

Employee training 2.0: the lever effect of ICTs



Marion LAMBERT
(Céreq)

Enhancing access to and the use and quality of ICTs is one of the 11 thematic objectives of the European Union’s cohesion policy for the period 2014-2020. In France, more than eight out of every ten employees use information and communication technologies (ICTs) in their work, but to varying extents and with very different user profiles. The heaviest users of ICTs are more likely to access organised training and also benefit from the stimulating effect of ICTs on informal learning. Thus pinpointing the influence of ICTs on the various modes of learning at work is one of the possible ways of preparing for the digital transition.



DIGITAL

VOCATIONAL
TRAINING

ON-THE-JOB
TRAINING

DEFIS SURVEY

The diffusion of computer equipment in companies, associated with the development of the Internet, has facilitated the emergence of new tools that encourage more collective working practices that in turn have changed relationships to time and space. By making coordination, information searches and the sharing of applications or resources easier, information and communication technologies (ICTs) are able to offer new possibilities for work organisation [▲]. They also encourage the development of employees’ competences, not simply through the regular training programmes that they require because they are constantly changing but also because daily use of them stimulates learning at work. However, over and above these expected benefits, investigation of how these tools are used shows that they are far from being in widespread use by all employees. This contrasting use of ICTs depending on sector of activity and occupation is not without effect on employees’ access to training, on the content of that training and, more generally, on learning at work.

Those employees with least contact with ICTs in their work are also those with least access to training and those who gain least from the informal learning from which ICT users cumulatively benefit. This is a reality that must be of concern to public decision-makers in a context in which the changes in the world of work brought about by the digital transition will also affect those – often the least skilled – who today make the least use of ICTs.

Five ICT user profiles

How do employees use ICTs in the course of their work? The so-called Defis surveys (*Dispositif d’enquêtes sur les formations et itinéraires des salariés*/Training and Employee Trajectory Surveys, cf. Box 1) provide a clearer overview of ICTs and of the diversity of uses to which they are put by comparing the types of tools used with the reasons for their use as stated by employees. A typology constructed on this basis enables us to identify five user profiles.

The “nomads” (16% of employees) are the heaviest users of ICTs; they stand out by virtue of their very considerable use of instant messaging tools. Within their professional community they make intensive use of social networks. Their principal aim is to keep in touch, particularly when they are working away from their employer’s premises. These nomadic technologies, which are associated with practices that encourage communication and sharing, help to establish collaborative working. Such working practices are further encouraged by management practices and a corporate “culture” that are conducive to cooperation between workers. Since they are more likely to be higher education graduates (63% of them have a qualification higher than the *baccalauréat*), these employees tend to be in skilled jobs (58% are managers or executives) in large companies in the business services and finance/insurance sectors. →

1 Source and method

Initiated by the National Council for the Evaluation of Vocational Training (*Conseil national d'évaluations de la formation professionnelle/CNEFP*) and funded by *France compétences*, the training and employee trajectory surveys (*Dispositif d'enquêtes sur les formations et itinéraires des salariés/Defis*) are carried out by Céreq. By tracking a panel of 16,000 employees for five years, these surveys seek to further understanding of the links between occupational trajectories and training.

A total of 6,741 employees responded to the survey in 2017. For most of them, this was the third time they had been questioned in the course of the survey programme, to which they had responded for the first time in 2015. All these individuals are representative of the employees in post in December 2013 in enterprises in the market sector (excl. agriculture) with 3 and more employees. In the case of employees in enterprises with between 3 and 9 employees, the survey does not apply to all sectors of activity. The sectors covered are the food industry, construction of buildings, specialist construction works, vehicle sales and repairs, wholesale trade, retail trade, accommodation and catering, real estate agencies, legal and accounting services, architecture and engineering and technical testing and analysis.

In 2017, 84% of employees used at least once a month for professional purposes one or more tools connected to an internal or external network such as e-mail, intranet, shared documentation management, dematerialised services, websites, social networks, instant messaging, blogs or forums. In order to construct a typology of users of information and communication technologies, the responses to these questions were compared with the reasons given for their use: finding a solution to a problem or the answer to a question, gathering information, communicating with colleagues, managing customer relations, corporate communications, extending professional networks, working away from company premises or looking for a job.

Unsurprisingly, the occupations most frequently represented in this first profile are IT engineers, administrative employees and sales executives or representatives.

