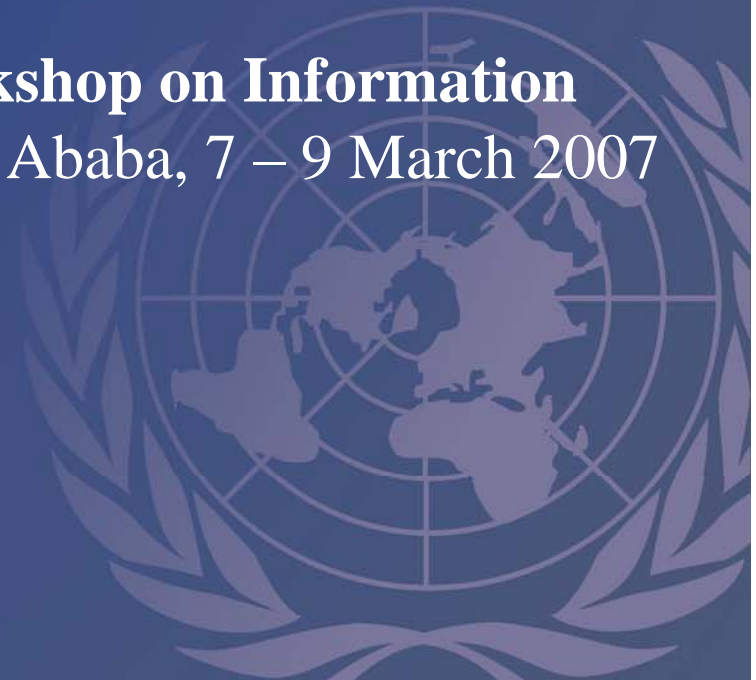# *Use of ICT in Businesses: Core indicators, definitions, model questions*

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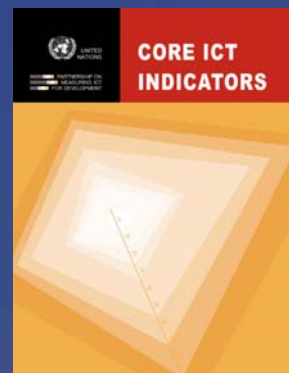UNCTAD
ICT Policy and Analysis Unit

Introduction

- This presentation is based on the work of the *Partnership on Measuring ICT for Development*

- Publication *Core ICT indicators*
- It presents the C*ore Indicators on Use of ICT by Businesses*

Overview

- The presentation will cover each core indicator concerning the use of ICT by businesses, including definitions of terms plus a suggested model question

