

1. Introduction

The rapid development of Information and Communication Technologies (ICT), their incremental use in companies, public administrations and households and, more notably, the strong growth of Internet have had a significant economic and social impact.

Statistics on the Information Society (IS) are themselves a new statistical field that deals with the development and repercussion of the use of ICTs in economy and society. More specifically, the statistics on the Information Society encompass issues related to production, the preparation for the use and the impact of ICTs, and digital content services.

Statistics on the Information Society are linked to:

- The Knowledge Society, since the Information Society influences, and is also influenced by, innovation, research and development activities (R&D) and learning.
- National Accounts, for measuring the Information Society's global impact
- Statistics on companies, as regards measuring the use of ICTs in corporate activity.
- Social statistics, as regards measuring the level of equipment of households and their degree of use of ICT devices.

Background

The growth and development of ICTs and the infrastructures that sustain them has been accompanied in turn by an increase in applications and the dissemination of their use in developed economies.

The need to have statistical information on the Information Society has increased notably in the last few years. This involves requirements for information that is varied and variable over time. With the objective of alleviating the scarcity of data on this subject various efforts are being undertaken in national and international statistical institutions.

Thus, the Organisation for Economic Cooperation and Development (OECD) created different groups called workshops on the Information Economy under the direction of the *Committee for Information, Computer and Communications Policy* (ICCP) with the objective of establishing IS empirical economic research and obtaining quantitative information. These workshops met for the first time in 1995.

A statistical panel was subsequently created, made up of experts from OECD member countries, with the objective of advising the ICCP committee and the development of appropriate indicators to get to know the global tendencies in the development towards the IS. The panel, similarly, tried to promote cooperation between national and international statistical institutions and the coordination of the work of the different institutions involved.

In April 1999 the *Working Party on Indicators for the Information Society* (WPIIS) was set up. From the work that has been dealt with by this group it is worth highlighting the definition of electronic commerce (EC), the definition of the ICT sector and the proposal of two questionnaire models to study electronic commerce and the impact that the use of ICTs has had on companies and households.

For its part, in the European Communities Statistical Office the *Working Group on Information Society Statistics* (WGISS) was set up with the objective of investigating core activities of the IS. Their first job was directed at collecting information available in different Member States via the so-called Information Society Questionnaire. With the objective of alleviating the lack of information on electronic commerce, in November 2000 a questionnaire model was presented, based on the questionnaire proposed by the OECD to carry out a pilot study on electronic commerce in EU countries. In the meeting of October 2001 the results of this study were laid out and it was agreed to carry out two new surveys, one on the use of ICT in companies, centred on electronic commerce and the

other on the use of ICT in households, both referring to 2001. Other relevant work carried out by this group is the participation in the elaboration of comparative indicators (benchmarking) to evaluate the eEurope Action Plan and the future i2010 Action Plan, the revision of classifications and the preparation of legal acts for the elaboration of the previous surveys related to the IS.

The National Statistical Institute (INE) has participated in the OECD and EUROSTAT working groups. The first study carried out took the form of a working document on the ICT sector. Almost in parallel, with the objective of measuring electronic commerce sales in the short term a questions section was included in the Retail Trade Survey questionnaire. Referred to the year 2000, a questions module was added to the technological innovation survey and annual services survey.

The Pilot Electronic Commerce Survey carried out in 2001 whose reference year was 2000 constitutes the immediate precedent of the 2001 Use of ICT and Electronic Commerce Survey (UICTECS). Said survey was established as a pilot study leading to both a more appropriate methodology for the study of the phenomenon that is being dealt with herein and some preliminary statistical results. The pilot study was carried out by thirteen member countries including Spain. It was directed at 5,600 companies belonging to activity branches from the manufacturing industry, trade, catering, transport, financial intermediation and real estate and rental activities. The experience acquired in the survey served to vary and complete the content of the questionnaire and allowed the determination of various technical aspects relating to the study, sample design, questionnaire content, definitions, response levels, etc.

In 2002, the fifteen EU member states carried out the UICTECS 2001 for the first time, with harmonised criteria for writing the questionnaire and estimating variables, with the dual objective of achieving both a general vision of the implementation and

use of ICT and e-commerce in there European scope and compiling comparisons between countries. This task has been performed continuously thanks to the 2002 UICTECS.

European Legislation

In 2004, the European Parliament approved European Parliament Regulation No. 808/2004 and Council Regulation of 21 April 2004 regarding Information Society community statistics.

