Social and Legal Issues in Informatics

MSc Management – IS and Services Science

Career Development
IT Workers

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Overview

How to enhance an IT career?

- Joining Societies
- Acquiring Certifications
- Considering Specialisations
- Planning a Career Path

Career Development

- Tools
- Employer
- Employee

Setting up a Company

- Start-up
- Private Limited companies
- Public Limited companies
- Business plan

IT Workers

- HR Department: recruitment, dismissal, anti-discrimnation

How to enhance an IT Career

Joining Societies

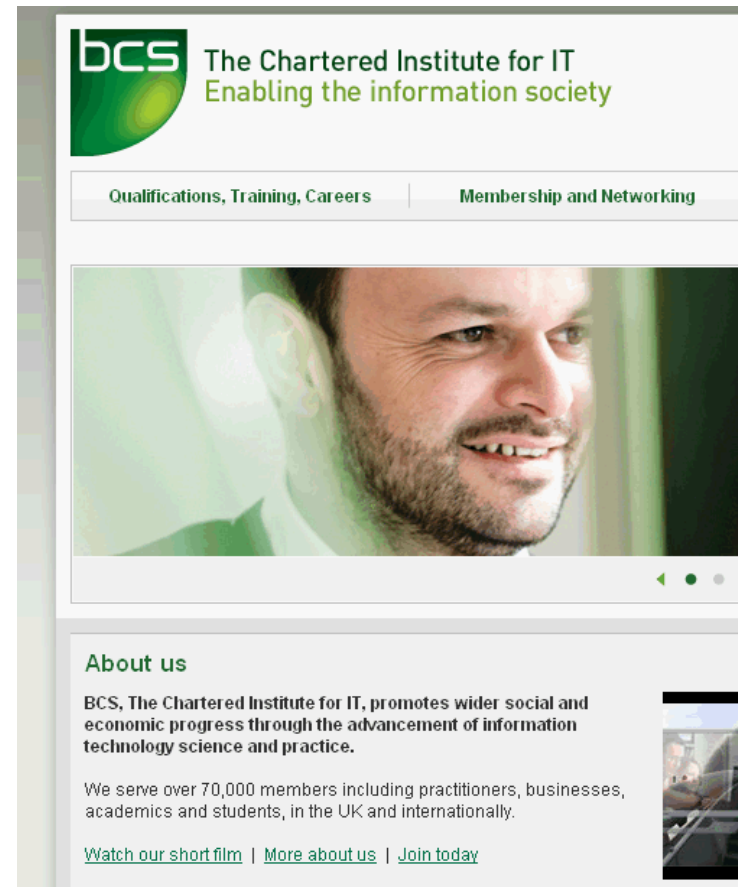Acquiring Qualifications and Certifications

Considering Specialisations

Planning a Career Path

Joining Societies

Computer Society

- Who can join?
  - Different levels of membership
- How to join?
  - http://www.bcs.org (UK)
  - http://www.s-i.ch/ (CH)
  - http://www.sisr.ch/ (CH-R)
  - www.acm.org (US-int)
- What benefit
  - Recognition of competence
  - Career Development Tools
  - Publications
  - Career Advices
  - Networking

bcs The Chartered Institute for IT
Enabling the information society

Qualifications, Training, Careers | Membership and Networking

About us

BCS, The Chartered Institute for IT, promotes wider social and economic progress through the advancement of information technology science and practice.

We serve over 70,000 members including practitioners, businesses, academics and students, in the UK and internationally.

