

# Defining and measuring non technical innovation: Oslo Manual and lessons learnt from innovation surveys

Workshop on Non-Technical  
Innovations Definition, Measurement  
and Policy Implications

# OUTLINE

- How organisational innovation ended up in the Oslo Manual
- Experiences with innovation surveys
- What innovation surveys can tell us about organisational innovation and what they cannot
- Suggestions?

## Schumpeter (1934) : 5 types of innovation

- new products, new methods of production, new sources of supply, opening of new markets, new ways of organizing businesses

# 71 years after: the Oslo Manual (2005)

- 1992 (1<sup>st</sup> ed.) : measuring technological innovation
- 1997 (2<sup>nd</sup> ed.) : measuring technological innovation + 2.5 pages annex on collection of non-technological innovation data ➡ “technological change both calls for and results from institutional and organisational change”.
- 2005 (3<sup>rd</sup> ed.) : includes organisational and marketing innovations ➡ “organisational innovations are not only a supporting factor for product and process innovation; they can also have an important impact on firm performance on their own”

# Oslo Manual (2005)

- An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or **a new organisational method** in business practices, workplace organisation or external relations



# a new organisational method

- **in business practices:** e.g. codifying knowledge; education and training schemes; supply chain management; business re-engineering; lean production; quality management systems
- **in workplace organisation:** new methods for distributing responsibility and decision making among employees
- **in external relations:** with other firms or public institutions or customers



# Survey experience with organisational innovation

- Canada (Advanced Technology in Canadian Manufacturing, 1998; Survey of Innovation, 2003; Workplace and Employee Survey, ref. 98-99; pilot survey of Knowledge Management, 2001)
- Australia (Innovation Survey, 2003)
- France (Changements Organisationnels et l'Informatisation, 1997, CIS3 covering 4 questions on knowledge management, Response 98 covering innovation activities and HRM practices)
- Germany (ZEW Service Sector Business Survey asking about workplace re-organisation, ZEW Mannheim Innovation Panel in Services from 1995)
- Japan (National Innovation Survey 2003 with detailed questions on important organisational changes related to management, organisation, marketing, aesthetic changes)
- Nordic countries (Nordflex, 1999 on flexible work organisation; Danish DISKO survey with 9 questions on use of HRM systems)
- UK (Workplace Employment relations Survey (WERS 1998 and 2004)
- US (Educational Quality of the Workforce National Employer Survey, EQW-NES, 1993-1996)



# CIS experience with organisational innovation

- CIS3 (2001): 1 question on innovative management techniques and new organisational practices
- CIS4 (2004): improved management systems to better use or exchange information, knowledge and skills within your enterprise; changes in the organisation of management structure or integrating different departments or activities; new or significant changes in the relation with other firms, such as alliances, partnership, outsourcing and subcontracting
- CIS 2006: same questions than CIS4 but Oslo Manual 2005 definition incorporated



# Organisational innovation (CIS 2008)

8.1 During the three years 2006 to 2008, did your enterprise introduce:

	Yes	No
New <b>business practices</b> for organising procedures (i.e. supply chain management, business re-engineering, knowledge management, lean production, quality management, etc)	<input type="checkbox"/>	<input type="checkbox"/>
New methods of <b>organising work responsibilities and decision making</b> (i.e. first use of a new system of employee responsibilities, team work, decentralisation, integration or de-integration of departments, education/training systems, etc)	<input type="checkbox"/>	<input type="checkbox"/>
New methods of <b>organising external relations</b> with other firms or public institutions (i.e. first use of alliances, partnerships, outsourcing or sub-contracting, etc)	<input type="checkbox"/>	<input type="checkbox"/>

# Issues

- Level of aggregation (survey unit of analysis/respondent)
- Broader v. narrower coverage (dealing with heterogeneous organisations, different understanding of terms)
- Linking to performance measures (perceived impacts v. measures of performance indicators linked to org innovations; but different org innovations have different impacts)



# Innovation surveys: what can they tell about organisational innovation?

- Highest level of aggregation (enterprise)
- Broad (economy-wide coverage)
- Some innovation surveys differentiate across types of organisational practices
- Can be linked to economic performance (but would need a panel)
- Can tell a story of complementarities: mixed modes of innovation



e.g. OECD innovation micro-data project: includes an exploratory analysis of mixed modes of innovation across 9 countries

- Three modes of innovation (categories of firms) are present in most countries: “new-to-market” (new products, R&D, use of IPR); “process modernisers” (new process, machinery, training); “wider innovators” (marketing, organisation). Most countries also have a fourth category with country-specific characteristics

# An alternative?

- Have a look at the Canadian survey of Advanced Technology 2007:

[http://www.statcan.ca/english/sdds/instrument/4223\\_Q1\\_V2\\_E.pdf](http://www.statcan.ca/english/sdds/instrument/4223_Q1_V2_E.pdf)

- Targeted to both “business unit” (establishment) and “firm” (enterprise)
- Use of advanced technology (detailed by business process; investment in; skills needs; extent of integration; sources of information; outcome of adoption; obstacles)
- Use of advanced practices (business practices, design practices)
- Use of emerging technologies (geomatics, geospatial technologies, biotechnologies, nanotechnologies)
- Success factors
- Innovation (4 Oslo Manual types)
- R&D

# Can the alternative measurement strategy:

- Link innovation to performance
- Measure 'user-driven' innovation
- Measure 'open' innovation
- Measure the 'unmeasured factor': beyond formalised workplace organisational structures and management models to identify other key elements that characterise innovative workplaces

## ThinkPlace:



An Intranet site where employees at IBM can submit ideas and rate them (as on YouTube). Managers can sponsor an idea, a team of typically 3-4 people from around the world is formed and might get allocated one day a week to develop a certain technology or business process

"We're taking the best aspects of jams, wikis and online communities and applying them to our understanding of innovation in the 21st century" (Nick Donofrio, senior vice president, technology and innovation)



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