



FINAL REPORT

Design and Methodology of the
“e-Business Survey 2007”
- Project I (Manufacturing) and Project II (RTL) -
for
empirica Gesellschaft für Kommunikations- und Technologieforschung, Bonn
by
Ipsos GmbH, Mölln

Subject

The '**e-Business Survey 2007**' was a service provided by **Ipsos GmbH (Germany)** to the **empirica GmbH**.

This survey is part of the "e-Business W@tch" (www.ebusiness-watch.org), a service launched in 2007 and provided by empirica GmbH to the European Commission, Enterprise and Industry Directorate General, in co-operation with renowned international partners.

The key objective of the e-Business W@tch is to gather information about the usage of ICT and their application for electronic business in companies, in order to derive indicators on industrial sector level. The e-Business survey is the main tool for gathering the relevant empirical data.

The 'e-Business Survey 2007' is splitted by 4 separate projects; i.e.

- **2 CATI Sector surveys**
- **2 CATI Flash surveys**

and covered in total **10 countries** and **13 industry sectors**.

Eight of these countries (AT, FR, DE, IRE, IT, ES, SE, UK) are 'old' EU Member States (i.e. before 2004), one (PL) is a New Member State (i.e. have joined the EU after May 2004) plus the USA.

This final report is referred to the **CATI Sector Surveys of Project I** (Manufacturing) and **Project II** (Retail, Transport and Logistics [RTL]).

The following topics were included in the survey:

- A: ICT Infrastructure and e-Business software systems
- B: Automated data exchange (*Project I only*)
- B: e-Business with customers and suppliers (*Project II only*)
- C: e-Standards and interoperability issues (*Project I only*)
- D: Innovation activity of the company
- E: ICT Skills requirements and ICT costs
- F: ICT Impacts, drivers and inhibitors
- G: Background information about the company



Survey Design

The multi-country survey was coordinated by the German branch Ipsos GmbH, Mölln and was conducted in cooperation with local partner institutes (sub-contractors) by the market research institutes below (see Table 1). Ipsos is a globally operating independent market research company, conducting research and consultancy in more than 50 countries. Being established in Paris in 1975 with more than 6,000 employees worldwide Ipsos is currently ranked third on revenue. Since 1999 it is listed on the Paris Stock Exchange. Ipsos is member of the ESOMAR.

Table 1: Countries and market research institutes conducting the fieldwork

Country	Market research institutes (fieldwork organisations)
France	IPSOS Insight Marketing, 75628 Paris
Germany	IPSOS GmbH, 23879 Mölln
Italy	Demoskopoea S.p.A., 20123 Milano
Poland	IQS and Quant Group Sp.z.o.o, 00-610 Warszawa
Spain	IPSOS Spain, 28036 Madrid
Sweden	GfK Sverige AB, 22100 Lund
UK	CONTINENTAL Research, London EC1V 7DY
USA	Market Probe International, Inc, New York, NY 10168

Methodology

The survey was carried out in form of Computer-Aided Telephone Interviewing (**C.A.T.I.**).

Universe/ Target Person

The universe consisted of all companies in the respective countries, belonging to the relevant country sectors, which were defined on the basis of the **NACE Rev. 1.1** classification. The final selection of sectors to be covered by the e-Business Survey 2007 (see Table 2) was agreed with empirica (hereafter referred as „the client“). A detailed description of the sectors and sub-sectors is outlined at the **APPENDIX I** (see below) which shows both, the relevant codes of the Rev. 1.1 used as well as the corresponding new classification codes of Rev 2. For the USA it was based on the NAICS classification, which correspondence to the NACE Rev. 1.1 codes was agreed with the client.

The target respondent within the company was a person responsible for or taking part in decisions concerning the use of information and communication technologies and of e-business. This person could have been in different positions, depending on the size and kind of company or organisation – usually the IT manager or a senior professional in the IT department. Particularly in the case of larger companies, there are dedicated positions for e-business management while in micro and small enterprises, the respondent rather are someone at the level of managing director or owner.

Table 2: Sector coverage (definition by NACE Rev. 1.1) of the e-Business Survey (2007)

No	Sector name	NACE Rev. 1.1	Sector description (acc. to NACE rev. 1.1)
01	Chemical, rubber and plastics	24.1, 24.2, 24.3, 24.5, 24.6, 24.7, 25.1, 25.2	Chemicals, chemical products and man-made fibres / Rubber and plastic products
02	Steel	27.1, 27.2, 27.3, 27.51, 27.52	Manufacture of basic metals
03	Furniture	36.12, 36.13, 36.14	Manufacture of furniture
04	Retail	52.1, 52.2, 50.5, 52.46, 52.48, 52.45, 52.47, 52.3, 52.42, 52.5, 52.43, 52.62, 52.61, 52.63	Retail trade, except of motor vehicles and motorcycles
05	Transport & Logistics	60.10, 60.23, 60.24, 63.12, 63.11, 63.40	Transport & Logistics

Sample and Sampling Source

From the universe a random sample of companies, stratified by sector and, where possible, size (number of employees in the company), was selected per country for each of the pre-defined quota cells, i.e. 'country-sector-cells' (in total: three to four size groups X five sectors).

