

**ICT LEARNING AND TRAINING:
AN EXPLORATION OF DATA IN THE EU**

WORK PACKAGE 2

**Survey data on use of ICT and training in small and
medium-sized enterprises in Sweden**

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ICT use and training in small and medium-sized enterprises

1. Introduction and contextual information

This report presents information on ICT use, skills and training in Swedish enterprises, with specific focus on SMEs. The report is one of eight on the same topic in a comparative European project including the UK, Ireland, France, Belgium, Germany, Austria, Denmark and Sweden.

Sweden has 856 517 registered enterprises. The overwhelming majority (641 820) of enterprises are sole traders or self-employed. Only 214 697 have employees and 96.9 per cent of these employ fewer than 50 people. Among those with employees, the typical enterprise employs 1 to 4 people. The large or very large enterprises with between 50 and 10.000 employees number 6444 or 3 per cent of employers (Statistics Sweden Business Register 2003).

Although the absolute number of large companies is low, Sweden has more large and trans-national companies than might be expected from the size of its economy. These large companies have a strong influence on developmental trends in the economy. Technological innovations are more easily implemented and developed by larger companies, and it is likely that there is a substantial spillover of technological know-how from large companies to their smaller partners and subcontractors. However, a sizable proportion of SMEs must manage ICT development independently.

2. Survey data on ICT use in Swedish enterprises

Knowledge about ICT use and ICT skills is based predominately on the situation in companies with more than ten employees. Data on the use of ICT in very small enterprises are rather limited. Comprehensive surveys of the use of ICT in Swedish enterprises based on a representative sample of enterprises with more than ten employees have been conducted by SCB¹ for 2001, 2002, and 2003. The survey in 2002 was enlarged and further elaborated by NUTEK² to give more detailed information about all enterprises with *fewer* than 50 employees. The data used in the following discussion are drawn primarily from the four sources: SCB 2001, 2002, 2003 and Nutek 2002.

Nearly all enterprises use computers and the Internet

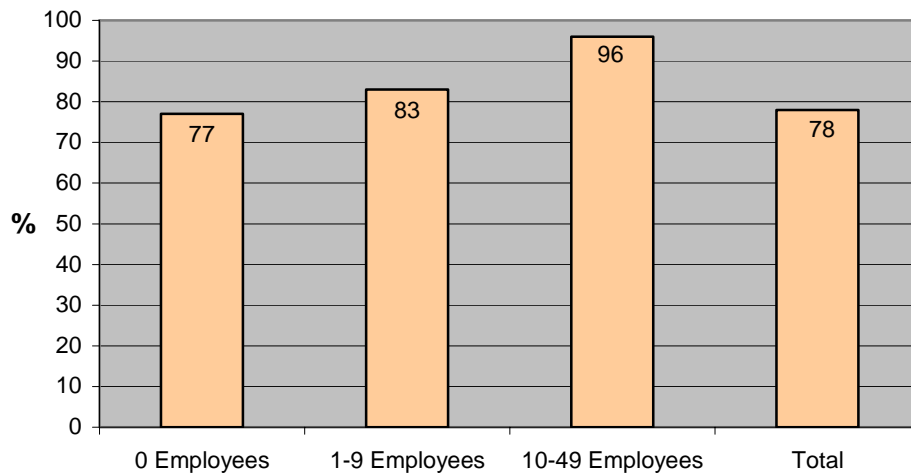
Access to ICT is generally very high among Swedish enterprises. Data from spring 2003 show that about 97 per cent of all enterprises with more than ten employees used computers and 95 per cent had access to the Internet. The data show little difference between companies down to the size of 10 employees. The average proportion of ICT use among enterprises with *fewer* than 50 employees is only 78

¹ Statistics Sweden.

² The Swedish Business Development Agency.

per cent. However, this average is strongly influenced by the very small enterprises, which make up the majority of the non-users (fig 1).

