Full Employment: Good Or Bad News For The Information Security Profession?

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Agenda

- What do we mean by full employment?
- Workforce dynamics
- Workforce trends
- Effects of full employment
- How all this has come about
- Today's problems
- Summary
Background -(ISC)^2

- Support security professionals throughout their careers
- Established in 1989 – Not for profit consortium of information security industry leaders
- Non- Executive Board of Directors – Top information security leaders worldwide
- Global standard for information security – (ISC)^2 CBK®, a compendium of information security topics
- Offered the first information technology-related credentials to be accredited to ANSI/ISO/IEC Standard 17024
- Membership of over 85,000 certified professionals; over 135 countries
- Foundation: Industry research; scholarships; Safe and Secure Online programme for school children
Background - Research sources

- (ISC)^2 Global Information Security Workforce study
  - 2012 Study currently being undertaken
  - 2004, 2005, 2006 surveys conducted by IDG
  - 2008, 2010 & 2012 conducted by Frost and Sullivan
  - Last survey (2010) was largest ever with 10,413 respondents

- (ISC)^2 2012 Career Impact Survey
  - Second biannual survey
  - (ISC)^2 members polled
  - 2,250 responses
Demographics

- How many of you would consider yourselves information security professionals?
- How many of you are currently employed or are on contract?
- How many of you are looking for a new position?
- How many of you are recruiting staff at present?
Full employment

- Good news?
- Bad news?

- Paradoxically both are right
What do we mean by full employment?

- Unemployment = 0% - Tobin
- Unemployment < 3% - Beveridge
- Unemployment between 2% and 13% - Others
Workforce mapping

Unemployed workforce

Unfilled Vacancies

Workforce  Employed  Infosec jobs
Employability

- Qualified
  - Has ability and competence

- Relevant
  - Has relevant skills, knowledge and experience

- Suitable
  - Qualifications and relevance are appropriate for the task in hand

- Proviso
  - Could be taught to be suitable
Growth in Information Security Workforce 2004 – 2010

(ISC)² Global Workforce Surveys 2004 -2011

IDG

Frost & Sullivan
Growth in Information Security Workforce 2004 – 2010

\[
\begin{array}{cccccc}
\text{Year} & \text{IDG} & \text{Frost & Sullivan} & \text{CAGR} & \text{Prev. Estimate} \\
2004 & 13.70\% & & & \\
2005 & 8.50\% & & & \\
2006 & 7.80\% & & & \\
2007 & 10\% & & & \\
2010 & 13.20\% & & & \\
2012 & & & & \\
\end{array}
\]

(ISC)^2 Global Workforce Surveys 2004 -2011

IDG

Frost & Sullivan
Growth in Information Security Workforce 2004 – 2010

(ISC)² Global Workforce Surveys 2004 -2011

IDG

Frost & Sullivan
Frost & Sullivan estimates the number of information security professionals worldwide in 2010 to have been approximately 2.28 million. This figure is expected to increase to almost 4.24 million by 2015, displaying a Compound Annual Growth Rate (CAGR) of 13.2 percent from 2010 to 2015 (see Table 1 below).
Conclusion

- The demand for information security personnel has been increasing over the past 7 years
- The demand for information security personnel will continue to increase
- It is possible that the number of people will almost double between 2010 and 2015
Are you currently employed?

96.30% No

Were you unemployed at any point this year?

92.80% Yes
For which reasons are you not currently employed?

- Laid off: 50%
- Retired: 21.30%
- Left previous job for personal reasons: 17.50%
- Recently relocated: 8.80%
- Pursuing higher education: 2.50%
Conclusion - 2

- Information security is almost at full employment (unemployment < 4%)
Full employment is good news

- Better opportunities for advancement and better jobs
Did you change jobs this past year?

- Yes, job title change and company change: 19.40%
- Yes, job title change only (same company): 12.60%
- Yes, company change only (same job title): 3.30%
- No: 64.70%
Why did you change jobs this year?

- Advancement Opportunity: 53%
- Downsizing/Restructuring: 18%
- Personal Preference: 16.90%
- Contractor: 10.70%
- Pursued Higher Education: 1.40%

(ISC)² Career Impact Survey 2012
Full employment is good news

- Better opportunities for advancement and better jobs
- Better chance of salary increase
Did you receive a salary increase, including benefits and incentives, in 2011?

- Yes - 0-5%: 40.30%
- Yes - 5-10%: 13.90%
- Yes - 10% or higher: 13.70%
- No - No change in salary or benefits: 24.50%
- No - Salary and/or benefits cut: 7.70%

(ISC)² Career Impact Survey 2012
How has this come about?
Hype curves (after Gartner)

Visibility

Peak of inflated Expectations

Plateau of Productivity

Slope of Enlightenment

Trough of Disillusionment

Trigger

Time
Evolution of IT

1940 - Colossus – Bletchley Park
1950 - Transistors invented
1960 - First computers using Integrated circuits
1970 - IBM 360/ICT 1900
1980 - IBM PC
1990 - Sinclair ZX Spectrum
2000 - Worldwide Web
2010 -

ISC²
Evolution of IT workforce

Colossus – Bletchley Park

The Pioneers

The Settlers

IBM 360/ICT 1900

The Commoditisers

The IT workforce

- **Pioneers – worked at the bleeding edge**
  - Generally worked in specialist units in universities, military establishments and research centres

- **Settlers - Consolidated the industry**
  - Created a profession
  - Created career paths
  - Established job requirements
  - Enjoyed high salaries
  - Enjoyed full employment

- **Commoditisers – Got on the bandwagon**
  - Attracted by high salaries
  - Attracted by job security
  - Not always well equipped to do the job
  - Salary expectations not always met as supply exceeds demand
  - Job security not always as expected as a result of over supply
Evolution of IT workforce
The economic circle

Shortage of resources

Salaries rise

This seen as an opportunity

People enter industry

Surfeit of resources

Salaries stagnate

People leave the industry

30
What is happening to Information Security?
Where are we now?
The information security circle

- Shortage of resources
- Salaries rise
  - This seen as an opportunity
  - People want to enter industry
  - People leave industry
  - Salaries stagnate
  - Surfeit of resources
Catch 22

Can’t get a job because of my lack of experience

Can’t get experience because I don’t have a job
The other side of the equation

- The hiring manager
Are you a security manager or executive with hiring responsibilities?