In total, **4,200 interviews** (Project I: 2.400 / Project II: 1.800) were to be achieved.

Quotas on country-sector size groups were set under consideration of the countries universe individually for each country.

Initially the following **strata by company sizes** was intended across all countries per project:

Size groups – share of ...	Project I	Project II
large companies (250+ employees)	10-15%	15%
medium sized companies (50-250 employees)	40-45%	25%
small companies (10-49 employees)	45%	30%
micro enterprises (less than 10 employees)		30%

Furthermore, the usage of computer/PC (including desktop computers and notebooks) within the company was required in order to qualify for an interview.

Operational and organisational procedure of country-sector-cells selection and sampling:

The institutes were provided with the final sector list to be covered by the e-Business Survey 2007 (see Appendix I). Based on the countries universe and availability of addresses the partner institutes were asked to provide us with their recommendations and restrictions on the maximum number of interviews they regarded as feasible to conduct in each of the relevant sectors (independently of any size quotas).

Based on the countries' recommendations and under consideration of the comments and „country-sector-request“ made by the client, the sampling plan (country-sector-cells) was finalized in collaboration with the client.

However, this time in addition the 'initial intended' size quotas outlined above were adjusted individually for each country under consideration of the universe availability in each country sector. This was done in order to avoid major problems in achieving the targeted size quotas right from the start other than in previous e-Business surveys.

A detailed overview of the envisaged targets per country-sector-cell by size classes is outlined at the attached **Appendix IV 'Final Field Report [Quota Achievement]'**.

The final approved **country-sector-cell** matrix is as follows (see Table 3):

Table 3: Consolidated country-sector-cell matrix – targeted sampling plan (Project I and II)

Sector/ Country	DE	ES	FR	IT	PL	SE	UK	USA	Total
Total Project I + II	525	525	525	525	525	525	525	525	4.200
Total per sector									
01: Chemical	100	120	135	105	120	105	125	100	910
02: Steel	105	50	20	85	18	18	45	100	441
03: Furniture	100	120	80	110	110	33	100	100	753
Project I	305	290	235	300	248	156	270	300	2.104
04: Retail	120	130	165	125	157	199	145	125	1.166
05: Transport & Logistics	100	105	125	100	120	170	110	100	930
Project II	220	235	290	225	277	369	255	225	2.096

The sampling was done decentrally by each of the partner institutes.

The quality of the survey frame was of very high importance. In order to ensure the best possible quality of results in terms of raising the survey data, we explicitly instructed the institutes that the **sampling/ address purchase and the universe figures** (sample frame) should be based to the largest possible extent on "official" business registers and company statistics, which are usually run by the National Statistical Office in the country.

Wherever possible for the drawing of the sample the same source was chosen as for building-up the universe. However, in some countries the statistical offices that were used for the universe figures were not able (resp. were not allowed) to provide the institutes with full and up-to-date addresses or telephone numbers of companies at all. In case where the sampling/ address purchasing could not be obtained directly from the respective national statistical offices, the countries used renowned address supplier of the highest possible quality in terms of coverage and up-to-dateness. This is common practise in business to business surveys.

The following sample sources were used (see Table 4):

Table 4: Sample sources (directories) from which the samples were drawn

Country	Sampling Source
France	WEGENER DM, previously IDATA (based on INSEE SIRENE file of the National Institute of Statistics)
Germany	Heins and Partner Business Pool (SABIS-Germany)
Italy	Dun & Bradstreet
Poland	Hoppenstedt Bonnier Information Poland (HBI)
Spain	Dun & Bradstreet
Sweden	Statistics Sweden's Business Register
United Kingdom	Dun & Bradstreet
USA	Dunhill International List Co., Inc.



Sampling sources in detail were as follows:

France:

The sample was drawn from **WEGENER DM**. The previous years we used the iDATA database which is based on the INSEE SIRENE file of the National Institute of Statistics. But from 1st January 2006, iDATA and other companies is merged into the WEGENER Group. Now, WEGENER DM offers integrated and complete solutions of data sources and processes. It is a leading supplier of data and data related services on the French Marketing Activities. WEGENER DM is a specialist in validation of companies' addresses. It offers three millions of French companies categorized according their activity and is updated regularly.

Germany:

Sampling source was the **Heins und Partner Business Pool SABIS-Germany (Stategic Analysis Business Information System)**. Based on almost all address databases available in Germany Heins und Partner has created a high-quality Business Pool, which comprises approx. 3.6 million files and is subject to permanent validation and updating.

Italy:

The sampling source chosen was **Dun & Bradstreet**. It was used because it covers all industry sectors and provides a detailed indication of NACE codes, covers the whole country and is the most up-to-date, reliable and complete sampling sources in Italy (it results in a fairly high percentage of accurate names and telephone numbers).

Poland:

The sampling source chosen was **Hoppenstedt Bonnier Information Poland (HBI)**. It covers a wide range of precise and up-to-date information of companies and is updated at least 4 times a year. The database includes information on number of employees and NACE codes.