Fig 1. Proportion of small companies using ICT by size



Source: The Swedish Business Development Agency. The Situation and Conditions of Enterprises 2002

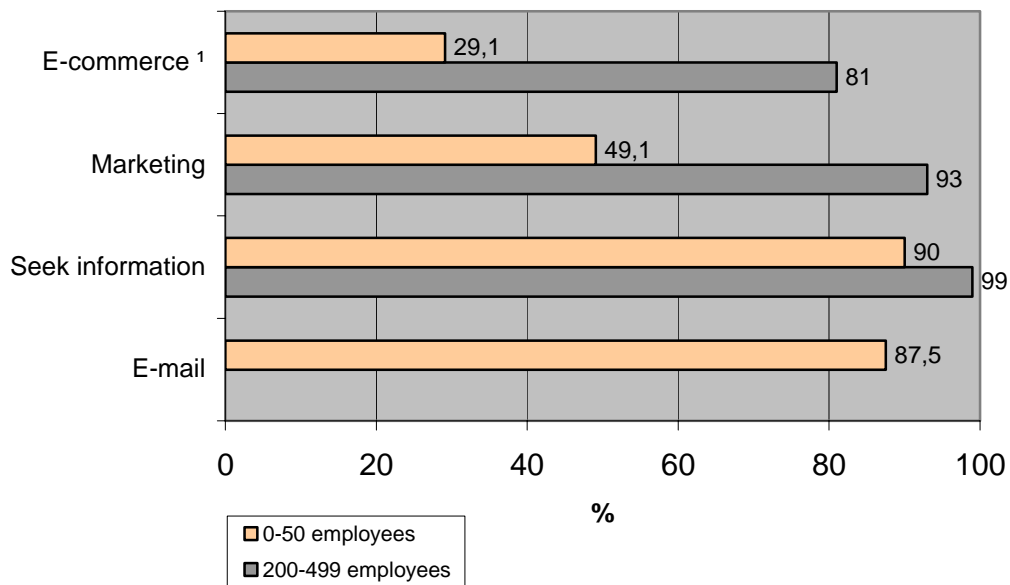
About 8 out of 10 enterprises have a website

About 79 per cent of all enterprises had a website in spring 2003. If small and large enterprises are examined separately, the results show that only 72 per cent of enterprises with 10-19 employees had a website, while for those with 500 employees or more the figure was over 98 per cent.

Internet marketing and e-commerce less common in small enterprises

Although a majority of small companies have access to the Internet they make less use of it. The difference is particularly marked in online marketing and purchasing (fig 2).

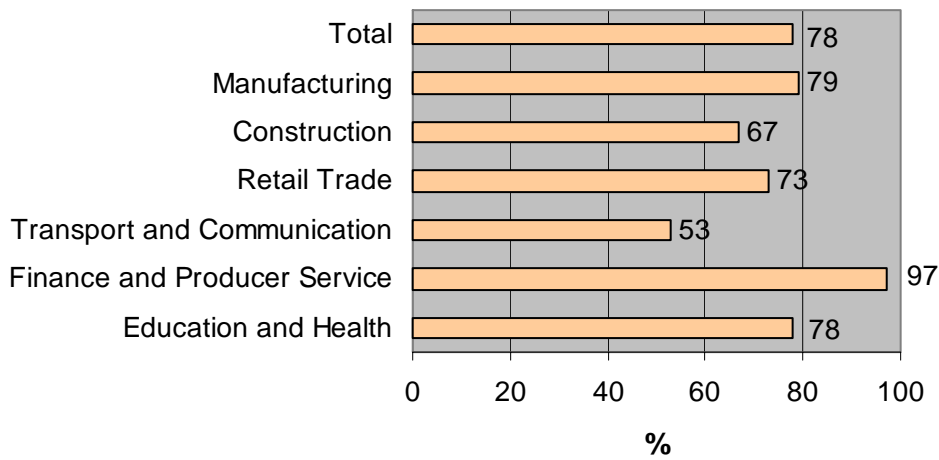
Fig 2. Type of Internet use in enterprises of different size



Source: Statistics Sweden (2003) Use of computers and Internet in enterprises 2002
The Swedish Business Development Agency. The Situation and Conditions of Enterprises 2002
¹ Data on E-commerce from 2001

As well as differences in the way small and large enterprises use the Internet, the use of ICT among small enterprises also differs by business sector. There is a marked difference between the percentage of ICT use in “Transport and Communication” (53 %) compared to a service sector like “Finance and Producer service” (97 %) (fig 3). This difference is only visible among firms with fewer than 50 employees: the same comparison among large enterprises does not reveal any difference between sectors.