The purpose of this regulation is to create a common framework for systematically producing Information Society community statistics.

The Regulations deal with the collection of the majority of statistical information needed for eEurope and i2010 comparisons, as well as for structural indicators. In addition, they cover all information necessary for analysing the information society in a specific situation, both in companies and in households.

Each year, and regarding resolutions adopted at the heart of the Work Group on EUROSTAT Statistics, a legal act is drafted in which the implementation criteria of the Regulations are specified. This document details the area of study and the variables to study during the period, both for companies and for households. This document is published in the European Union official journal.

eEurope Action Plan 2005

The results from the UICTECS will be used, among others, to elaborate indicators that facilitate making international comparisons (benchmarking). Especially worthy of note is the exercise of benchmarking to evaluate the so-called i2010 Action Plan, hereafter the 2005 eEurope action plan.

The 2005 eEurope Plan was organised into two groups of action. The first referring to

services, applications and contents, including both public online services and electronic business and the second is related to broadband infrastructures and issues related to security in the use of ICTs. To measure the progress of the plan, the Commission suggested a set of 40 indicators grouped into the following classes:

INTERNET INDICATORS

- A Access of citizens to Internet and the use they make of it
- B.- Access of companies to ICT and the use they make of these
- C Cost of Internet access

PUBLIC MODERN ONLINE SERVICES

- D Electronic administration (e-Government)
- E Electronic education services (e-Learning)
- F Health services (e-Health)

DYNAMIC ENVIRONMENT OF ELECTRONIC BUSINESSES

- G Buying and selling on line
- H Good disposition for electronic business

SECURE INFORMATION INFRASTRUCTURE

- I Experience and management of Internet users with respect to ICT security

BROAD BAND

- J Implementation of broadband access

i2010 Action Plan

The 2005 eEurope Plan is followed up with the i2010 Action Plan. The High Level i2010 Group has compiled a number of recommendations to assist in the drawing up of a new list of comparative indicators.

The main innovation as regards the new 2005 eEurope Plan is the stressed study of the use and impact of ICTs both on an individual level and as regards corporate activity.

The three main goals for the i2010 Action Plan are listed hereunder:

- The construction of a European Space for Information that fosters an open and competitive domestic market for the information society and the media;
- The strengthening of innovation and investment in research on ICTs in order to promote the growth and creation of more and better quality employment;
- The achievement of a European Information Society based on the fact that: -it encourages growth and employment being consistent with sustainable development

-grants priority to improving public services and the quality of life.

In line with this approach, the new indicators will be devised to measure the level of use of ICTs, both as regards corporate activity and from the individual's perspective. The goal is to finally replace the current infrastructure indicators (some of which are close to being saturated) with impact indicators.

The i2010 indicators are organised into the following groups and subgroups:

A EUROPEAN INFORMATION SPACE

TOPIC 1: Development of broadband

TOPIC 2: Advanced services

TOPIC 3: Security

TOPIC 4: Impact

B INNOVATION & RESEARCH IN ICT

TOPIC 5: Research expenditure on ICT

TOPIC 6: Adoption of ICT by companies

TOPIC 7: Impact of the adoption of ICT
by companies

**C INCLUSION, PUBLIC SERVICES & QUALITY
OF LIFE**

TOPIC 8: Inclusion

TOPIC 9: Electronic-government

Methodology

2.1 Objectives

The objective of the UICTECS is to analyse, after researching a sample, the implementation and use of Information and Communications Technologies (ICT) and e-commerce in companies.

The fact that a methodology which is broadly accepted internationally is being used facilitates the objective of the international benchmarking of the results obtained and contributing our national experience to studies on the implementation of the Information Society in companies.

2.2 Scope

The scope of the survey is defined with respect to the population researched, the time, and the space.

POPULATION

This statistical research studies the population made up of companies whose main activity is described in sections D, E, F, G, H, I, J and K and in groups 92.1 or 92.2 of section O from the National Classification of Economic Activities (NCEA-93). In other words, the sectors that are analysed are the manufacturing industry, the production and distribution of energy, gas and water, construction, trade, catering, transport and communications, financial intermediation, rental activities and business services and cinematographic, radio or television activities.

The complete list of subsections and divisions/groups are presented in table 1.