Spain:

The sampling source chosen was Dun & Bradstreet. D&B has a very accurate database of companies and is experienced to be a reliable database for Spain. The database is updated daily and includes around 700 000 files. Moreover, D&B has many information of each company and it is possible to get a database with an exhausted segmentation criteria. As far as quality is concerned the foundation of DUNSRight™ is Quality Assurance which includes over 2,000 separate automated checks, plus many manual ones, to ensure the data meets their high quality standards. In addition, five quality drivers work sequentially to collect and enhance the data.

Sweden:

The sampling source was **Statistics Sweden's Business Register**. According to a decision by the Swedish Parliament, Statistics Sweden has since 1963 been commissioned to maintain a central business register. Statistics Sweden's Business Register is a register of all enterprises and local units in Sweden. By using Statistics Sweden's Business Register we obtain the most up-to-date information. It offers access to approx. 900,000 files. Changes of addresses occur continuously and the register is updated once a week.



UK:

The sampling source chosen was **Dun & Bradstreet's Business Database**. It was used because it provides the most comprehensive coverage of companies (as opposed to establishments) in the UK. The primary basis for the list is data filed with Companies House – all companies must register, by law, certain details on a yearly basis, so by definition the sample source is all inclusive. The database is updated on a regular basis (at least monthly) so it is up-to-date and „newer“ companies are properly included. Our company regularly uses Dun & Bradstreet as a sampling source on business-to-business surveys and has used it successfully on previous surveys conducted as part of the e-BusinessW@tch.

USA:

The sampling source chosen for United States of America was **Dunhill International List Co., Inc.** This sampling source was used because Dunhill has supplied such lists for us in the past for similar studies and they resulted in a relatively high percentage of resulting connections, accurate names and telephone numbers, etc. They also are able to meet the needs of this particular study well, by retrieving contacts by both NAICS code and company size across the country.

Comments on quotas on company sizes and the procedure for dealing with problems on this aspect

The institutes were provided with a detailed country specific quota plan with the objective to fulfil the country specific targeted strata with respect to company size classes per country-sector-cell.

The progress of fieldwork was, therefore, monitored very closely. In agreement with the client, the institutes were briefed to proceed in case of problems (with fulfilling the quota in specific sector-cells) as follows:

In case of any problems in achieving the aimed at number of interviews in a specific quota cell (biggest size cells), there would be some flexibility which needed to be monitored during fieldwork. That meant firstly trying to achieve as much interviews as possible in the biggest size cell (250+), the remaining interviews needed to be done in the next lower size cell (50-249), i.e. **the procedure was** (groups 1-9/ 10-49/ 50-249/ 250 + employees): "**Quota/ Quota/ Remainder/ Max**". In case the third size cell (50-249) was also limited, then again interviews needed to be done in the next lower group (10-49), i.e. **the procedure was: "Quota/ Remainder/ Max/ Max"**. But at the lowest size group (1-9) the maximum of 30% of the interviews (the quota) should not be exceeded.



Questionnaire

The "draft" version of the English questionnaire was developed in the context of the *e-Business W@tch* and delivered to Ipsos by the client.

The „draft“ questionnaire version was firstly checked by Ipsos for its feasibility in terms of technical aspects (filter, completeness) and, in cooperation with the client, modifications were made prior to the pre-test.

Pilot interviews prior to the regular fieldwork were conducted in Germany for Project I on July 23, 2007 and twice for Project II, on August 8 and August 10, 2007 (due to restructuring of the questionnaire). Objective of the pretest was the verification and, if necessary, the modification of the questionnaire (special care was taken to the structure, comprehensibility of the questions/ of the scales and items, to the filters as well as to the interview length).

At the pre-test, at least 10 interviews per project with companies from different sectors (in Germany) were conducted to pilot the questionnaire. The questionnaire worked well in terms of its overall logic, terminology and structure and interviewers experienced no technical difficulties. Thus, the pre-test gave us sufficient information for any modifications possible. However, the length was somewhat beyond the originally assumed length by 15 minutes and had to be shortened for the main survey.

Based on the proposed amendments at the pretest report final modifications were done to the agreed **Final English Master Questionnaire** (already provided, **see Appendix II**). In summary, only some slight changes were needed in the wording and some shortening of the questionnaire in order to come closer to the average 15 minutes interview length.

The Final English Master Questionnaire (see APPENDIX III) was delivered by Ipsos to all participating countries for translation into the major local language(s) spoken.

As a next step for quality assurance, Ipsos arranged that the translated questionnaire versions were back-checked by an external translation agency, i.e. back-translator. Suggestions and amendments to the translations were made (if any) and the corrected translated version(s) were finally approved by us. The final translated questionnaire versions are already provided (**see APPENDIX III 'Final Translated Questionnaire'**).

Based on the final approved translated version(s), programming of the CATI scripts were done by the partner institutes. The programmed scripts (and, if available, a TOPLINE based on dummy „Autopilot“-Interviews) were double-checked by us for its correspondence to the agreed translated questionnaire version(s). In case of any comments made, amendments were done by the institutes and finally approved by us prior to start of fieldwork.

Fieldwork

Fieldwork was carried out during August 13 and October 08, 2007 the country specific fieldwork periods are shown in Table 6 below. Furthermore, some additional interviews were required for Project II within the sector 05 (Transport and logistics industry) with companies of the NACE code (Rev. 1.1) 60.10 and 60.21. Those interviews were conducted until November 08, 2007 in all countries (except USA).