- It also provides some methodological notes, especially related to statistical unit, scope and classificatory variables
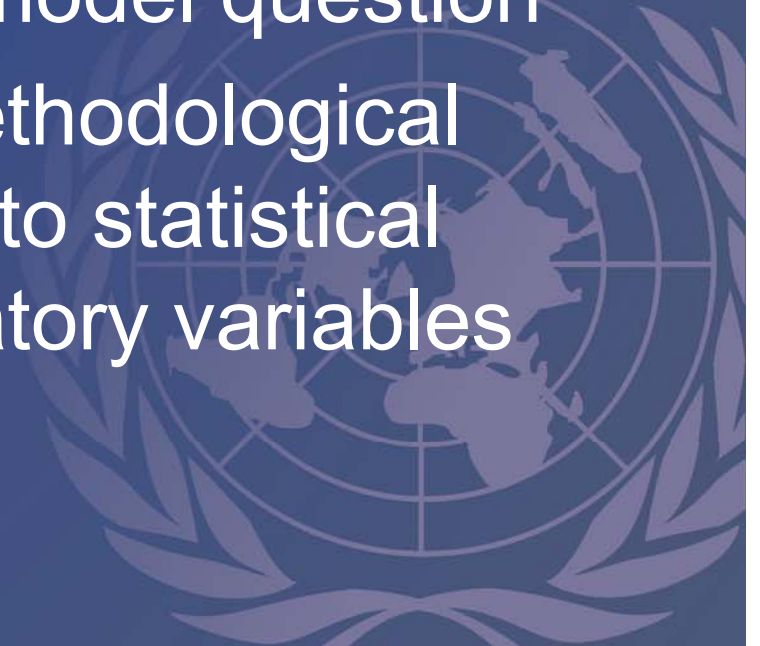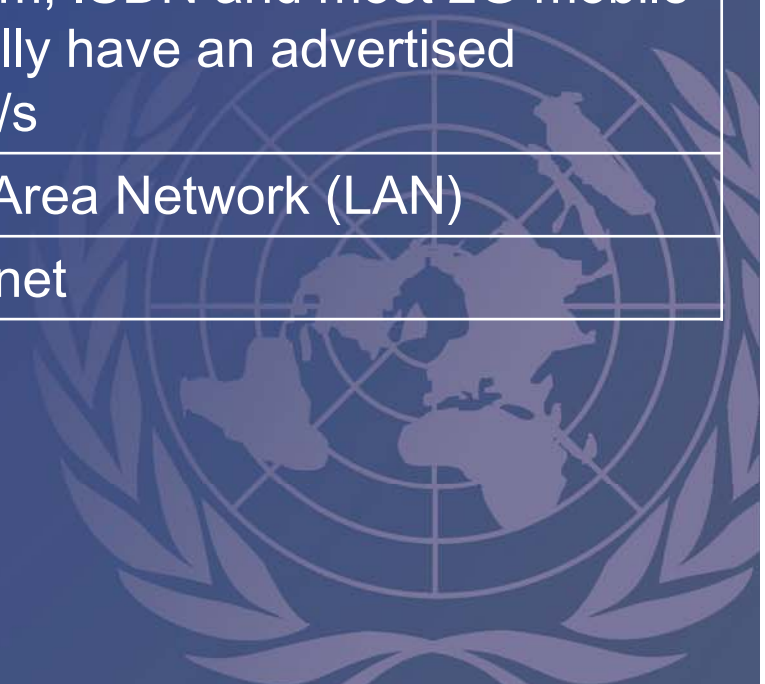
Core indicators on use of ICT by businesses (Basic core)

Basic core	
B1	Proportion of businesses using computers
B2	Proportion of employees using computers
B3	Proportion of businesses using the Internet
B4	Proportion of employees using the Internet
B5	Proportion of businesses with a Web presence
B6	Proportion of businesses with an intranet
B7	Proportion of businesses receiving orders over the Internet
B8	Proportion of businesses placing orders over the Internet

Core indicators on use of ICT by businesses (Extended core)

Extended core	
B9	Proportion of businesses using the Internet by type of access • Categories should allow an aggregation to narrowband and broadband, where broadband excludes slower speed technologies, such as dial-up modem, ISDN and most 2G mobile phone access. Broadband will usually have an advertised download speed of at least 256 kbit/s
B10	Proportion of businesses with a Local Area Network (LAN)
B11	Proportion of businesses with an extranet

Core indicators on use of ICT by businesses (Extended core - ctd)

B12	Proportion of businesses using the Internet by type of activity
	•Sending and receiving email
	•Getting information (a) about goods or services, (b) from government organisations/public authorities via websites or email, and (c) other information searches or research activities
	•Performing Internet banking or accessing other financial services
	•Dealing with government organisations/public authorities
	•Providing customer services
	•Delivering products online

Definitions and model questions for basic core indicators

B1 Proportion of businesses using computers

The *proportion of businesses using computers* is calculated by dividing the number of in-scope businesses using computers during the 12-month reference period by the total number of in-scope businesses.

A *computer* includes: a desktop, portable or handheld computer (e.g. a personal digital assistant), minicomputer, mainframe.

Suggested model question:

Did your business use computer/s during <period>?

B2. Proportion of employees using computers

The *proportion of employees using computers* is calculated by dividing the number of employees using computers by the total number of employees.

