depths of Australia’s online job market
  - Online jobs advertisements fell again to a new record low this past month (August), and IT is leading the drop (red line):

  ![Graph showing job market trends](image)

  *Note:* Worth repeating this slide in light of the NZ downturn in ICT jobs this year

- **The Australian** - **ICT workers scarce in big public service**
  - The Gillard government faces a shortage of ICT workers in the public service, raising concerns about Labor's ambitions for a digital economy enabled by the National Broadband Network
  - The shortage of information and communications technology workers will put extra pressure on the government to allow skilled migration
News Bytes

Global Scene

Australia – International Business Times: ICT Experts Shortage Worsens in Australia as Students Shun Computer Technology Courses

- A study by the Australian Computer Society (ACS) warned of the decline of number of local students who finished their ICT courses to just 4,547 in 2012 from 9,093 in 2003 (down by 50 per cent)
- Those who finished their course made up only 54.6 per cent of those who enrolled

UK- Techrepublic: What employers want from developers? Agile, agile, agile

- The new must-have skill for developers is agile development
  - Demand for agile development skills is rising faster than that for any other dev skill, according to CWJobs.co.uk’s analysis of adverts for software roles
- The rest of the top 10 skills in demand have remained unchanged over the past four years. The top five most requested skills have remained as;
  - SQL, C, C#, .NET and Java
Global Scene

Europe – Techrepublic Can Europe’s unemployed help plug the IT skills shortfall?
- Europe has more than 18 million unemployed, and yet the continent’s IT industry reportedly needs some 200,000 people
- Software giant SAP is partnering with organisations including Microsoft Deutschland, Software AG and the German Research Centre for Artificial Intelligence (DFKI) to create the Academy Cube scheme

Ireland - Mismatch between ICT industry skills needs and what third level is producing: A problem that cannot be neglected any longer
- Some 5,000 jobs have been created in the ICT sector so far this year and the industry claims it is struggling to fill some 2,000 vacancies
- A report; A Review of Information Communication Technology (ICT) Demand in Ireland, also found that there is a significant gap between the ICT skills, which are taught in schools, and those that are required to take up job opportunities in the technology sector

Asia – The Register – (IDC) Skills shortage may crimp Asia's IT rise
- Half of employers in the region have problems with skills shortages
- Most mature markets have declining numbers of IT grads;
- e.g. Australia, where grad numbers have slumped by 5.3% over the last five years
- The most recent Employment Trends report from recruitment firm Hudson revealed that IT hiring expectations in Hong Kong and China were the highest in the region
News Bytes

Ireland - Careers Portal: Minister Quinn announces additional higher education places to address ICT skills shortage


- Under this plan, a first phase of the new graduate skills conversion programmes started in March, with the provision of more than 800 free places on 17 programmes in public, private and not-for-profit higher education institutions across the country.

- Participants are due to graduate from these programmes next year and a number of students have already received confirmed job offers.

**Note:** A report by the Expert Group on Future Skills Needs states that the immediate skills recruitment issues relate to positions which require C++, C#, Java, Python (all in the TIOBE top 8); SQL databases; Microsoft .Net Framework, HTML, XML, and Windows /Unix/Linux / operating platforms.
Conclusion

Demand for Skills

- In spite of the recent downturn in online ICT job advertisements in NZ and Australia, the shortage of ICT personnel with the necessary skills is an issue that extends well beyond these shores.

- There is a serious mismatch in many countries around the world, including NZ, between the numbers of unemployed youth (15 to 25 year olds) and the number of ICT jobs available, that needs to be addressed urgently (80,000 15 to 25 year olds in NZ in the NEET category).

- The continuing development of strategies, by industry, government and professional bodies, to get young people enrolling in and completing ICT qualifications is absolutely essential. Otherwise, in the medium to long term, the gap between supply and demand will continue to widen to the detriment of the NZ digital economy.

Garry.roberton@gmail.com
Twitter: @Gazza_R