During fieldwork the client was provided with a weekly progress field report (Quota Achievement per "country-sector-cell") and comments of problems that occurred on specific country-sector-cells.

As this time especially the size quotas were adjusted and set under consideration of the universe availability in each country-sector size group (especially in the bigger size classes), we were not faced with many problems in achieving the targeted quotas.

However in some of the country-sectors it was not possible to realize the targeted size quotas due to a very **limited and already exhausted universe**. In detail assigned size quotas mostly with medium sized and big companies (50+ employees) were not achievable in France (sector 04), Sweden (sector 03) and the UK (at sectors 01, 02, 03, 05), i.e. the remaining interviews were compensated in the lowest size cells.

Whereas some more interviews were possible to realise at the 'Steel industry' (sector 02) in Poland and Sweden.

In total, 4.369 interviews (instead of the foreseen 4.200 [plus 159 additional interviews sector 05]) were conducted across all 8 countries covered by this both projects.

The final achieved **country-sector-cell** matrix is as follows (see Table 5):

Table 5: Final country-sector-cell matrix –achieved interviews (Project I and II):

Sector/ Country	DE	ES	FR	IT	PL	SE	UK	USA	Total
<i>Total Project I + II 'planned'</i>	525	525	525	525	525	525	525	525	4.200
Total Project I + II 'achieved'	555	549	551	553	546	542	548	525	4.369
Total per sector									
01: Chemical	100	120	135	105	120	105	126	100	911
02: Steel	100	50	20	87	24	30	38	100	449
03: Furniture	105	120	80	111	110	35	100	100	761
<i>Project I 'planned'</i>	305	290	235	300	248	156	270	300	2.104
Project I 'achieved'	305	290	235	303	254	170	264	300	2.121
04: Retail	120	131	166	126	151	184	148	125	1.151
05: Transport & Logistics	130	128	150	124	141	188	136	100	1.097
<i>Project II 'planned'</i>	220	235	290	225	277	369	255	225	2.096
Project II 'achieved'	250	259	316	250	292	372	284	225	2.248

Colours of changes to country-sectors (due to 'shortfalls'):

yellow = decreased country-sector samples

green = increased country-sector samples, in order to compensate missing (decreased) interviews

A detailed overview of the final **quota achievement** per country-sector-cell by size classes (including detailed targets) is attached (see Appendix IV 'Final Field Report [Quota Achievement]').

Table 6: Further fieldwork details per country:

Project I					
Country	Duration of Fieldwork	# of Inter-viewers	Average duration (in min)	Min # of contact attempts	Controls
France	05-09 to 19-09-07	17	21:31	5	10%
Germany	13-08 to 02-10-07	35	20:16	5	10%
Italy	03-09 to 18-09-07	14	17:27	7	25%
Poland	22-08 to 31-08-07	27	23:07	5	11%
Spain	04-09 to 25-09-07	10	20:24	5	20%
Sweden	17-08 to 06-09-07	8	18:20	7	10%
UK	13-08 to 07-09-07	29	19:41	5	10%
USA	05-09 to 08-10-07	19	22:50	5	20%

Project II					
Country	Duration of Fieldwork	# of Inter-viewers	Average duration (in min)	Min # of contact attempts	Controls
France	06-09 to 24-09-07 (* to 30-10-07)	18	18:08	5	10%
Germany	20-08 to 03-09-07 (* to 24-10-07)	39	18:56	5	10%
Italy	04-09 to 17-09-07 (* to 23-10-07)	12	16:07	7	25%
Poland	03-09 to 18-09-07 (* to 30-10-07)	34	18:30	5	11%
Spain	14-9 to 02-10-07 (* to 30-10-07)	10	20:00	5	20%
Sweden	05-09 to 25-09-07 (* to 08-11-07)	9	18:15	7	10%
UK	28-08 to 26-09-07 (* to 30-10-07)	29	17:07	5	10%
USA	12-09 to 08-10-07	18	20:00	5	20%

* Field end of the additional interviews conducted with companies of the sub-sectors NACE 60.10 and 60.21 at sector 05 (Transport and logistics industry).



General comment on different average interview lengths in the countries:

The main reason for different average interview lengths of different countries in market research surveys is usually the different language. Some languages are generally more "flowery", i.e. more words are needed to express one and the same thing than in another language. English, which was the basic language for the assumed interview length quoted for (15 minutes), is a rather "leaner" language than others, e.g. French, Polish, German.

Furthermore due to cultural differences interviewers in different countries use to talk more -or less- with respondents. Although interviewers are trained to go through the questionnaire straight forward, in practice they use to talk to the respondents about aside things, if it is only to persuade them to go on with the interview. But in some countries they talk more about aside-things, in other less. Additionally respondents might need to interrupt the interview just for a moment due to their business. A variation of up to 10 minutes for an interview length of approx. 20 minutes is not unusual in this context.

Last but not least, the variation of the interview length can also be influenced by the different sectors included in different countries and/or by the respondents ICT knowledge: sectors with less ICT-usage or respondents with less knowledge of specific ICT-related technical terms might have a higher need for explanations.