Table 1. NCEA-93 sections and groups included in the SICTEC 2007-2008 field

Section	Subsection	Division/ group	NCEA-93 name
D			Manufacturing
	DA	15-16	Food, beverages and tobacco
	DB	17-18	Textile and clothing
	DC	19	Leather and footwear
	DD	20	Wood and cork
	DE	21-22	Paper, publishing, graphic arts and reproduction of recorded media
	DF	23	Petroleum refinement and treatment of nuclear fuels
	DG	24	Chemistry
	DH	25	Transformation of rubber and plastic materials
	DI	26	Other non-metallic ore products
	DJ	27-28	Metallurgy and manufacture of metallic products
	DK	29	Construction of mechanical machinery and equipment
	DL	30-33	Electrical, electronic and optical material and equipment
	DM	34-35	Manufacture of transport material
	DN	36-37	Other manufacturing
E		40-41	Production and distribution of electricity, gas and water
F		45	Construction
G		50-52	Trade; repair of motor vehicles, motorcycles and personal and household goods
H		55	Hotels and restaurants
I		60-64	Transport, storage and communication
J		65-67	Financial intermediation
K		70-74	Real estate, renting and business activities
O		92.1	Cinematographic and video activities
		92.2	Radio and television activities

TERRITORIAL

All statistical units located in Spain are object of investigation.

TEMPORAL

The UICTECS considers a double time scope; variables regarding the use of ICTs refer to January 2008, whilst the reference period for e-commerce variables is 2007.

As occurred in former editions, data on employment are requested as an annual average for 2007. Economic data on sales and purchases refer to the whole of the year.

2.3 Statistical unit

The statistical unit can be defined as the element or component of the population under study which the data tabulation refers to and the statistical aggregates obtained as a result of the surveys. The unit employed for statistical analysis for the 2007-2008 UICTECS is the company whose main economic activity is one of those included in the population scope referred to above.

A company is understood to be any legal unit that constitutes an organised unit which produces goods and services and that has a certain amount of autonomy in making decisions, especially when using the current resources at hand. From a practical point of view, and in the most general case, the concept of a company corresponds to that of a legal unit, in other words, with all physical and legal persons (partnerships, cooperatives, etc.) whose activity is recognised under the Law, and is identified by its corresponding Tax Identification Number (TIN). A company may practice one or more activities in one or various local units.

The company is also the informant unit, given that because it is perfectly defined and located, and accounting and employment data is available, the response is facilitated and homogeneous information is obtained. In general, questionnaires have been addressed to the central headquarters of each company.

2.4 Variables and their definition

MAIN ECONOMIC ACTIVITY OF THE COMPANY

The economic activity carried out by a company is defined as the creation of added value by means of the production of goods and services. Main economic activity is understood to be that which generates greatest added value. Considering how difficult it is for companies to calculate the added value when carrying out various activities, that activity which generates the greatest volume of business is considered the main activity or, failing that, the activity that occupies the greatest number of persons.

DIMENSION OR SIZE OF THE COMPANY

The dimension of companies is one of the most important variables when determining the behaviour of companies. This dimension can be established in terms of the amount of turnover, or by considering the number of persons who make up the company's personnel. Consequently, the 2007-2008 UICTECS questionnaire includes both questions to quantify both variables.

PERSONNEL EMPLOYED IN THE COMPANY

This is the number of persons who work in the company as well as the people who, working outside the company, belong to it and are remunerated by the company (for example, trade representatives and order delivery personnel or repair and maintenance personnel who work for the company). Both remunerated and non-remunerated personnel are included.

The **remunerated employed personnel** is made up of workers linked to the company by a work contract and who are remunerated with permanent or periodical quantities in the form of wage, salary, commission, by the job or payment in kind.

This can be permanent personnel (with an indefinite contract or work relation) and temporary personnel (with a contract of determined duration). A worker from a temporary employment agency is an agency employee and is not considered an

employee of the unit (company) where they work.

Other remunerated personnel are: owners remunerated for their work, students with a formal arrangement by which they contribute to the company's production process in exchange for remuneration and/or educational services, employees hired by a contract destined specifically to develop the contracting of unemployed people, home workers if there is an explicit agreement in the sense that they are remunerated by virtue of the work they do and are included on the payroll.

Part time workers, seasonal workers and persons on strike or who are on short term leave are also considered remunerated personnel, although this definition excludes those who are enjoying long term leave.