Computer : see B1

Employees refer to all persons working for the business, not only those working in clerical jobs. They include working proprietors and partners, as well as employees.

Suggested model question:

What proportion of persons employed in your business routinely used a computer at work during <period>?

B3. Proportion of businesses using the Internet

The *proportion of businesses using the Internet* is calculated by dividing the number of in-scope businesses using the Internet by the total number of in-scope businesses.

The *Internet* refers to Internet protocol (IP) based networks: WWW (the World Wide Web), an extranet over the Internet, EDI over the Internet, Internet accessed by mobile phones and Internet email.

Suggested model question:

Did your business use the Internet during <period>?

B4. Proportion of employees using the Internet

The *proportion of employees using the Internet* is calculated by dividing the number of employees using the Internet (in all in-scope businesses) by the total number of employees (in all in-scope businesses).

Internet : see B3

Employees: see B2

Suggested model question:

What proportion of persons employed in your business routinely used the Internet at work during <period>?

B5. Proportion of businesses with a Web presence

The *proportion of businesses with a Web presence* is calculated by dividing the number of in-scope businesses with a Web presence by the total number of in-scope businesses.

A *Web presence* includes a Web site, home page or presence on another entity's Web site (including a related business). It excludes inclusion in an online directory and any other Web pages where the business does not have substantial control over the content of the page.

Suggested model question:

Did your business have a Web presence as at <reference date>?

B6. Proportion of businesses with an intranet

The *proportion of businesses with an intranet* is calculated by dividing the number of in-scope businesses with an intranet by the total number of in-scope businesses.

An *intranet* refers to a network using the same protocol as the Internet and allowing communication <u>within</u> an organisation. It is typically set up behind a firewall to control access.

Suggested model question:

Did your business have an intranet as at <reference date>?

B7. Proportion of businesses receiving orders over the Internet

Orders include orders received via the Internet whether or not payment was made online.

For international comparability, the *proportion of businesses receiving orders over the Internet* is most simply calculated by dividing the number of in-scope businesses receiving orders over the Internet by the total number of in-scope businesses.

Suggested model question:

Did your business receive orders for goods or services (that is, make sales) via the Internet during <period>?

B8. Proportion of businesses placing orders over the Internet

Orders include orders placed via the Internet whether or not payment was made online.

For international comparability, the *proportion of businesses placing orders over the Internet* is most simply calculated by dividing the number of in-scope businesses placing orders over the Internet by the total number of in-scope businesses. Alternatively, output could be presented as the proportion of in-scope businesses using the Internet.

Suggested model question:

Did your business place orders for goods or services (that is, make purchases) via the Internet during <period>?

Definitions and model questions for extended core indicators

B9. Proportion of businesses using the Internet by type of access

A major aim of this indicator is to present the proportion of in-scope businesses with broadband access, therefore the response categories chosen allow aggregation to narrowband and broadband.

As businesses can use more than one type of access service, multiple responses are possible.

For international comparability, *output* is most simply presented as the proportion of in-scope businesses using each type of access service, for instance, the proportion of businesses accessing the Internet by DSL.

B9. Proportion of businesses using the Internet by type of access (ctd)

- Suggested model question: How did your business connect to the Internet during <period>?

- Response categories
  - Analog modem (dial-up via standard phone line)
  - ISDN (Integrated Services Digital Network)
  - DSL (ADSL, SDSL, VDSL etc.)
  - Cable modem
  - Other narrowband
  - Other broadband
  - Do not know

B10. Proportion of businesses with a local area network (LAN)

The *proportion of businesses with a LAN* is calculated by dividing the number of in-scope businesses with a LAN by the total number of in-scope businesses.

A *local area network* (LAN) refers to a network connecting computers within a localised area such as a single building, department or site; it may be wireless.

Suggested model question:

Did your business have a local area network (LAN) as at <reference date>?

B11. Proportion of businesses with an extranet

The *proportion of businesses with an extranet* is calculated by dividing the number of in-scope businesses with an extranet by the total number of in-scope businesses.