Interviewers and controls:

All interviewers were personally briefed on the survey and fieldwork was continuously controlled by trained supervisors. Due to the computer-aided interviewing, systematic errors during data collection can be excluded. Controls (telephone listening) were made to check the correct administration of the interview and the questionnaire (the proportion of controls varied between 10-25%, depending on institutes' standards).

Detailed **comments of the participating institutes** on fieldwork, questionnaire etc. are attached in **Appendix V** (see below). The most frequently mentioned comments are outlined at the next chapter 'data delivery'.



Data Delivery

All incoming country data files were thoroughly checked on compliance and completeness with the pre-defined data map. The results of the project are provided to the client in the form of a **labelled SPSS data file** (already provided as **Appendix VI**)

Furthermore, deliveries comprise '**Universe Figures**' (company and employees based) as **Appendix VII** (i.e. country-sector cell by size classes per country – where available) and '**Contact Protocols**' as **Appendix VIII** including completion rates and non-response reasons per country-sector-cell.

Comments on data processing and results:

As usual for consumer as well as for B2B-market research survey during data processing for some questions we observed slight inconsistencies (respectively contradictory figures) within interviews. Since we want to support your future analyses of the data we would like to draw your attention to the following:

- The inconsistencies mainly concern numerical figures (absolute figures or percentages on numerical questions e.g. on market share, number of employees with university degree, ...conducting R&D etc.) which are usually difficult to specify by respondents for various reasons over a telephone interview. Unless checks are built into the script there is no way of preventing occurrences of seemingly 'implausible' responses. On the other hand, too many built-in checks do not only interrupt the flow of the interview but also give respondents the (probably negative) impression of being scrutinised. Therefore, it has to be accepted that not every respondent answers all of the questions in what would seem to be a perfectly logical way.
- High share of DK ("don't know") is usually coming from respondents who simply do not know the answer or are not willing to share information which they consider as internal, confidential or indiscreet (e.g. market share, budgets, education of employees etc.).
- For the following questions the aspects mentioned below need to be taken into consideration:

Question G6 [U12 eBiz 2006] (Company's market share in its 'most significant market' [regional/country/international market acc. to question G4]):

High shares of DK:

Senior IT personnel quite reasonably may not know their company's market share. This is rather the case for Marketing or Accounting personnel. And even if respondents are the owner or managing director of the company they obviously often do not have any mechanism to provide them on the spot with accurate figures on market share.

For future surveys we would therefore strongly suggest to provide respondents with ranges (up to 5%, 6-10% market share, etc.) for this type of questions rather than ask for exact figures. Respondents could possibly consider this as more risk free and this would result in less DK.

As example, high values for market share although company is rather small and most significant market is mentioned to be the country's market or the international market:

Several countries like UK, Italy mentioned it was assumed that some respondents might not have understood the questions correctly due to several reasons.

In the UK some respondents misinterpreted this question, i.e. that this meant the share of their sales represented by main market, as opposed to market share in that market compared to other companies. Same in Italy, so it is possible that question G6 was understood as percentage of their turnover (see Italy) on their main market rather than about the market share.

This can also apply to other countries.



Question G11 [U5 eBiz 2006] (Percentage share of employees with a college or university degree in the company):

High shares of DK:

Taking the results at hand we do not consider that this is actually something people are particularly likely to know on a company-wide basis, especially in large companies. It is more likely something only people in a Human Resources department are likely to know.

Particular high shares given in big companies:

Generally, the level of education is not consistent in Europe and therefore the average levels per country vary a lot. Some countries mentioned specific degrees similar to university or college which can only be achieved in their country and could therefore influence the data in this question. For example: In France, a possible “BTS” is counted as a degree close to college/university, while a “Brevet de Technicien Supérieur” is a vocational training certificate taken after the age of 20 (2 years after the A-levels) and there are secretarial BTS, nursing BTS, etc.

Question G12 (U6 eBiz 2006) (Absolute number of employees primarily conducting R&D in the company):

High shares of 0 or DK:

The explanation for companies replying that no one does R&D, might be that this function is completely outsourced (certainly the case in many hospitals, for instance, with the development of software). It might also be because respondents are thinking about dedicated R&D employees and/or departments and they do not have any of those, just people who do 'a bit' of development.

In smaller companies DK can be an appropriate response if respondents are confused about the use of the term 'primarily'. It is possible that they do not know how to deal with someone who does R&D from time to time, when required etc. but then for quite a concentrated period of time (i.e. temporary R&D on special projects in companies where fulltime researcher simply do not exist). Perhaps they are reluctant to say 'no one' but equally do not think a full person is the appropriate answer.

For all those types of numerical questions in future surveys, we would therefore strongly suggest providing respondents with ranges (e.g. 3-5 size groups) rather than ask for exact figures. Respondents could possibly consider this as more risk free and this would result in less DK.

Selected comments from different countries

Furthermore, some other **main points from the different countries' comments** on fieldwork, questionnaire, data and any problems occurred etc., as indicated in the Appendix V below:

Technical terms – ICT knowledge:

A few questions were quite technical. Especially respondents of smaller companies had often difficulties to answer questions related to specific technical terms and application as they didn't understand/didn't know specific technical terms, e.g. ERP, SCM, PLM, RFID at questions A7/A9, A12 as well as EDI, XML and ESIDEL at question C1. Especially when using only one or few computers, respondents were simply unaware of such technical terms. These were rather respondents who are not IT specialists but still taking decisions regarding ICT (mostly owners or share holders of small companies). Even the explanations given (for example at question A7) didn't help.