Fig 3. Porpotion of small enterprises using ICT by type of sector

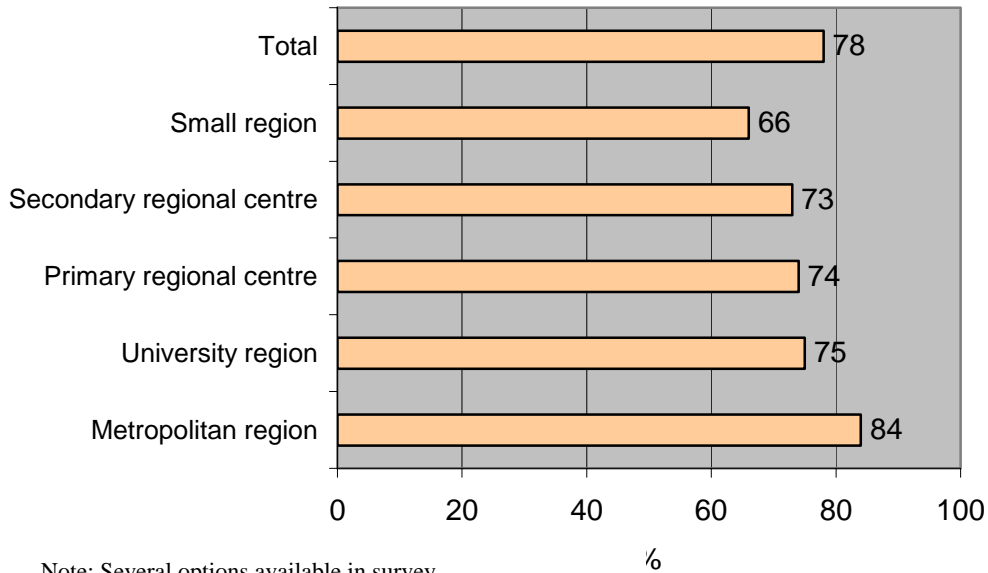


Sample: Enterprises with fewer than 50 employees
Source: The Swedish Business Development Agency. Situation and conditions of Enterprises 2002

Regional differences in the use of ICT as strategic tool

An interesting point made by Nutek is that there are *regional differences* in the way small enterprises make use of ICT. That fact that the proportion of small enterprises utilising ICT is greater in metropolitan regions than in smaller regions is not surprising (fig 4). However the use of ICT is not only more comprehensive but also more advanced the larger the local labour market region where the enterprises are located. The larger the region, the more common it is for ICT to be used as a strategic tool. The report states that these differences are genuinely regional: even allowing for business sector variation, a significant difference remains. The report concludes that the uneven distribution of strategic ICT use is affected by, but not entirely due to differences in industrial structure between peripheral and metropolitan regions (Nutek 2004:7).

Fig 4. Proportion of ICT use in small companies, by type of region



Note: Several options available in survey
Sample: Companies stating use of ICT
Source: Nutek. Situation and Conditions of Enterprises 2002

High-speed connections to the Internet are becoming more common

About 62 per cent of enterprises with ten or more employees had access to high-speed connections to the Internet in January 2003. This is a dramatic increase compared to 2001, when only 44 per cent of enterprises had a high-speed link. The switch to high-speed connections is most marked among enterprises with fewer than 50 employees (SCB 2004).

For small enterprises the provision of broadband is particularly important since they normally have limited resources to invest in technical solutions. Nutek concludes however, that technical availability alone is not sufficient to achieve regional development. Authorities and municipal bodies need to initiate various measures to improve people's skills in using ICT (Nutek 2004:7).

3. ICT training provisions made by enterprises

Since 1986 the annual Swedish Labour Force Survey (SLFS) has included questions on staff training. It shows that the number of individuals participating in training provided by their company and the number of courses attended per employee have remained relatively stable, with an increase in the first half of 2003 where there were more trained individuals and course participants (the same individual can participate several times) than ever before recorded since collection of staff training statistics began in 1986.

Specific information on ICT skill development in small companies is rather limited, but general features of the training opportunities for employees show (SM 2003):

A higher proportion of women than men participate in staff training

During the first half of 2003, 48 per cent of all employed women participated in staff training compared to only 44 per cent of employed men. The average length of training was also somewhat longer for women than for men.

The larger the enterprise, the greater the amount of staff training

Participation rates and time spent in training per employee increase with the size of the enterprise. In enterprises with fewer than 10 employees, 1.2 per cent of working hours are set aside for staff training compared to 3.6 per cent of working hours per employee in enterprises with at least 1000 employees.