The non-remunerated employed personnel is made up by the persons who directly or actively participate in company work without receiving fixed remuneration or salary. This definition includes owners, autonomous partners who perform an activity in the company and family aid. It does not include exclusively capitalist partners or family members of the owner who do not actively participate in the company, or people who are included in the payroll of another company in which they carry out their main activity.

TURNOVER

This includes the amounts invoiced by the company during the reference year for the provision of services and sale of goods that are the object of company traffic. Sales are accounted for excluding VAT invoiced to the client

They are accounted for in net terms by deducting the returns of sales, as well as sales taxes. Cash discounts are not deducted, nor are discounts on sales for prompt payment.

Business volume does not include the sale of fixed assets nor subsidies charged for producing. The amount of turnover is calculated as the sum of the net sales of products and goods and the provision of services.

NET PURCHASES OF GOODS AND SERVICES

They represent the value of all goods, different from investment goods and all services acquired during the reference year. These goods are destined for the sale in the same state in which they were acquired or for previous transformation and integration into other products, or destined for consumption in the production process or in the current functioning of the company. This does not include the acquisition of capital goods whose consumption is registered as investment.

Purchases of goods include goods (goods acquired by the company to resell them in the same state as when they were acquired without transforming them), raw materials (goods acquired for their transformation during the productive process - intermediate goods, components, spare parts .). and other supplies (fuel, packaging, containers, office material).

Services companies include the work carried out by other companies or professionals for the company. In other words, the value of the work that, forming part of the production process, is ordered and carried out by other companies or professionals.

Included are expenses that belong to the *External services* account, in other words expenses for leasing (rentals), repair and maintenance, independent professional services (technical studies, legal and accounting costs), transport of goods and personnel services, insurance premiums, bank and related services, propaganda and public relations, supplies (mail costs, telephone, electronic communications, telegrams and fax,...).

Purchases of goods and services are valued at sales price without including invoiced VAT. As with sales, they are accounted for in net terms, in other words, discounting the taxes on purchases, discounts for quality defects or shipments returned to the supplier.

USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT)

This variable aims to obtain information on the availability of different IT and telecommunications services in companies: Computers, Local Area Network, Internet connection, Intranet, Extranet, E-mail and mobile phones for business use.

Information is also requested on the IT facilities of company personnel: personnel that use a PC and personnel that have access to computers with an Internet connection.

There is also a section on tele-working, which asks the company whether they have employees that work outside the company premises for at least half a weekly working day and who connect to the company's IT systems via telematic networks.

Within this section, and on a momentary basis several questions have been included regarding the use of other open source operating systems and regarding personnel who perform specific ICT functions within the company.

USE OF THE INTERNET

The use of the Internet tries to quantify the main characteristics associated with the use of the Internet by companies.

As regards Internet access, information is requested on the different types of connection used: traditional modem, integrated services digital network (ISDN), broadband or mobile telephones. Some of the broadband solutions mentioned are: xDSL (ADSL, SDSL,..) and other land line connections (cable, PLC, leased line,..).

As to the objective for which companies use the Internet as users of Internet services, the following options are considered significant: to search for information, to obtain bank and financial services, for training and apprenticeship, to observe the behaviour of the market (for example, checking prices in their sector), and to obtain post-sale/pre-sale (for example, customer service)

There is also a question about whether the Internet is used for interacting with Public Administrations, by type of action.

Interactions with Public Administrations are deemed significant regarding: obtaining information, requesting forms, returning completed forms, complete electronic management (without the need for any additional paper transaction) and/or in order to submit a commercial proposal in response to a public tender (e-procurement).

Another aspect to bear in mind when analysing the use of the Internet by companies is ascertaining whether the company has a web site as well as what services it offers via the Internet. A distinction should be made between the introduction to the company, facilities to access product catalogues or price lists, the possibility of products being customised or designed by clients, ordering or booking online, paying online, personalisation of the site for regular clients, and posting vacancies or receiving job applications online.

This variable is complemented with variables relating to the use of digital signatures in communications sent by the company, as well as the use of Internet security services and their different problems.

AUTOMATED DATA EXCHANGE WITH EXTERNAL ICT SYSTEMS

Automated Data Exchange is defined as the exchanging of messages via electronic means, with a duly formalised format, enabling automatic processing thereof. This may be done online or via other non-Internet telematic networks. Email messages composed by hand are not included.