G6 – market share:

Many countries mentioned misunderstandings of respondents in this question, for example UK: As in the previous year, and despite careful briefing of the interviewers, there was some confusion over question G6 (U12 in eBiz 2006). Some respondents seemed to think, until clarified, that this meant how much of their sales are in their most significant market, e.g. if their main sales area was the UK, and they only operated in the UK, a few respondents were initially claiming 100% until we explained (i.e. that we wanted to know the market share of their company in comparison to all other companies operating in that market). In sectors with many small companies the answer is often under 1%, and I think this is what confused some respondents. It is also worth pointing out that the term 'regional market' is open to considerable misinterpretation on the part of respondents – i.e. some respondents took this to mean their immediate locale, others their county, while others took a broader view (e.g. the South East of England).

Questionnaire length:

Some countries complained (e.g. Poland, France, and UK) that the interview length (with more than 15 minutes) was too long. It is mentioned that business-to-business (B2B) research, which means "surveys on behalf of companies or authorities amongst companies", is often difficult when the questionnaire length is longer than 15 minutes as the target persons often complain that they have no time for an interview during their normal work (e.g. to spend 20 or more minutes). And thus in some countries it was reported that it was rather difficult to persuade respondent to participate in this survey due to the interview length

As a final point, and as mentioned in regard to the countries' comments, it is becoming increasingly difficult to achieve interviews with IT/DP professionals. We suspect that this situation will only worsen in the future and, therefore, it will be more and more important to keep questionnaires concise and to the point, in order to encourage response. We believe that a genuine **15-minute interview is the longest length realistic** with this audience. Certainly, a shorter interview might help in reaching sector targets in future where the universe of companies is relatively small.

Weighting

Weighting information:

Due to stratified sampling, the sample size in each size-band is not proportional to the universe numbers (per country). If proportional allocation had been used, the sample sizes in the 250+ size-band would have been extremely small, not allowing any reasonable presentation of results. Thus, weighting is required so that results adequately reflect the structure and distribution of companies as well as number of employees in the universe of the respective sector or geographic area.

The necessary information needed for weighting are the attached '**Universe Figures' per country (see Appendix VII)** which were provided by the various countries' partner institutes, based on the highest possible quality and reliable source available (mostly from the respective national statistical offices). In addition weighting was required based on the universe for the number of employees working at the company. As most of the institutes could not provide us with the relevant universe, the source used for the 'employees universe' was 'Heins and Partner Business Pool', except of Italy and Spain.

The universe figures show the distribution of companies per country-sector-cell (and sub-sectors) broken down by size classes (four size bands, where available).

All the relevant information used for weighting (company and employee universe, weights etc.) is attached in the **Appendix IX 'Universe Companies Employees Weighting Bases'** (already provided).



Weighting was done by Ipsos in close cooperation with the client, in order to reflect the needs of the entire project analysis of e-Business W@tch.

The weighting procedure was as follows:

As mentioned, due to the structure of the companies in the universe – i.e. many small companies, few big ones - but the need of being able to analyse companies with many employees as well as the others the sample has been set up disproportional per country-sector-group.

To resolve this disproportional and show structures

- by company sizes, i.e. number of companies (splitted by employee size bands)
- by employee weight, i.e. number of employees in a company (again splitted by employee size bands)

a weighting procedure has been established.

According to agreement with empirica the weighting has been applied by sector, but across all countries within each sector. The sum of weights reflects the total number of interviews in the sector (across all countries).

Weighting cells are constituted by sector (01-05), country and employee class.

- Countries: France/ Germany/ Italy/ Poland/ Spain/ Sweden/ UK/ USA
- Company size bands:
 - 1 – 9 employees (Project II only)
 - 10 – 49 employees
 - 50 – 250 employees
 - 250+ employees

Special cases/comments:

- In Sweden the breaks of 50 – 249 and 250+ employees have not been available at the universe, instead information were delivered for the ranges 50 – 199 and 200+ employees. Therefore an approximation based on similarly structured countries had to be made to allocate the number of companies as best as possible.
- For the sector 03 (furniture) we had empty cells (no interviews) for the size group 250+ employees in Spain and Sweden. In these cases we collapsed the cell “250+” with the neighbouring cell “50 – 249”. Interviews in the new cell represent now all companies and employees from the original cells.