Watch our short film | More about us | Join today

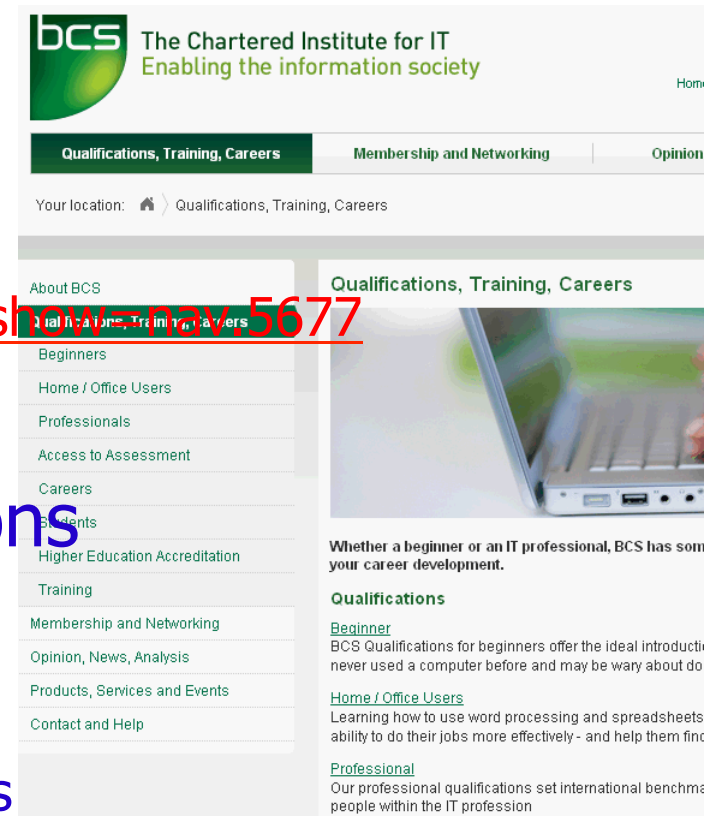# Acquiring Qualifications and Certifications

BCS Qualifications

- http://www.bcs.org/server.php?show=nav.5677

BCS Professional Examinations

- Diploma
- Syllabus
  - SLII – is one of those courses
  - http://www.bcs.org/server.php?show=nav.7146

Acquiring Qualifications and Certifications

Microsoft Certifications

- http://www.microsoft.com/learning/ http://www.microsoft.com/learning/mcp/

Sun Java Technological Certifications

- http://www.sun.com/training/certification/java/index.xml

... and more

- Cisco, IBM, Oracle, SAP, ...

BCS Accreditation for MSc/BSc

BCS has accredited

- BSc Information Systems & Management
- BSc Information Systems & Computing
- … this helps when requesting BCS membership

Requirements for joining BCS

- Educational Level
  - Provided by BSc if accredited
- Professional Experience

Considering Specialisations

Security specialist

Web developer

Health informatics

"The knowledge, skills and tools which enable information to be collected, managed, used and shared to support the delivery of healthcare and promote health."

UK Department for Health

Bio-informatics

"Roughly, bioinformatics describes *any use of computers to handle biological information*.

In practice, synonym for "computational molecular biology"---*the use of computers to characterize the molecular components of living things.*"

http://bioinformatics.org/faq/#definitions

RFID
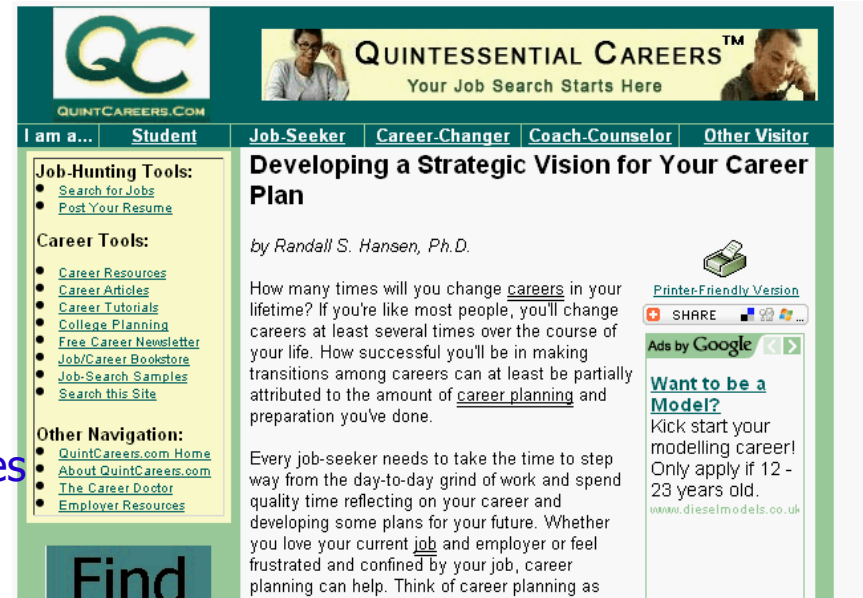
Other ideas: finance.

