



e-Business W@tch Workshop

7 July 2004

OECD work in the area of e-business and its impacts

Sheridan Roberts, OECD

Firstly...

- n I will talk mostly about OECD work in the area of standards for measuring e-business.
- n And will then briefly describe our work on ICT impacts.

E-business Measurement standards: Background

- n In 1999, OECD's Working Party on Indicators for the Information Society (WPIIS) established an *Expert Group on Defining and Measuring Electronic Commerce*
 - to "compile definitions of electronic commerce which are policy relevant and statistically feasible".
- n By 2000, work of the Group had resulted in definitions for e-commerce transactions but not electronic business processes.
- n In 2001, a model questionnaire on the use of ICT/E-commerce in the business sector was agreed by WPIIS
 - but it did not comprehensively cover the range of an enterprise's possible electronic business processes.
- n In 2002, it was agreed that a module on e-business processes be developed and the *Expert Group on the Measurement of Electronic Business Processes* was established.

Background ctd

- n In 2003, the Expert Group proposed a definition of e-business processes based on functionality rather than technology:
 - "(automated) business processes (both intra-and inter- firm) over computer mediated networks"
 - in addition, electronic businesses processes should integrate tasks and extend beyond a stand alone or individual application.
- n Nine broad business functions were identified and described in terms of e- business processes, e.g.
 - customer acquisition and retention
 - e-commerce
 - finance, budget and account management
 - logistics (inbound & outbound) and inventory control.

Current work: OECD expert meeting on measuring e-business – December 2003

- n The discussion was useful but not conclusive; it covered:
- Definition of electronic business – disparate views, is it necessary?
 - Broad framework – Is the Porter value chain model appropriate?
 - Which broad business functions are important and measurable? Are they generalisable across industry, firm size and country?
 - Classification of e-business processes – is this possible given their integrating and evolving nature? Is it necessary?
 - Organisational change – is important but is it measurable via large scale, mail-based surveys?
 - Impacts – are important but how do we measure them?
 - Networks – what kind of networks (Internet Protocol or all computer mediated networks)? The focus seems to be on IP networks.

Current work: module for measuring e-business

- n A questionnaire module on electronic business was drafted following the December meeting:
 - the term "electronic business" was not used or defined.
- n The draft module has received statistical and policy input from a number of countries/organisations:
 - OECD should include non-Internet business processes and distinguish different technologies (IP vs non-IP).
 - There is broad support for including email.
 - There is little enthusiasm for distinguishing between in-house electronic business and that done between related enterprises.
 - Information on HRM processes is not seen as a priority.
 - There is general support for e-government questions and questions on digitised products (sales and purchases).
 - Additional areas of measurement suggested include outsourcing and drivers of businesses adoption of ICT.

Integration questions in the module

- n It is assumed that the benefits of e-business will be realised where there is a greater degree of integration between functions.
- n The draft module has two types of integration questions.
 - The first is to ask about linkages associated with e-commerce e.g. whether systems used to receive/place orders were linked with customers', suppliers' systems etc.
 - The second is a general integration question where respondents select from a list of business functions.
- n Both approaches are broadly supported over the alternative which is to ask about particular types of 'integrating' technologies such as ERP or SCM.
- n However, delegates did not like complicated questions (e.g. a matrix consisting of a number of rows (processes) and columns (processes or other information)).
- n There were mixed views on whether a list of processes could be generalisable across sectors.

E-business measurement work in the OECD – challenges and the future...

- n OECD will work with a smaller group of interested countries/organisations to refine the module
 - and expects to present it to WPIIS in April next year.
- n To ascertain statistical feasibility of new questions, Canada may pilot test some of the more complicated questions.
- n Challenges are numerous
 - how to measure impacts (subjective, microdata approaches)
 - convergence of technologies (IP, non-IP)
 - measuring complex relationships, changing and little understood phenomena
 - limitations of survey vehicles.
- n Some of you have been involved in this work.
 - others are welcome!
 - Please contact me if you are interested.

The OECD work on growth – background

- n 1999 request of OECD Ministers:
 - What are the sources of growth differentials in OECD area?
 - Provide policy recommendations to strengthen growth.
- n 2001 report: *The New Economy: Beyond the Hype* (Growth Project).
- n Further request for work at 2001 and 2002 OECD Ministerial meetings, leading to new reports in 2003 and 2004:
 - *The Sources of Economic Growth in OECD Countries.*
 - *ICT and Economic Growth.*
 - *The Economic Impact of ICT.*
- n Findings have been based on:
 - estimates of the contributions of ICT investment to growth
 - estimates of the contributions of different industries - ICT-producing and ICT-using – to overall growth
 - evidence from firm-level studies in different OECD countries.

OECD Growth Project conclusions

- n Conclusions in respect of ICT were as follows:
 - Productivity in the ICT sector can improve economic productivity overall, but
 - ... successful economies were more likely to have rapid diffusion of ICT, particularly in service industries.
 - Deregulation of ICT industries encourages competition and greater investment in ICT.
- n Policy recommendations:
 - an appropriate regulatory and legal environment
 - increase the use of new technology
 - competition in telecommunications, hardware and software
 - build confidence in the use of ICT for business and consumers
 - make e-government a priority.

Firm-level work on ICT and performance, 2001 and 2002

- n This was a co-operative project with researchers and statistical offices in 13 OECD countries.
- n Countries used their own data, including production surveys, ICT use surveys, e-commerce surveys, innovation surveys, etc.
- n There were a large variety of methods, including estimates of productivity regressions, production functions, etc.
- n There were some cross-country studies, but only covering pairs of countries.

Empirical conclusions

- n ICT remains important for growth
 - Productivity growth has held up (US and Canada).
 - Networks have spread widely.
 - Technological progress continues.
- n The evidence also shows that ICT is no panacea.
- n Firm-level studies provide a rich source of new knowledge, and point to key factors that are relevant to policy action, e.g. organisational change, skills, management, innovation and entrepreneurship.

OECD case study work: Electronic Commerce Business Impact Project (EBIP)

- n During 2001-2002, OECD co-ordinated a case study project on the impacts of electronic commerce on business
 - a common methodology was used for collecting data from 200 firms across 11 countries and 14 sectors.
- n A wide definition of electronic commerce was used - electronic transactions over computer-mediated networks.
 - *Transaction preparation* (advertising, catalogues and stock lists, information services, negotiation)
 - *Transaction completion* (ordering, billing and payment, finance, delivery)
 - *Transaction support* (information capture, information management, market analysis, market development)
- n E-commerce was not defined exclusively in terms of the Internet, but this is key technology in evolution of e-commerce.

EBIP findings

- n Successful e-commerce strategies are led by commercial considerations.
- n E-commerce is part of larger business and economic transformations. Successful application and use are embedded in broader business strategies with major emphasis on both e-commerce and ICT skills.
- n But e-commerce is a major business innovation that most firms will have to adopt.