Mölln, November 20, 2007

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APPENDIX I – Sector Definition

FINAL REPORT (e-Business Survey 2007)

Definition of the sectors to be covered by the e-Business Survey 2007

01. Chemicals, rubber and plastics industry

NACE Rev. 2	NACE Rev. 1.1	Chemicals, rubber and plastics industry
20.1	24.1	Basic chemicals, fertilizers and nitrogen compounds, plastics and synthetic rubber in primary forms
20.2	24.2	Pesticides and other agro-chemical products
20.3	24.3	Paints, varnishes and similiar coating, printing inks and mastics
20.4	24.5	Soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations
20.5	24.6	Other chemical products
20.6	24.7	Chemical fibres
22.1	25.1	Rubber products
22.2	25.2	Plastic products

Not to be included 24.4 (Rev. 1.1)

02. Manufacture of basic metals

NACE Rev. 2	NACE Rev. 1.1	Manufacture of basic metals
24.1	27.1	manufacture of basic iron and steel and of ferro-alloys
24.2	27.2	manufacture of tubes
24.3	27.3	other first processing of iron and steel
24.51	27.51	Casting of iron
24.52	27.52	Casting of steel

03. Manufacture of Furniture

NACE Rev. 2	NACE Rev. 1.1	Manufacture of Furniture
31.1	36.12	Manufacture of office and shop furniture
31.2	36.13	Manufacture of kitchen furniture
31.9	36.14	Manufacture of other furniture

04. Retail

NACE Rev. 2	NACE Rev. 1.1	Retail
47.1	52.1	Retail sale in non-specialised stores
47.2	52.2	Retail sale of food, beverages and tobacco in specialised stores
47.3	50.5	Retail sale of automotive fuel in specialised stores
47.4	52.46, 52.48	Retail sale of ICT equipment in specialised stores
47.5	52.45	Retail sale of other household equipment in specialised stores
47.6	52.47	Retail sale of cultural and recreation goods in specialised stores
47.7	52.3, 52.42, 52.5, 52.43	Retail sale of other goods in specialised stores
47.8	52.62	Retail sale via stalls and markets
47.9	52.61, 52.63	Retail trade not in stores, stalls or markets

05. Transport & logistics industry

NACE Rev. 2	NACE Rev. 1.1	Transport & logistics industry
49.1	60.10	Passenger rail transport, interurban
49.2	60.10	Freight rail transport
49.3	60.21	Other scheduled passenger land transport
49.3	60.23	Other passenger land transport
49.4	60.24	Freight transport by road and removal services
52.10	63.12	Warehouse and storage
52.24	63.11	Cargo handling
52.29	63.40	Other transportation support activities

APPENDIX V

Comments of Institutes concerning Fieldwork

FINAL REPORT

The following comments concerning fieldwork were provided by the institutes:

General Comments:

Due to the small number of companies available, in some of the countries the fulfilment of the targeted quotas was in specific sectors difficult (respectively not possible) – see also chapter “Fieldwork” above. During fieldwork it was therefore essential to adapt quotas in individual sector size classes which was done in close co-operation with the client and the partner institutes involved. This concerned especially the large company size groups.

France:

Project 1 and 2:

- In general, the fieldwork went without any problems and the questionnaire was understood by the respondents.
- Problem concerning the understanding of some technical terms did not occur.
- In some companies (in particular big size companies), the switchboard asked to the interviewers a letter which proved that it was a real survey from Ipsos.
- Some sectors were difficult to interview. Several reasons :
 - [Project 1] Some sectors had a high target refusal rate (steel and furniture companies)
 - For some sectors, the small universe availability resp. lack of addresses was a serious problem.
- Like in the previous surveys, the question about evolution of the market share (G6) could be misunderstood. Respondent answered: “*Comparing what?*”.
Actually, there are 2 ways to understand the question: interviewees can understand the market share of the company in the regional market/ French market/ international market. Or they can understand the share of the regional market/ French market/ international market for the activity of the company.

Germany:

- As with previous e-Business surveys carried out, in total fieldwork ran relatively smooth and the questionnaire was easy to understand and interesting for most of the respondents.
- As this time especially the size quotas are adjusted and set under consideration of the universe availability (especially in the bigger size classes), we were not faced with any problems in achieving the targeted quotas.
- Especially respondents of small companies had often difficulties to answer questions related to specific technical terms and application. Especially when using only one or few computers and/or respondents are not knowledge in such technical terms (e.g. ERP, EDI etc.), thus some questions (e.g. regarding networks, standards etc.) seemed to be not relevant for them respectively some respondents feel to be swamped.
- As in the previous e-Business surveys, positive response came from the respondents concerning the survey was done on behalf of the European Commission. The reference to the website at the end of the interview was welcomed and therefore was very helpful.



Italy:

Project I and 2:

- It was very difficult to speak with the right person, especially for big/multi-country companies, as respondents never refused to do the interview but they often provided different pretext as “in a meeting”.
- Interviewers pointed out that in general there are no problems if the company interviewed is technologically minded and respondents knew very well different IT supports and were able to provide complete answers with no doubts. On the contrary, respondents from small companies, not very familiar with IT, had several difficulties since they did not know different tools/existing technologies and often asked for explanations, because they were not sure whether the IT technologies asked in the questions were the ones they owned. Sometimes they assumed to have similar products, developed ad hoc for their company. Most difficult technologies to be understood were RFID (A 12/A9), TRADACOM (A 10b) and ESIDEL (C1).
- On the contrary, CAD (A10) and CAMSYSTEM (A11) were almost popular.
- Question G6 (Market Share): As in the past many respondents misunderstood this question. They did not answer giving the market share in their main market, but giving the share of their “turnover “ in their main market (Company’s turnover in all markets = 100%)! Anyhow the most of respondents are not aware about the market share and they answered: DK.

Project II only:

- Many refusals among the smallest and/or family owned business, where only one PC is available and used more for personal reason than for business.

