

Voorburg Group on Services Statistics

16th meeting

Örebro 17th –21th September, 2001

Model survey: ICT Usage in Enterprises

Peter Bøegh Nielsen

E-mail: pbni@dst.dk

Statistics Denmark

Sejrøgade 11, DK-2100 Copenhagen Ø, Denmark

Session 1: Statistics on the Information Society

1. Introduction

Statistics on the Information Society is one of the most demanding and urgent challenges for the statistical community. The Information and Communication Technology can be characterised as one of the major focal points of the economic and social development. Due to the pervasive character of the technology, it affects the way we organise the production in the enterprises, the content of the occupations, the relationship between different economic actors (enterprises, public sector and households), and the technology affects the way in which we organise our private life and use our time.

Thus, there exists a considerable political focus on how the Information Society as such develop, which factors are influencing the development and the economic and social impact of this development. A political debate about such fundamental economic and social factors in our society creates the needs for the establishment of official and reliable statistics in order to monitor the development and the different implications of the Information Society.

The Information Society is of global nature. It is not sufficient with statistical information at the national level, if one wants to analyse and understand the development of the society. In order to understand and put into perspective the national development, it is necessary to carry out international comparisons. And a condition for such benchmarking activities is the existence of internationally harmonised definitions and indicators.

The statistical offices have in the last years mainly been focusing on developing definitions of the ICT sector, ICT products and services, defining e-commerce, designing a model questionnaire on ICT usage in enterprises and households and elaborating indicators on ICT usage in enterprises and households. A range of statistical offices have been active in these areas at the national level, and at the international level the OECD Working Party on Indicators on the Information Society (WPIIS) has been the driving force in this work, but large part of the work has been developed in close co-operation with the Voorburg Group on Service Statistics (VG).

The Voorburg Group having specialised in survey methodology concerning the services sector took the responsibility of developing a model survey on ICT usage by enterprises. Based on the experiences from the Nordic countries and the tested model questionnaire, the VG started the elaboration of the model survey in 1999 followed by discussions in WPIIS and the VG in 2000. At the last meeting of WPIIS in April 2001 the model survey was finally adapted with some alterations.

2. Measurement of e-commerce: model questionnaire

The statistical offices of the Nordic countries established in 1998 a project for a common set of guidelines for measuring ICT usage in enterprises. The guidelines were tested already in winter 1998/1999 by Statistics Denmark and Statistics Finland in a first round of surveying. Based on this exercise, it was decided to elaborate a proposal for a model questionnaire on usage of ICT in enterprises in close co-operation with the WPIIS and the Voorburg Group on Services Statistics.

The underlying idea behind the elaboration of a model questionnaire is the need for international comparable data. The model questionnaire is a data collection vehicle which can be used by national statistical offices in order to supplement the national results with another dimension - the possibility of comparing the national results with the statistical results of

other countries on a comparable basis by using internationally agreed guidelines. The model consists of modules which can be used either in their totality or as separate modules in specific surveys.

The proposed model questionnaire on ICT usage in enterprises is based on the following principles;

- The model questionnaire has been designed to be a flexible tool composed of modules allowing country specific features to be included
- The model questionnaire can be updated - and is expected to be - to reflect the rapid changes in IC technology or use
- The model questionnaire is designed as a general survey tool for all economic activities
- The core of the model questionnaire is based on a qualitative approach which is considered to provide the most harmonised basis for country comparisons.

Normally, questionnaires for statistical data collection are supposed to remain unchanged for longer periods, but this cannot be expected in the area of collecting information on ICT usage and e-commerce. This is a methodological challenge for the statistical institutes. On the one hand there is a need to update the questionnaire with relevant questions responding to user needs, and on the other hand there is a need to provide robust indicators allowing for time series analysis.

As the area of monitoring ICT usage is already crowded with private players, and as the questionnaire has been developed as a survey tool for non-mandatory surveys, the burden on respondents has been judged to be an issue of major importance. Thus, high priority has been given to construct a questionnaire that is easy to fill in. As a result, most of the questions are designed based on the principle of multiple choice and the extended use of tick mark boxes. Especially in a complex area such as Internet usage and e-commerce this was expected to have great impact on the response rate and the quality of the answers - also keeping in mind the purpose of international comparability. The relatively high response rates of the non-mandatory surveys (normally between 60 and 70 per cent) carried out by the Nordic statistical institutes support the chosen strategy.

The questionnaire has been formulated in a general fashion, i.e. it would in principle be applicable to any chosen activity in the private sector. Some countries have developed sector specific survey tools. For example, the United States has added questions on e-commerce transactions to the monthly Retail Sales Survey, or questions on ICT usage to the existing survey vehicle of the annual Manufacturing Survey. Due to the pervasive nature of ICTs, the idea behind the model survey is to design an economy wide survey tool which can also be used for sector specific surveys. The issues on the use of ICT in general, together with Internet and e-commerce in particular comprise the core of the questionnaire.

As a consequence of the operational definitions of e-commerce adopted by WPIIS, the questionnaire contains two modules on e-commerce transactions; namely Internet based e-commerce and e-commerce via EDI and other computer-mediated networks. The model questionnaire on ICT use in enterprises has been divided into five different modules;

- A: General information about ICT systems
- B: Use of Internet
- C: E-commerce via Internet
- D: E-commerce via Other computer-mediated networks
- E: Barriers on use of e-commerce, Internet and ICT in general

This paper presents the final version of the model questionnaire and is meant for information. Undoubtedly, a new generation of the model questionnaire will have to be developed but now the time has come for testing of the model questionnaire by a larger group of countries, and based on the experiences learned and the rapid development of the technology and mode of use a new version can be developed.