User guide to developing an employer survey on skill needs (*in press*)

Nick Sofroniou

Aims and objectives of the survey

`What are the current and future skill needs of enterprises in countries, sectors and within different occupations, and what drives the differences between occupations?'

- Task-based approach is taken with the employer (local establishment) as the unit of observation.

- An ecologically valid measurement instrument close to the employer's perspective linked to occupations through ISCO classification.

Sampling scheme in the pilot survey

- 7 sectors are selected. Within each sector 3 most relevant occupations are identified.

- 1000 Employers per country (IE 500) are asked about importance, change in importance and preparedness of tasks (increasing in importance).

- Answers focus on a *single* occupation.

- 17 generic tasks;

- One occupation in each sector has questions on 4-7 **occupation specific** tasks (ISCO group definitions and task lists at 3- and 4-digit level.

Example results: 4-7 occupation-specific tasks, from ISCO definitions, increasing in importance, EU-9

Sector 62: Computer programming, consultancy and related activities	Software and applications developers and analysts		
	%	se	n
Researching **information technology use** in business functions and identifying areas in which improvements could be made to maximise effectiveness and efficiency	45.4	3	276
Conducting research into the **theoretical aspects** of and **operational methods** for the use of computers	22.9	2.8	228
Evaluating, planning and designing **hardware or software configurations** for specific applications	46.1	2.9	294
Designing, writing, testing and maintaining **computer programs** for specific requirements	55.4	2.8	314
Evaluating, planning and designing **Internet, Intranet and multimedia** systems	48.8	3	276

Some inferences from the example

For software applications developers and analysts:

- The task which establishments least frequently report to be *increasing in importance* is `conducting research' (22.9%)

- while the most frequently reported task is `designing, writing, testing and maintaining computer programs for specific requirements' (55.4%).

Looking at *preparedness for tasks* (table not shown)

- which are increasing in importance, staff appear less prepared for `conducting research' (76.9%)

- than for `designing, writing, testing and maintaining computer programs for specific requirements' (97.1%)

Six domains were used to select *generic skills*:

- **Cognitive** (reading, writing, maths, problem-solving, ICT, foreign language);

- **Interaction/social** (speeches/presentations, persuading, instructing, team-working);

- **Physical** (manual dexterity);

- **Learning** (new ideas, adapting);

- **Green** (anti-pollution tasks);

- **Self-direction** (task discretion).

Enable comparisons with surveys at other levels CVTS (enterprises) and PIACC (employees).