More than 90 per cent of all staff training takes place during paid working hours

Around 91 per cent of all staff training courses take place during paid working hours. Percentages vary between sectors as follows: local government 90 per cent, self-employed 74 per cent and the rest of the private sector 92 per cent.

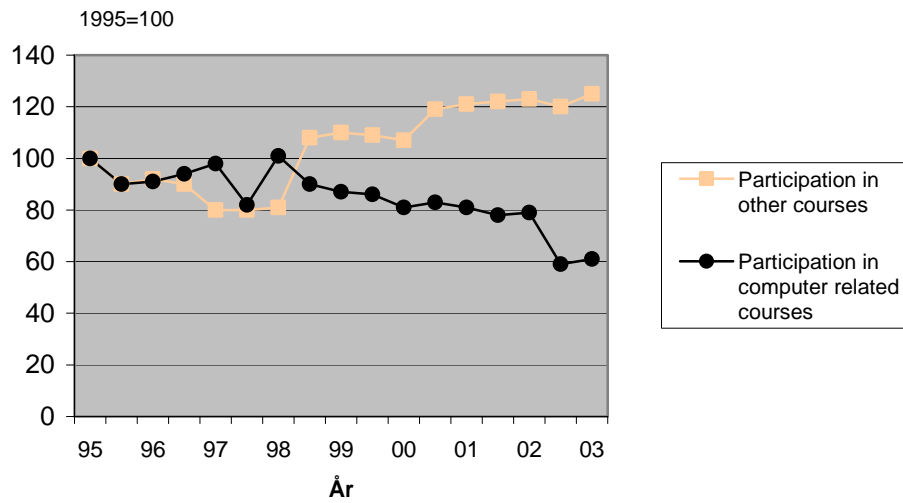
Public sector employers provide more staff training than the private sector employers

In county council as many as 6.0 per cent of total working hours were assigned to staff training in the first half of 2003. Percentages for other sectors were as follows: government 4.6, municipalities 2.7, the private sector (excluding self-employed) 2.3 and self-employed 1.2 per cent. For the labour market as a whole the corresponding share was 2.6 per cent.

A major decrease in computer-related courses

“Computer-related subjects” make up the third most common area of training. In the first half of 2003, the number of participants taking this type of course was 281 000. However, it is significant that this represents a major decrease, with the proportion of computer-related courses compared to the total number of staff training courses decreasing substantially since 1998. The greatest number of participants in computer-related courses in any half-year period was in the first half of 1995 and the first half of 1998, with 451 000 and 452 000 participants respectively. Both the total number and the proportion of participants in other courses increased more than the same figures for computer-related courses, as fig 5 clearly shows. Since 1998, participation in computer-related courses has decreased by around 40 per cent of the level for the first half of 1995.

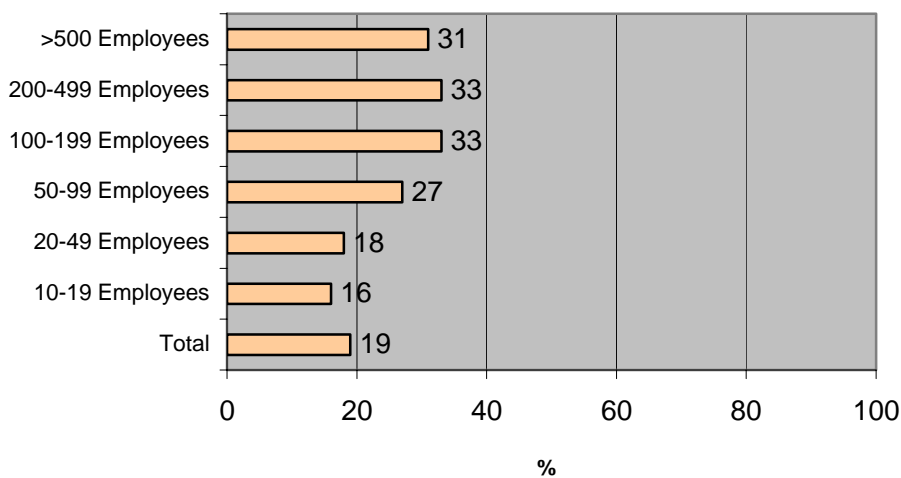
Fig 5. Proportion of participants in computer related courses and other staff courses