Information is requested on the type of message exchanged (orders, invoices, product description, ...) and on the format used to carry out the aforementioned automated exchange (EDIFACT, XML-based systems or proprietary systems established by mutual agreement between the company and other external organisations)

This information is supplemented with reasons for a company not to perform Automated Data Exchange.

SHARING INFORMATION ELECTRONICALLY WITH SUPPLIERS AND CLIENTS

Sharing information electronically refers to exchanging information using electronic means, online or via another type of telematic network. It does not include email messages composed by hand.

The type of information, referring to the supply chain, usually shared with clients and suppliers (inventory levels, production plans, demand forecasts, and shipment status) is requested.

The method(s) used (website and or automated data exchange) in the information exchange is/are also required

INTEGRATION OF INFORMATION WITHIN THE COMPANY

Information within the company is integrated when it is shared electronically and automatically among different areas, using one or more software tools which share information extracted from a common database.

In order to measure the degree of integration and exchange of information among the different areas comprising a company, questions area included in this module concerning the availability of ERP (Enterprise Resource Planning) tools and CRM (Customer Relation Management) tools

E-COMMERCE

The OECD considers two different definitions of electronic transaction:

a) Reduced definition: an **Internet transaction** is the purchase or sale of products (goods and services), whether this is between companies, households, individuals, administrations or other public or private organisations carried out via the Internet. The goods or services are requested via the Net, even when payment or delivery of the good or service may be carried out via this method or other methods. The reduced definition includes those orders received or carried out on another Internet application used for automatic transactions such as web pages

and Extranets and other Internet-based applications, such as Internet-based EDI, Internet-based Minitel or any other application permitted on the web, regardless of how the web is accessed (for example, via mobile or TV set, .). Those orders received or carried out by phone, fax or conventional e-mail are excluded.

In this Survey, the reduced definition also excludes transactions carried out by the company or group of companies Internet.

b) Broad definition: An **electronic transaction** is the purchase or sale of products (goods and services) whether this is between companies, households, individuals, administration or other public or private organisations carried out via telematic networks. Goods or services are ordered via these networks, although the payment or last delivery of the good or service may be carried out by these or other methods.

The broadened definition of electronic commerce includes those orders received or carried out on any on line application used in automatic transactions, for example Internet, EDI (Electronic Data Interchange), Minitel or interactive phone systems.

It can be noted that the shortened definition is included in the broadened definition.

The ICT and E-commerce use survey uses the extended definition of e-commerce proposed by the OECD

The structure of this block comprises two sections: purchases by e-commerce and sales by e-commerce.

E-commerce purchases

Information is requested from companies that have made orders/bookings via e-commerce (Internet or other telematic networks) on the percentage of these purchases (on the total value of purchases made) and on the channel used in order to make the aforementioned purchases (by means of a website, by means of automated data exchange and/or by means of automated data exchange over other non-Internet telematic networks)

E-commerce sales

Companies who have received orders/bookings via the e-commerce (Internet or other telematic networks) are requested to provide a breakdown of these sales by:

- Channel used: By means of a website, by means of an automated data exchange online and/or by means of automated data exchange over other non-Internet telematic networks)
- Geographical destination: Spain, other EU countries and other non-EU countries.
- Type of buyer: companies (e-commerce, business to business, B2B), households and final consumers (e-commerce, business to consumer, B2C) and public administrations (e-commerce, business to government, B2G).

Furthermore, companies that have sold via the Internet are also asked whether they use some kind of secure protocol such as SSL or TLS when receiving orders.

PERCEIVED BENEFITS OF USING ict

This variable aims to measure the degree of impact by ICT projects carried out over recent years.

Implementation of an ICT project refers to the introduction of new or updated information and communication technologies (for example, new or updated software or hardware), or to changes in usage of existing technologies.

A few examples of ICT projects are: a new or overhauled website, or the introduction of automated data exchange systems.

2.5 Sample design

The population framework of the survey is the Central Companies Directory (CCD). This is an organised information register with identification, localisation, territorial distribution data and classification by size and economic activity of the different company units, obtained from

administrative sources and complemented by other information which comes from current INE statistical operations.

This directory, updated annually with information provided by the State Tax Office and the Social Security Office, as well from the surveys themselves, fulfils sufficient requirements to be used as the basis for the 2007-2008 UICTECS.