EU-9: example **generic tasks**, important and increasing in importance for Personal Care Workers (Health Sector) & Software Developers (IT sector)
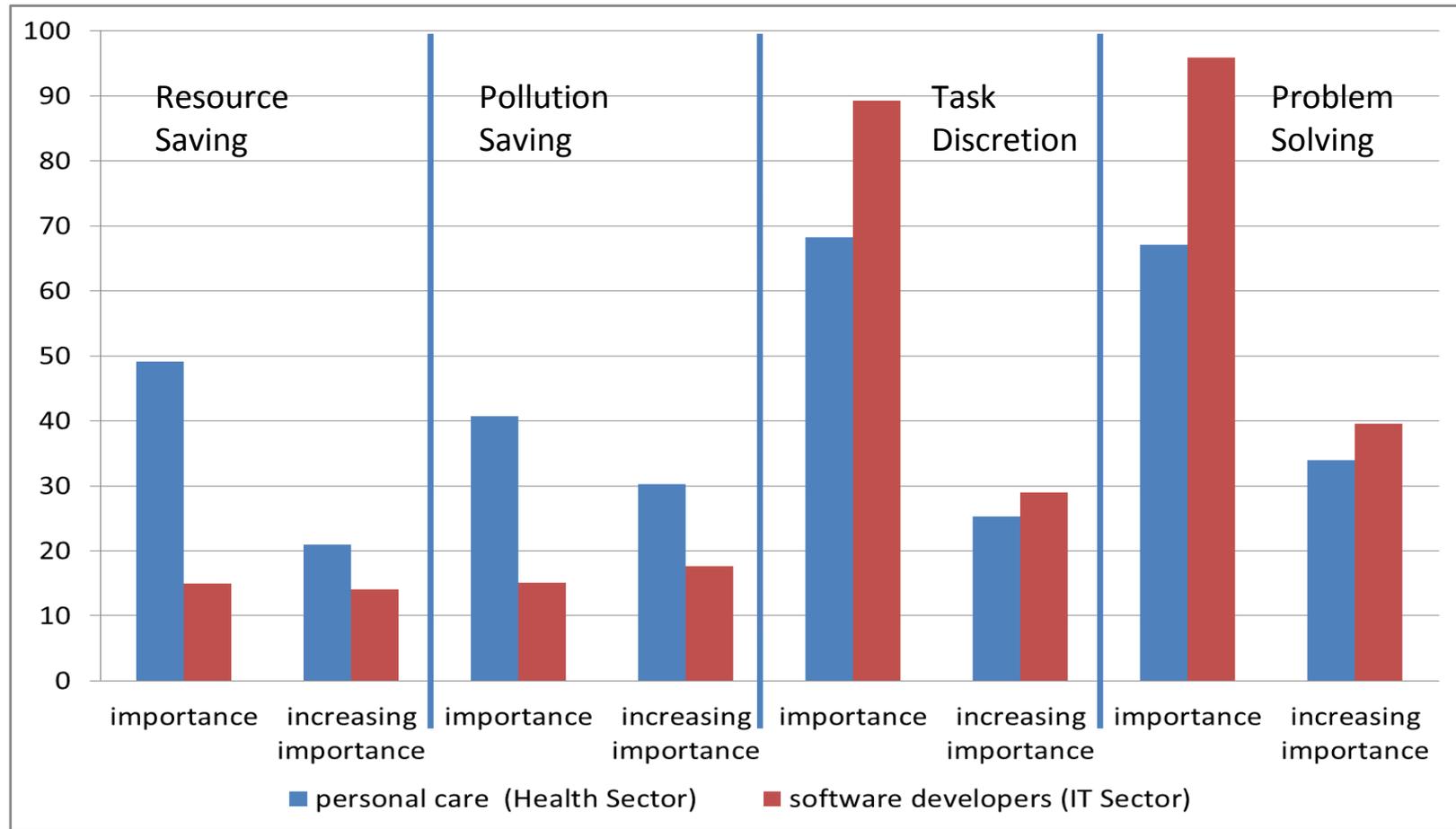
Some inferences from the example

- Green skills are more important for personal care workers and their importance is increasing at a faster pace compared to software developers.

- Problem solving and task discretion are particularly important for software developers with the importance of these tasks growing more rapidly compared to personal health workers.

- In both occupations task discretion and problem solving are important

- Items on newly emerging tasks asked for all the selected occupational groups, and preparedness for these tasks. These items address future skills needs and possibly related training needs.

- Drivers of change questions:

  - Innovation;

  - adaptation of products, processes and services due to environmental awareness or standards/regulations;

- Background questions: establishments' reviews of skill & training needs, training establishments, hard to fill vacancies, establishment size.

Topics covered in the user guide

- Sampling principles, design, unit of enquiry, survey universe and definition of respondents;

- The pilot master questionnaire, selection of occupation, hints for interviewers, and proposals for modifications;

- Translation guidelines and issues;

- Programming and testing of the questionnaires;

- Fieldwork: timing, organisation and monitoring;

- Data handling, checks and coding;

- Weighting, design effects and standard errors;

- Approaches to analysis of the data, descriptive approaches and statistical modelling.

Summary of features of two alternative designs

	Sector-based Survey	Generic Skills Survey
Key Features Added-value	Quantitative case studies of selected occupations in one sector of key interest	Representative of entire EU economy and broad occupational groups
	Detailed insights into changing skills needs	Looks at generic skills and newly emerging tasks
	Covers generic skills, occupation-specific tasks as wells as newly emerging tasks	Measures drivers of change in skill needs, gives an EU wide overview of their impact
Drawbacks	Does not cover the whole EU economy but a small subset of priority occupations in sectors	No detailed information on sectoral trends (aggregate EU_{27} using survey weights)
	Broad-brush comparisons between countries are not feasible across a range occupations	Omits the occupation-specific tasks. Does not provide detailed information on individual occupations
Next steps	Choice of sectors and occupations	Focus survey instruments on generic skills
	Improve comparability of importance scale; streamline coding of newly emerging tasks	Improve comparability of importance scale; streamline coding of newly emerging tasks
	Develop task lists, pre-test final instruments	Pre-test finalized instruments