Poland:

Project I and 2:

- There were some difficulties with getting an interview with computer/IT specialists: In small companies a computer specialist often turns up only when a problem occurs, in big companies they have too much work to do and thus no time for an interview.
- There were some problems with understanding the questionnaire: The subject matter itself put the respondents off already at the beginning of the research, they claimed that they did not know what it was about and they interrupted the interview. In small companies they did not understand the some technical terms like ERP, SCM, PLM, RFID etc. They had a problem with understanding standards of exchanging information e.g. EDI, XML etc.
- Other problems:
 - It happened that external companies serve the given institution and directors were not available or were not knowledgeable at all about this subject and did not want to talk about it.
 - In many cases respondents had problems to answer some questions, especially those numerical concerning employees (G11 + G12) and market share (G6). At G6 for example some figures are quite strange, and we think it is possible that respondents just don't know the answer.
 - IT specialists know issues concerning technologies but they have difficulties with questions on company. Respondents who don't work for IT department have problems with all technical questions.
 - Too long time of taking an interview of about 20 minutes (e.g. Project I), thus target persons often had no time for it during their work.

Spain:

Project I and 2:

- As in previous e-business surveys, there were some difficulties in reaching the target persons which results in a long time for fieldwork. Especially the participation of target persons in big companies is becoming more and more difficult as those IT professionals are much approached.



- Problems with most of the numerical questions (absolute/percentage), e.g. G6, G11, G12. Often the respondents indicated just an estimation or they answered DK.

Sweden:

Project I and 2:

- The fieldwork for all five sectors was carried out without any problems.
- As expected, due to the limited number of addresses to large companies, it was easier to conduct the interviews within the smaller companies, e.g. at sector 03 (furniture) the size quotas were not achievable.
- The questionnaire was not difficult to understand and the respondents have been quite willing to participate in the study. The completion rate for average business-to-business studies are approximately 12-25% depending on the sector, so we find the completion rate (20,71%/19,31%) to be normal.

UK:

Project I and 2:

- The questionnaire was again quite similar in tone and feel to those used for previous e-Business W@tch surveys. Although some of the questions do appear to be quite technical, this did not prove a particular problem for respondents.
- As in the previous year, and despite careful briefing of the interviewers, there was some confusion over question G6 (U12 in 2006). Some respondents seemed to think, until clarified, that this meant how much of their sales are in their most significant market, e.g. if their main sales area was the UK, and they only operated in the UK, a few respondents were initially claiming 100% until we explained (i.e. that we wanted to know the market share of their company in comparison to all other companies operating in that market). In sectors with many small companies the answer is often under 1%, and I think this is what confused some respondents. It is also worth pointing out that the term 'regional market' is open to considerable misinterpretation on the part of respondents – i.e. some respondents took this to mean their immediate locale, others their county, while others took a broader view (e.g. the South East of England).
- Many interviewers said that a short letter explaining the purpose of the survey, on European Commission letterhead, would have been beneficial. This could have been faxed or emailed to potential respondents to allay any potential concerns they had about taking part. We believe this would have helped increase levels of participation.
- There was a very low universe of companies in certain quota cells. As a result size bands had to be relaxed within all 3 sectors in order to reach the overall sector target. Even then, it proved impossible to achieve the overall sector target in sector 02 - Steel. The shortfall of 7 interviews was made up in Project II: Retail, Transport & Logistics in order that the overall target of 525 interviews was achieved across the two surveys.
- Given the limited sample available in some sectors, and the need to target a high proportion of large companies, we believe that a longer field period would have helped to maximise the number of complete interviews. It is generally more productive on projects with limited sample to run fieldwork with smaller shifts of interviewers over a longer field period. Having excessively large interviewing shifts, because of a need to finish fieldwork in a relatively short timeframe, means that sample can become exhausted quite quickly.
- As a final point, and as mentioned in regard to previous surveys, it is becoming increasingly difficult to secure interviews with IT/DP professionals, and we suspect that this situation will only worsen in the future. It will become more and more important to keep questionnaires concise and to the point, in order to encourage response. We believe that a genuine 15-minute interview is the longest length realistic with this audience. Certainly, a shorter interview might help in reaching sector targets in future where the universe of companies is relatively small.



USA:

Project I and 2:

- We found that IT professionals - even IT managers and IT department heads admittedly have little to no knowledge of HR / personnel information in the United States. They are hesitant to answer questions such as number of employees (G12), percent of employees (A2, G11) who do certain functions and education of employees (As educated individuals they tend to assume most others are equally educated). They also are not comfortable with answering questions about Market Share (G6).
- Also regarding BOTH project I and II, we have conducted a number of return calls and have discovered, as we suspected and as our interviewers told us previously, that information with regard to human resources info (like no. of employees, number of those who graduated college, etc) and sales (market share) is unreliable from the sources interviewed (IT professionals and managers). They were prompted, as instructed by the questionnaire, to make their best guess if they did not know. They did. Additionally, education level is not generally known except by human resources managers. Further, with regard to market share alone, in addition to not knowing the information, respondents indicated that they were unsure how to answer- Market share with respect to their whole industry or their niche. For example: are we referring to just oak furniture, antique furniture or all types of furniture?