Considering the previously defined population scope, based on the aforementioned Directory, the population of companies under study in this Survey has been structured by crossing the following variables:

a) Size of the company according to the number of employees. The following eight intervals are considered:

- From 0 to 1
- From 2 to 9
- From 10 to 19
- From 20 to 49
- From 50 to 99
- From 100 to 199
- From 200 to 499
- 500 or more

The strata made up of companies with 200 or more employees have been analysed exhaustively.

b) NCEA-93 activity groups. The following 17 groups of activity are considered:

- Divisions 15 to 21: Food, beverages, tobacco; textile; leather and footwear; Wood and cork; paper.
- Division 22: Publishing, graphic arts.
- Divisions 23 to 25: Coke manufacture, oil; chemistry; rubber and plastic materials.
- Divisions 26 to 28: Non-metallic mineral products; metallurgy and manufacture of metallic products
- Divisions 29 to 37: Machinery and Mechanical Equipment; electrical material and equipment; transport material.
- Divisions 40 and 41: Electricity, gas and water production and distribution
- Division 45: Construction.
- Division 50: Sale and repair of motor vehicles
- Division 51: Wholesale trade

- Division 52: Retail trade.
- Groups 55.1 and 55.2: Hotels and campsites.
- Divisions 60 to 63: Transport; activities linked to transport; travel agencies.
- Division 64: Post office and telecommunications.
- Divisions 65 to 67: Financial intermediation.
- Divisions 70, 71, 73, 74: Real estate activities; rental of machinery and equipment; R&D activities; other activities.
- Division 72: IT activities.
- Groups 92.1 and 92.2: Audiovisual services

c) Autonomous Community in which the corporate headquarters of the company is located: The following 18 have been considered:

- Andalucía
- Aragón
- Asturias (Principado de)
- Balears (Illes)
- Canarias
- Cantabria
- Castilla y León
- Castilla-La Mancha
- Cataluña

- Comunitat Valenciana
- Extremadura
- Galicia
- Madrid (Comunidad de)
- Murcia (Región de)
- Navarra (Comunidad Foral de)
- País Vasco
- Rioja (La)
- Ceuta y Melilla

THE SIZE OF THE SAMPLE: ALLOCATION

The final sample obtained was composed by 29,430 companies (16,870 with 10 or more employees and 22,222 with fewer than 10 employees).

Sample selected for the 2007 - 2008 UICTECS by branch of activity and size of the company

NCEA-93 Section	Number of employees				TOTAL
	0 to 9	10 to 49	50 to 249	250 and more	
All branches	12,222	9,089	5,022	3,097	29,430
D. Manufacturing	1,324	2,752	1,693	1,014	6,783
E. Production and distribution of electricity, gas and water	37	100	75	55	267
F. Construction	1,808	1,387	698	321	4,214
G. Trade; repair of motor vehicles and personal and household goods	3,914	2,230	962	506	7,612
H. Hotels (grups 551 y 552)	357	341	280	106	1,084
I. Transport and communications	1,306	798	406	212	2,722
J. Financial intermediation (grups 65, 66 y 67)	603	126	95	178	1,002
K. Real estate, renting and business activities	2,753	1,173	723	668	5,317
O. Cinematography, radio and television (groups 92.1 y 92.2)	120	182	90	37	429

Sample selected for the 2007 - 2008 UICTECS by Autonomous Community

Autonomous Community	Number of employees		
	0 to 9	10 and more	TOTAL
TOTAL	12,222	17,208	29,430
01 Andalucía	952	1,611	2,563
02 Aragón	557	683	1,240
03 Asturias (Principado de)	553	550	1,103
04 Balears (Illes)	561	645	1,206
05 Canarias	604	919	1,523
06 Cantabria	535	445	980
07 Castilla y León	577	838	1,415
08 Castilla-La Mancha	558	753	1,311
09 Cataluña	1,126	2,453	3,579
10 Comunitat Valenciana	803	1,551	2,354
11 Extremadura	556	472	1,028
12 Galicia	617	987	1,604
13 Madrid	1,004	2,442	3,446
14 Murcia (Región de)	575	755	1,330
15 Navarra (Comunidad Foral de)	1,300	555	1,855
16 País Vasco	599	1,068	1,667
17 Rioja (La)	495	366	861
18 Ceuta and Melilla	250	115	365

ESTIMATORS

The estimator of the total of a characteristic X in domain m is given by:

$$\hat{X}_m = \sum_{j \in m} X_j \cdot F_j,$$

where X_j is the value of the characteristic X from questionnaire j belonging to domain m.