Source: Statistics Sweden: Staff training, first half of 2003

One interpretation of this decrease in computer-related courses could be that the need for ICT skills has been met. However, in 2003 as many as 19 per cent of all enterprises with more than ten employees stated that a lack of IT skills among staff the personnel is a significant hindrance to an increased or more advanced use of ICT. During the three surveys from 2001 to 2003, this figure remained very stable. Each year approximately 20 per cent of the enterprises report that they face this problem. The larger the enterprise the greater the problem appears to be (fig 6).

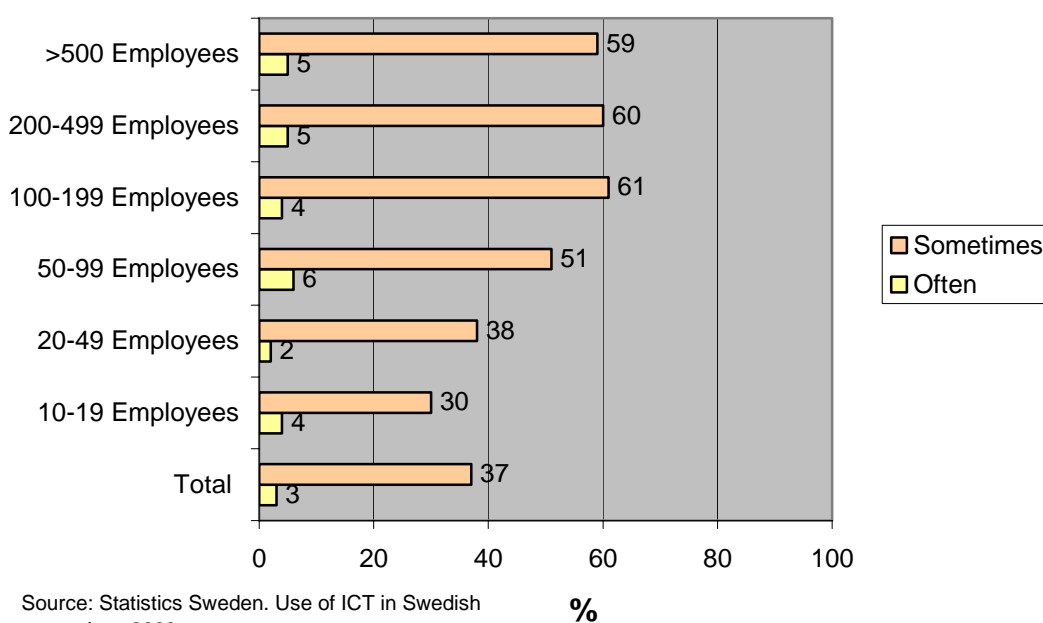
Fig 6. Proportion of enterprises reporting a lack of ICT competence among employees



Source: Statistics Sweden: Use of ICT in Swedish

For enterprises of all sizes, recruiting new staff with satisfactory ICT skills seems easier than raising the skill level of those already employed. Only three per cent of enterprises report it to be a *frequent* problem that job applicants who are otherwise qualified for the jobs they apply for lack ICT skills (fig 7). On the other hand, a substantial number of enterprises report that this problem occurs *sometimes*, which make the answer rather difficult to interpret. Furthermore, the problem is reported more frequently from large employers than small enterprises.

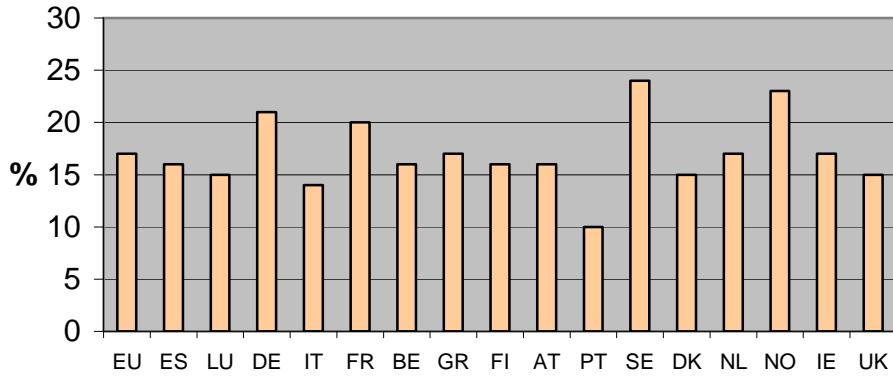
Fig 7. Proportion of enterprises reporting a lack of ICT skills among job applicants