Planning a Career Path

Planning

- Identify a career goal
  - Revise it with time!

- Short-term planning (1-2 years)
  - Identify strengths/weaknesses
  - Select reachable goals and objectives
  - Identification/choice of career
  - Identify required qualification
  - Make a plan to get the required qualification

- Long-term planning (5+ years)
  - Develop core skills (communication, creative thinking, teamwork, etc.)
  - Short-term planning (stay up-to-date)

http://www.quintcareers.com/career_plan.html

Planning a Career Path

Progression in the same path
- Bottom-up (programmer, analyst, project manager, etc.)
- Get promotion in current company
- Change job to get promotion

Change path (career)
- How many times?
- Change/Add Skills
  - Join IT from another area
    - Ex: Civil engineer becomes expert on Intelligent Transport Systems
  - Move from IT to another area
    - Ex: Become government specialist on IT issues related to education
  - Move within IT
    - From Web site developer to Security Expert

And also ...

Become a consultant

Networking

Move / Change
- Job / Company / City / Country

Other ideas?

Career Development

Tools

Employer

Employee

Career Development

Tools (examples)

- Academic (jobs, tests, careers advices, …)
  - http://www.prospects.ac.uk/

- Online Career Assessment
  - http://www.pcsexecutive.com/?gclid=CNLc35-M9ocCFShREgodsXVtHw

- BCS tools
  - http://www.bcs.org/ (Professional Development)

Career Development

Employees

- SFIAPlus
  - http://www.bcs.org/server.php?show=conWebDoc.1118
  - 78 Skills (5 categories, 17 sub-categories)
  - 7 levels of responsibility
  - 263 Tasks (skills, levels)
  - Descriptions of skills, tasks, qualifications, etc.
  - Online SFIA
    - http://scripts.bcs.org/sfiaplus/sfia.htm (sfia)

- CareerBuilder
  - Support for individual career development program
    - http://careerbuilder.bcs.org (members)

Career Development

SFIA/SFIAPlus chart

Progression along same career
- Progress along the levels (from 1 to 7)
- Move in the subcategories

Change of career
- Change category

Career Development

Employers

- Career Developer
  - Define, manage, develop IT professional
- ITJobDescriber
  - Help building job descriptions
- Skills Manager
  - Measurement of IT skills

Setting up a Company

Freelance

- "Work independently and on temporary contracts rather than for a long-term employer " (http://wordnet.princeton.edu)

- "A freelancer or (freelance worker) is a self-employed person working in a profession or trade in which full-time employment is also common. The word's etymology derives from the medieval term for a mercenary, a "free lance," which literally described a knight who was not attached to any particular lord, and could be hired for a given task" (wikipedia)

Setting up a Company

Build a product and sell it ..

- … to Microsoft
  - Visio Corporation
  - $1.3bn (stock swap)
  - http://seattlepi.nwsource.com/business/visi15.shtml

- … to Google
  - YouTube
  - $1.65bn (stock)
  - http://news.bbc.co.uk/1/hi/business/6034577.stm?ls

- … to eBay
  - PayPal
  - $1.5bn
  - http://news.cnet.com/2100-1017-941964.html

Setting up a Company

Start-up

- "Financing provided to companies for product development and initial marketing. Companies may be in the process of setting up or have been in business for a short time, but have not yet sold their product commercially" (http://www.med.govt.nz/)

- How to start a start-up
  - Simple idea – useful product
  - Work with good people
  - Spend little money
  - http://www.paulgraham.com/start.html
  - http://philip.greenspun.com/business/startup-tips/

Spin-off

- "New company formed from a university research group" (wikipedia)

Setting up a Company

Start-up

- Google
  - Started as a research project (Stanford Univ.) - 96
    - Search engine analyzing relationships among Web sites
      - Number of links on particular Web site
  - Became a company - 98
  - Raised funding ($1M)
  - Selling of advertisements - 2000
  - … etc.