F_j is the raising factor from questionnaire j that is calculated as follows:

a) If the company j was selected in a stratum h and according to the questionnaire data it is included within a different stratum k, then :

$$F_j = \frac{N_h}{n_h}$$

b) If the company j continues to belong to the same stratum h, where it was

selected, then: $F_j = \frac{\hat{N}_h^*}{n_h^*}$

c) In specific cases that are appropriately specified $F_j=1$.

VARIABLES USED

N_h , Number of companies in the directory in stratum h.

n_h , number of companies selected in stratum h.

$n_{h,r}^*$, number of companies that have replied, selected in stratum h and that have not changed stratum.

$$\hat{N}_h^* = N_h \left(1 - \frac{n_h}{N_h} \right) - \sum_{k \neq h} \sum_{j=1}^{n_h^k} F_j$$

where n_h is the number of companies selected in stratum h and where duplicate or inactive incidents are applicable.

$n_{h,r}^k$, number of companies selected in stratum h, and which according to the questionnaire are in the different stratum k.

Sample errors are also calculated by expressing the variation of the estimator of the total stratified sample.

2.6 Collection of the information

The collection of information for the survey has been carried out in the Centralised Collection Unit (CCU) located in the National Statistics Institute.

Companies that formed part of the sample have been issued questionnaires by mail in two groups: a first group in the first quarter following the reference year, aimed mainly at companies with fewer than 10 employees; and a second group in the second quarter, aimed at the remaining companies. A letter of presentation for the survey was attached to the questionnaire alongside a leaflet with the main results of the 2007-2008 UICTECS and a glossary of concepts.

Collection unit personnel, in agreement with the previously set work quota, carried out collection tasks, directed at companies who had not returned the questionnaire by mail, with the objective of requesting the information from them, counselling them when necessary and obtaining the completed questionnaire.

The monitoring of the fieldwork calendar and the control of the quality of the information obtained has been carried out every five years by the INE central services via the situation reports and analysis of the information in the files issued by the URCE with the recorded and filtered questionnaires.

2.7 Processing of results

The information treatment phases were the following:

–Manual control and filtering of questionnaires by the units that carried out the fieldwork with the objective of recovering the possible lack of data or correcting errors from the questionnaires

before their recording and dispatch to the Central Services.

–Interactive recording with filtering and correction of the errors in the information obtained by the units involved in fieldwork.

–Control of the information received in the department promoting the survey.

–Control of coverage and processing of identification errors.

–Validation of the quality of the information.

–Imputation of partial non-response.

–Filtering and interactive correction of inconsistencies in the validated information.

–Elaboration of a first phase of results analysis tables

–Macro publishing of the main aggregates to correct the errors not detected in the previous micro filtering phase.

–Data analysis.

–Creation of the definitive data file.

–Definitive results tables compiled using the final data file.

2.8 Tabulation of results

The tabulation of results is presented by dealing with three classification variables:

–Main activity group, according to NCEA-93 codes.

–Size of the company according to the number of employees.

–Autonomous Community.

Moreover, the survey also provides tables of results that meet the information requirements of national and international institutions, as well as of individual users interested in the subject. In all cases, statistical secrecy is maintained with the

limits laid down by the sample procedure. This publication is available and in the INEbase database that can be access via the INE website (http://www.ine.es/en/welcome_en.htm).

2.9 Specific analysis for the financial sector

In the framework of the project directed by Eurostat, and as occurs in previous survey years, companies from the financial sector (section J of the NCEA-93) were researched using a specific questionnaire. Although the variables referring to the use of ICTs are similar to those of the other sectors, questions on e-commerce have been deleted.

The financial questionnaire includes information on the following fundamental aspects:

1. General information on the company in 2006.
2. Use of computers and telematic networks in January 2008.
3. Use of the Internet in January 2008 and safety infrastructures.
4. Automated Data Exchange with external ICT systems in January 2008.
5. Sharing information electronically with suppliers and clients.
6. Integration of information within the company.
7. Perceived benefits of using ICT.

The survey has analysed a sample of 1,002 companies from branches 65, 66 and 67 of the NCEA-93 distributed all over the national territory.

2.10 Specific analysis for companies with fewer than 10 employees

Using the experience gained from this pilot study carried out in 2005, within the framework of the 2007-2008 SICTEC, an independent sample of 12,222 companies was researched with fewer than 10 employees, stratified according to size (number of employees), activity grouping (according to NCE-93 codes) and Autonomous Community.