- Yes: 26.10%
- No: 73.90%
When filling an information security position within your organization, what is the average time it takes to find and hire the right candidate?

- Less than 1 month: 7.50%
- 1-3 months: 43.60%
- 3-6 months: 36.40%
- 6 or more months: 12.50%
Are you looking to hire any additional permanent or contract information security staff in the coming year?

- Yes - Permanent employees only: 28.70%
- Yes - Contract employees only: 9.70%
- Yes - Both permanent and contract employees: 23.70%
- No: 37.90%

(ISC)² Career Impact Survey 2012
If yes, how many are you looking to hire?

- 1-2: 61.60%
- 3-4: 22.20%
- 5-9: 8.80%
- 10+: 7.40%
How difficult has it been to find the right candidate(s)?

- **Very difficult**: 29.10%
- **Somewhat difficult**: 50.20%
- **Not difficult at all**: 6.10%
- **Haven't begun the search yet**: 14.60%

(ISC)² Career Impact Survey 2012
What are the most important factors in your hiring decisions?

- An understanding of information security concepts: 80.60%
- Technical skills: 75.80%
- Directly related experience: 71.70%
- Good presentation and communication skills: 61.40%
- An understanding of business concepts: 51.90%
- A university degree: 38.20%
- Possess an information security credential: 37.20%
- Appreciation of emerging technologies: 32.20%
What areas are most challenging in the hiring process?

1. Finding the candidate with the right skills: 60.9% Very challenging, 31.9% Somewhat challenging, 2.6% Not challenging
2. Finding the candidate with the right amount of experience: 52.1% Very challenging, 39.0% Somewhat challenging, 4.2% Not challenging
3. Meeting salary expectations: 25.0% Very challenging, 48.5% Somewhat challenging, 19.3% Not challenging
4. Finding a candidate in my geographical area: 26.0% Very challenging, 35.6% Somewhat challenging, 30.4% Not challenging
5. Finding the candidate with the right certification(s): 18.0% Very challenging, 43.3% Somewhat challenging, 27.5% Not challenging
6. Finding a candidate in my sector: 15.9% Very challenging, 37.7% Somewhat challenging, 31.9% Not challenging
7. Finding a candidate who's willing to commit long-term: 14.4% Very challenging, 36.2% Somewhat challenging, 37.9% Not challenging
8. Reviewing the number of applications received for the position: 10.7% Very challenging, 36.6% Somewhat challenging, 44.4% Not challenging
9. Finding a candidate willing to withstand the lengthy hiring process: 15.0% Very challenging, 31.1% Somewhat challenging, 41.0% Not challenging

(ISC)² Career Impact Survey 2012

Very challenging | Somewhat challenging | Not challenging | N/A
Conclusion - 3

- It’s not easy to get the right people
- Skills, experience and salary expectations are the main inhibitors
Full employment is bad news

- Bad for economy
  - Causes inflationary spiral
  - Increase salary
  - Increase prices

- Bad for employers
  - Difficulty recruiting staff
  - Difficult meeting salary expectations
  - Difficult balancing budget

- Bad for employees
  - Staff shortages inhibits progress
  - Business as usual work has to be done by existing staff
  - Extra workload/stress on short staff team
What constitutes a healthy job market?

- Supply of well qualified candidates
- Adaptable workforce
- New talent entering market
- Skills keeping pace with changes in technology
- Opportunities for advancement and new experiences
- Reasonable rate of churn
Job market

New Entrants

Movers and Shakers

Leavers

Retirees
The sausage machine is not working

- Very difficult to attract new entrants
- New entrants have difficulty getting experience
Deja vu

Can’t get a job because of my lack of experience

Can’t get experience because I don’t have a job
The problem

- Employers
  - Buy in experience
  - Rather than develop talent
- Information Security as a career option
  - Poor recognition
  - Limiting supply of interested, if not yet qualified candidates
The solution?

- Boost interest
  - Show that Infosec is an interesting career choice
  - Show potential candidates that it’s not all about IT
- There is a huge difference between:
  - Understanding technology
  - Understanding the impact that technology can have
    - Strategic thinking and management instincts rather than deep technical knowledge.
- Support to develop interest
What are we doing?

- Encouraging people to consider Infosec as a career choice
  - Cybersecurity challenge
  - University initiatives
- Setting up programmes to give new entrants appropriate experience and mentoring
  - Major consultancies getting better at this
- Providing support for new entrants in the field
  - Networking groups for new people
    - Chapters
    - NetSec
Summing up

- Workforce likely to double in the five year horizon
- Demand has consistently increased over past 7 years
- Unemployment less than 4%
- Need to improve health of job market by encouraging new entrants
- Need to have schemes to support new entrants
Curates egg - good in parts

- The good
  - Higher salaries
  - Year on year salary increases
  - Opportunities for advancement outside current employer
  - Good employment security

- The bad
  - Macro
    - Overall bad for economy
    - Difficulty recruiting
    - Difficult meeting salary expectations
  - Individual
    - Potential extra workload and stress
    - Can inhibit career progress
After the conference

- Think about how all this affects you
- Think about what you might want to do about it
- Do it!
Questions?