

IT skills: the business gain

Skills for recovery

As Europe struggles with the deepest recession in decades, businesses everywhere are seeking ways to save money, to improve performance, and to leverage the skills base they have to better effect. Investment, where it is happening, is predicated on a strong and quick return. Discretionary spending on 'nice to have' infrastructure or equipment is just not happening, big spending decisions are put on hold, and staff training budgets are being cut as companies scale back on investment in their employees' skills future.

We know that our economy needs to be rebuilt and we know that Europe's ability to recover will depend on our ability to become an innovative and knowledge-based economy. We also have a good idea of what skills are going to be needed to do that. In particular, we know that by 2014 fewer than 10 per cent of all jobs in Europe will have no ICT requirement¹. In other words, 90 per cent of all people in employment in 2014 will need to have ICT skills.

So, we know what we need to do to address future skills requirements. We also know that there is a substantial e-skills gap² in Europe and that there is a 'digital divide' between those who have ICT skills and those who don't. And we know that this gap (digital illiteracy) is costing a lot of money.

The ALBA study

Up to now, however, we haven't been sure just *how much* digital illiteracy is costing, and that's one of the central questions addressed in a recent study from the Applied Research and Innovation Department of the ALBA Graduate Business School in Greece³.

The ALBA study looked at IT practice in 44 companies across the spectrum of industry sectors in Greece, with manufacturing, services, retail and banking being the best represented. It aimed to measure the cost of 'IT ignorance' based on factors such as:

- The time taken by employees to find solutions to IT difficulties they themselves encountered;
- The time and resources that companies invest in resourcing help desk and other user support systems; and
- The time that supervisors and other staff spend solving colleagues' IT difficulties.

It also looked at the impact that structured training and certification can have on redressing these issues.

In total 140 people participated in the study as *candidates* specialising in one of the following applications:

Application	Number of candidates		
	Men	Women	Total
Word Processing	2	24	26
Spreadsheets	26	34	60
Presentations	9	31	40
Database	9	5	14

Table 1: Alba study participants

¹ IDC White Paper, 'Post Crisis: e-Skills Are Needed to Drive Europe's Innovation Society', available at: <http://tinyurl.com/34j4kpo>

² European Commission, *Monitoring e-Skills Demand and Supply in Europe*, available at www.eskills-monitor.eu under Project Documents.

³ IT Skills: The Business Gain - Measuring Employees' Efficiency after e-Skills Training & Certification. Dr. Evangelia Baralou, Assistant Professor of Organisational Behaviour

The study also involved 140 supervisors (one for each candidate), 43 HR managers and 41 IT managers who completed questionnaires relating to the skills and training needs of the candidates. Essentially, the researchers were seeking to establish the level of knowledge that management has about the skills base at its disposal, and how well knowledge resources are used within companies.

In the first stage of the study, benchmark performance standards in everyday computer applications were established for all the candidates. This took the form of an ECDL Advanced test which was prepared and carried out by ECDL Hellas on behalf of the researchers. As well as taking the sample ECDL Advanced test in their area of specialism, candidates also completed a questionnaire in which they self-assessed their own competence.

ECDL Hellas then went on to provide ECDL Advanced training to participants for one month, after which they sat standard ECDL Advanced exams and their attainment levels were certified.

In the next stage the researchers measured the changes in participants' workplace performance across a range of criteria, and quantified the time and cost differences between their performance before and after training and certification.

Self assessment and supervisors' assessment

In parallel with the sample ECDL Advanced test, both candidates and their supervisors were asked to assess the likely performance of the candidates in the use of their chosen application. In all applications, a clear majority of candidates overestimated their own skills levels. For example, in the Word Processing test, only 3 candidates achieved a higher score than they had expected: none of the others achieved the skills levels they thought they had. So, at least part of the problem identified was one of false confidence, where candidates were not aware of their own IT limitations.

Supervisors' assessments of the candidates' likely scores were also out of line with expectations. In the case of users of the Presentations application, for example, fewer than a quarter of their supervisors estimated candidates' skills accurately. The implication here is that supervisors do not have a good understanding of what levels of proficiency they can expect from employees, with consequent mismatching of resources to tasks: in some cases assigning employees to tasks for which they do not have the skills; in other cases not making the best use of employees' depth and range of skills.

How much time do users spend dealing with difficulties?

Before taking the ECDL Advanced training, candidates were asked to quantify how much time they spent dealing with difficulties that arise in their use of these applications *and* to specify how they resolve those difficulties. In combination with the sample ECDL Advanced test, this provided data about the current difficulties that candidates have with IT. The study found that Word Processing users spent the shortest time (on average 48 minutes a week) dealing with difficulties, while Spreadsheet users spent on average 68 minutes.

Most candidates either worked out a solution to their difficulties on their own or they asked a colleague or supervisor.