4. ICT staff training: Sweden in international comparison

A survey instigated by the European Union on staff education and training in the private sector in 1999 compared the 15 EU countries plus ten other European countries. Again this survey only includes enterprises with more than ten employees. When compared on the basis of these data with other countries, Sweden showed the highest proportion of hours in computer-related staff training (fig 8).

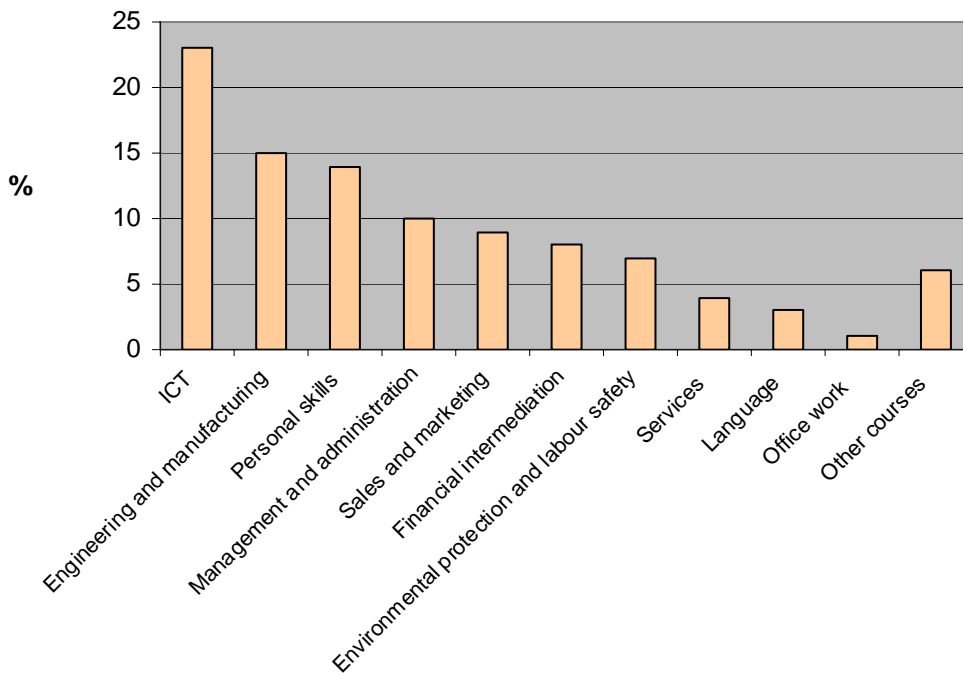
Fig 8. Proportion of hours in computer-related staff training compared to total staff training, by country



Source: Statistics Sweden: Staff Training in the EU and Norway 1999.

However, according to the more recent data discussed above, the number of participants in ICT staff courses has fallen since 1998, and therefore it may be anticipated that the number of course hours have also fallen. In 1999 ICT was still the most frequent type of training provided as shown in fig. 9. In 2003 computer-related courses were only the third most common type of course.

Fig 9. Proportion of course hours in staff training by type of training



Source: Statistics Sweden, Staff Training in the EU and Norway 1999.

Conclusion

Enterprises with more than ten employees use ICT and the Internet to an extent approaching 100 per cent. When very small enterprises with fewer than ten employees are examined, the use of ICT is somewhat less frequent, but nevertheless a substantial proportion approximately 80 per cent, use ICT and are connected to the Internet. Furthermore, small firms are also quickly becoming connected to high-speed networks. The greatest difference between small and large enterprises is that small enterprises do not exploit the strategic possibilities that the Internet provides to the same extent. Furthermore, there is a significant regional difference among small enterprises in the way ICT is used.

Although the technical equipment and use of ICT among both large and small firms have been growing constantly, both groups continue to report lack of ICT skills among their employees. The proportion of firms reporting this problem has remained remarkably constant over the last four years. However, somewhat contradictory to this, the amount of staff training devoted to computer-related courses has decreased rather sharply over the same period.

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