An *extranet* is a private, secure extension of an intranet running on Internet protocol. It allows selected external users to access some parts of an organisation's intranet.

Suggested model question:

Did your business have an extranet as at <reference date>?

B12. Proportion of businesses using the Internet by type of activity

Internet activities are not mutually exclusive.

For *international comparability*, output is most simply presented as the proportion of in-scope businesses undertaking each activity, for instance, the proportion of businesses using the Internet for sending or receiving emails.

B12. Proportion of businesses using the Internet by type of activity (ctd)

- *Suggested model questions*: For which of the following activities did your business use the Internet during <period>?

- Response categories
  - For getting information:
  - For sending or receiving emails
  - For performing Internet banking or accessing other financial services
  - For dealing (interacting) with government organisations/public authorities
  - For providing customer services
  - For delivering products online

Methodological notes

Particular statistical issues associated with business ICT use measurement
Measuring Internet E-commerce

- OECD definition: method by which the order is placed or received, not the payment nor channel of delivery, which determines whether a transaction is an e-commerce transaction.

- Accordingly, an "*Internet (e-commerce) transaction is the sale or purchase of goods or services, whether between businesses, households, individuals, governments, and other public or private organisations, conducted over the Internet. The goods and services are ordered over the Internet, but the payment and the ultimate delivery of the good or service may be conducted on or offline*".

Choice of denominator for indicators

For international comparability purposes, the simplest approach is for countries to provide proportions which use the overall population as the denominator rather than the active population (being the number of businesses which use the Internet or have a Web site etc.).

Survey vehicles and collection techniques

- Countries which do not have dedicated surveys on ICT use by businesses could add questions to an existing economy-wide survey or to separate industry surveys.

- Data can also be collected by means of personal interview (face-to-face or telephone) or other methods such as drop-off/call-back (or post back).

Statistical unit

- Choice of unit influences the results obtained.
- As output from ICT use surveys is mainly proportions data, comparability between countries is more likely to be attained where the unit chosen is the same.
- The OECD and Eurostat both specify the '*enterprise*' as the statistical unit and this is the unit used by most OECD countries.
- Unfortunately, no single definition of enterprise used in all countries.
- The two main definitions are those of the International Standard Industrial Classification of all Economic (ISIC) Rev. 3.1 and the European Union.

Frequency and reference period/date

- Greater requirement for the frequency of business surveys to be sensitive to the evolution of ICT and its use.

- It is important for countries where an annual collection will not be feasible to try to align their collection years as far as possible.

- As much of the information collected is point-in-time data, it would be preferable to have alignment of reference dates across countries or regions.

Survey scope and coverage

Type of organisation

- Business enterprises from the private and public sectors, which are operating in the country.
- General government organisations excluded.
- Most OECD countries exclude non-employers.

Industry (activity) scope

- Recommended minimum industry scope: ISIC sections D, F, G, H, I and K.
- Countries are encouraged to extend this scope where there are both sufficient resources and supporting national data requirements

Size scope

- A minimum size scope of 10 or more employees is suggested

Classificatory variables

- Minimal set of classification variables and categories:

Industry (activity)

- A broad industry output classification consistent with the suggested industry scope is proposed as follows: ISIC sections D, F, G, H, I and K.

Size (number of employees)

- Size classification proposed is based on the minimum size scope and is: *10–49 employees*; *50–249 employees* and *250 or more employees*.

For further information

- UNCTAD Website dedicated to Measuring the Information Economy: measuring-ict.unctad.org

- The Partnership's *Core ICT Indicators* publication

- UNCTAD Information Economy Report (annual)

- The OECD's Guide to Measuring the Information Society, available on the OECD's Web site: www.oecd.org/sti/measuring-infoeconomy
  - Includes the 2005 OECD Model Survey of ICT Use by Businesses, with a model questionnaire.
  - Includes definitions of the ICT sector and ICT goods.

Thank you!

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http://measuring-ict.unctad.org

www.unctad.org/ecommerce