Find the solution themselves	47.5%	Search the internet	2.1%
Ask a colleague / supervisor	35.3%	Ask the IT help desk	3.6%
Use the help function	9.3%	Ignore it	2.2%

Table 2: How candidates handle application-related difficulties

And how much does it cost?

Having assessed the time that candidates spent dealing with difficulties using these applications, the ALBA team then assessed the input cost of that time – this was calculated based on an average hourly rate of €10.77 and a 46-week working year. There are considerable variations across the different applications – the input cost of time lost dealing with difficulties for full-time users (or equivalent) for each application is shown in Table 3 below. The costs shown here, however, do not reflect the full opportunity cost of wasted time that could otherwise be spent on productive activities, or the cost of wasted time spent by colleagues and supervisors in helping the candidates.

Application	Minutes per week	Cost per week	Cost per year
Word Processing	48	€8.66	€398
Spreadsheets	68	€12.17	€560
Presentations	60	€10.77	€495
Database	148	€26.38	€1,214

Table 3: Time and input costs of dealing with difficulties with these applications

The cost figures presented here are those that apply in Greece. Costs will be higher or lower in other countries depending on the hourly rates that apply. However, the time lost is likely to be broadly similar across different countries.

The difference that training makes

Following the initial sample ECDL Advanced exam, candidates received ECDL Advanced training for a month and then sat an ECDL Advanced exam in their chosen application.

Across all applications, the results were very strong after training. All of the Word Processing and Spreadsheets candidates (100 per cent) achieved better results after the training, while the figures for Presentations and Database were 93.3 per cent and 91.6 per cent respectively. Candidates' scores were now much closer to their own initial estimates of their skills levels.

Following training and ECDL Advanced certification, candidates were asked to report on the time they now spent on dealing with difficulties. The result: a substantial fall in the time they spend on difficulties, as indicated in the graph below.

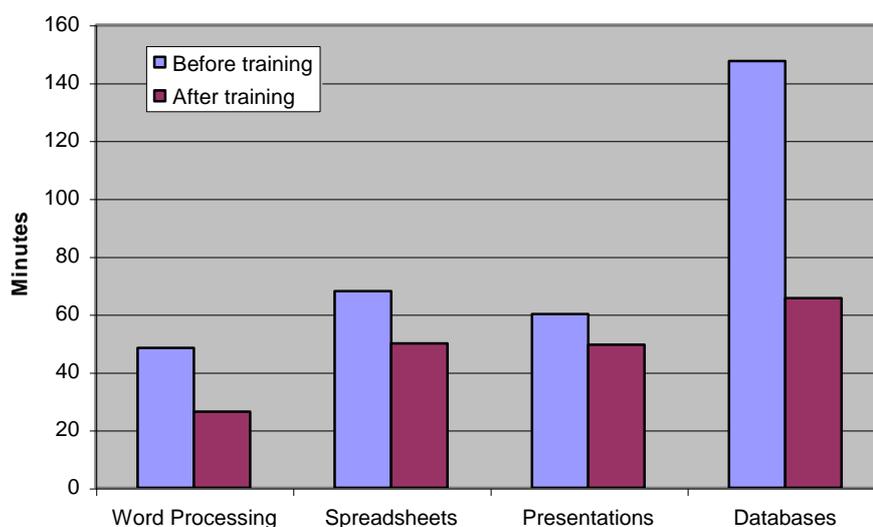


Figure 1: Average time spent (in minutes) by each candidate to resolve application-related difficulties per week

Savings in time spent dealing with difficulties (and the associated cost savings) were not the only benefits, as candidates reported significant improvements across a range of areas, including:

- Improved work efficiency and use of knowledge;
- Better job satisfaction and better working relations with colleagues;
- Greater loyalty to the company; and
- More confidence in their own ability.

There was also a much stronger perception among candidates that training had enhanced their career prospects.

Most of these improvements were re-iterated by supervisors who reported marked improvements in candidates' performance after training and certification – this was across a range of criteria such as speed, accuracy, reduction of errors, and presentation. Supervisors also noted that they had fewer than half the number of application-related questions to deal with from candidates than they had prior to the candidates receiving training.

Headline benefits of training and certification

The main findings of the ALBA study were that investment in training and certification of employees in IT skills delivers marked benefits to both the company and the employees *and* that it delivers a real and measurable return on investment.

- Following training, considerable savings (up to 63 hours a year in the case of the Database application) were achieved in the time spent by candidates dealing with application-related difficulties.
- Training and certification also reduces by half the time that supervisors spend dealing with employee queries, resulting in actual time and cost savings.
- Trained employees work better: they are quicker, more accurate, make fewer mistakes, and have a higher level of presentation.
- Trained employees waste less time dealing with difficulties and have higher job satisfaction and company loyalty. They also have a much stronger sense of career development.
- Training and certification of employees gives companies much better and more accurate corporate intelligence on the skill levels of employees, with consequent better deployment.
- Training and certification bring an immediate return on investment in terms of the time and cost savings.