Setting up a Company

Limited (Ltd) companies

- UK / Commonwealth
- Swiss SARL (low initial capital CHF 20'000)
- In case of bankruptcy, risks are limited to invested capital
- Liability is "limited" to that capital
- Minimum size
  - Director + secretary
- Maximum
  - Depends on country: 50

Setting up a Company

Public limited company

- Limited company
- Shares may be offered for sale to the public

Setting up a Company

Business plan (wikipedia)

- Description of how a business owner, or entrepreneur intends to:
  - organize and implement activities necessary and sufficient for the venture to succeed.
  - written explanation of the company's business model for the venture in question.
  - Business plans are developed for ventures in both business and government.
- Used for
  - management and planning
  - to convince investors
- Content
  - Marketing
  - Production
  - Finance
  - Human Resources

IT Workers

IT Industry's main asset is PEOPLE

Much more valuable than hardware or software

Important to manage staff in accordance with the law

Human Resources Department

- Ensuring recruitment, selection and promotion procedures comply with anti-discrimination legislation
- Staff training and development
- Setting up and monitoring remuneration policy
- Setting up and monitoring appraisal procedures
- Administering dismissal and redundancy procedures
- Dealing with contracts of employment
- Workforce planning
- Administering grievance procedures
- Being aware of new legislation affecting employment rights and advising management on compliance
- Dealing with health and safety
- Administering consultative committees

Recruitment & Selection

- Recruitment is getting to a shortlist of apparently suitable candidates

- Selection is choosing the best individual for the position

Recruitment

Involves drawing up a job description and a statement of the skills and type of qualification needed

Job can then be advertised with a specified closing date

Often higher paid posts are handled by recruitment agencies ("head hunters")

Selection

Methods can include:

- One to one interviews
- Interview panels
- Assessment of references
- Psychometric tests : ability, aptitude, personality
- Situational assessment : role play, mutual assessment
- Task assessment

Essential to comply with anti-discrimination legislation and codes of good practice

Staff Training

Growing emphasis in IT on professional or practitioner skills

ACM offers its members free distance learning courses

BCS has career management tools for employers and individuals

Remuneration

Public sector typically uses incremental scales with promotions to higher scales

Industry typically uses individual salaries within broad ranges

Anti-discrimination legislation

Need to demonstrate

   "equal pay for work of equal value"

Has led to complex job evaluation
   schemes

Also leads to extensive record keeping
   about an employer's whole workforce to
   demonstrate fair treatment

Redundancy, Dismissal and Grievance Procedures

Four grounds for dismissal:

- Lack of capability
- Misconduct
- Breach of law (eg no work permit)
- Redundancy

Beware of:

Unfair dismissal

- Not following statutory procedure
- Employer must provide adequate detail or reason for redundancy
- Adequate notice must be given
- Meeting must be held with employee
- Employers must not be too slow with procedures
- Meeting must give employee reasonable opportunity to make their case

Beware also of:

Constructive dismissal:

Employer behaves towards an employee so they feel no alternative but to resign

- Moves job long distance at short notice without consultation
- Changing job function in demeaning way
- Senior manager repeatedly over-rules junior manager

Anti-discrimination Legislation

Illegal to discriminate on grounds of:

- Sex
- Race, colour, ethnic origin or nationality
- Disability
- Sexual orientation
- Religion
- Age

CH – no anti-discrimination law

EU - anti-discrimination directive

http://ec.europa.eu/social/main.jsp?catId=423&langId=en

Discrimination

Direct discrimination

- Treating person less favourably because of their sex, race etc.

Indirect discrimination

- Applies conditions to all employees but which have disproportionate effect on one group
  - Over 180cm in height
  - Insisting all employees work on Saturdays

Disability

Apart from employers legal obligations under Disability Discrimination Act, special issues around design and use of web sites by people with visual impairment

Excellent guidelines are available from numerous sources including:

www.w3.org (World Wide Web Consortium)

www.out-law.com/page-337 (Pinsent Masons)

Other information sources include:

Equal Opportunities Commission www.eoc.org.uk

Commission for Racial Equality www.cre.org.uk

Disability Rights Commission http://www.drc-gb.org

Summary

- Staff are the main asset of any IT organisation

- Staff have rights which must be respected

- Serious legal consequences for failing to observe those rights