The “customer relations managers” (16% of employees): heavy users of e-mail and search engines, this group also spends a great deal of time on-line. Their use of ICTs is characterised by its focus on corporate communications and management of relations with customers and service providers. They are more likely to be higher education graduates (59% have a qualification higher than the *baccalauréat*) and female (46% vs. 38% overall) and tend to hold skilled jobs (supervisors) in companies in the distribution sector. The paramedical occupations, sales representatives and secretaries are over-represented in this profile.

The “on-line workers” (25% of employees): while this group's use of ICTs is very much focused on information searches, employees in this category also stand out by virtue of their use of tools that facilitate internal coordination. By automating a process extending from request to decision, these tools also serve to provide information for the individuals concerned. By way of example, we can cite the use of the intranet, of shared documentation management and of dematerialised services by means of which administrative tasks can be carried out on line. These employees, who are higher education graduates, work as supervisors or technicians and have higher average seniority than the others (27% have more than 20 years' seniority, compared with 19% overall). Administrative employees, banking and insurance workers, secretaries and maintenance technicians

are the occupations over-represented in this profile.

The “jobseekers” (13% of employees): employees in this group make relatively little use of on-line tools in the course of their work and when they do use them, it is mainly to gather information or to look for other jobs, tasks that are fairly peripheral to their jobs. Thus their favoured tools are search engines and social networks. They are young (42% are under 35), less well qualified than average (half do not have the *baccalauréat*) and are employed as clerical staff or manual workers. They are more likely to work in very small companies (almost half of them are employed in companies with fewer than 20 employees) in the transport and hotel and catering industries. Hotel and catering workers, nurses and drivers are the occupations that are over-represented in this profile.

The “isolated” (14% of employees): their very limited use of on-line tools is confined to e-mail and intranets. Less focused on information searches and communication, their use of IT tools offers few opportunities for exchanges and sharing. With little in the way of qualifications, these employees are most likely to hold clerical or skilled manual jobs in production and operations functions. They tend to work most often in the transport and manufacturing sectors in medium-sized enterprises (250 to 449 employees). Maintenance workers, sales assistants, drivers and skilled manual workers in manufacturing industry are the occupations that are over-represented in this profile.

This typology does not account for the whole of the population under investigation, which also includes the 16% of employees who are “**unconnected**” and do not use any of these tools. This does not exclude occasional use of computer equipment. Thus 24% of this group use a computer in their work but their use of such equipment does not require connection to an internal or external network. These employees are older than average, with little in the way of qualifications (1/4 have none at all), and tend to hold unskilled jobs. They work in production jobs, on building sites or as caretakers, security staff or cleaners in the construction or agro-food industries. Manual workers in construction and process industries, drivers and maintenance workers are the occupations that are over-represented in this profile.

Thus whether they were “isolated” or “unconnected”, almost one third of employees in 2017 made little or no use of ICTs and were consequently less likely to undergo training in this area. Conversely, intensive and regular use of ICTs makes it necessary for workers to update and extend their digital expertise. More specifically, what impact does the use of ICTs have on modes of training?

The heaviest users enjoy greater access to organised training

Use of ITCs goes hand in hand with greater access to organised training* (cf. Table 3). Those employees who have undertaken the most training are also those who make the greatest use of on-line tools. Thus 53% of the “nomads” had undertaken a training course during the previous 12 months (48% and 55% respectively for the “customer relations managers” and the “on-line workers”) compared with just 22% for the “unconnected” group. The training they undergo is usually intended to enhance their expertise in what constitutes the heart of their professions (management, accounting or law). Nevertheless, a significant proportion of their training falls within the scope of IT (almost one course in five). For example, employees with the “on-line workers” profile undergo training in the use of office automation and management software packages, while those working in “customer relations” tend to undergo training in the use of the software specific to their company. For these groups, moreover, ITCs are the mediums for organised training programmes, such as the on-line courses (e-learning*, MOOC*...) usually undertaken by these employees.

However, organised training is not the only way of improving one’s knowledge – far from it. Other, more informal forms of learning* exist, but are more difficult to quantify [▲]. The Defis surveys provide

an opportunity to capture them by identifying the channels or mediums that help to foster them. To what extent do ITCs foster informal forms of learning, and for which employees?

Users of ITCs benefit more from informal learning

Use of ITCs is often associated with modes of work organisation that are in themselves highly conducive to the development of learning, characterised as they are by numerous interactions, opportunities to take stock, management practices that encourage group work or independent working, innovation and motivation [▲]. These situations, which develop in tandem with the diffusion of ITCs, foster informal learning in all its forms, e.g. during exchanges between colleagues (for 69% of the “on-line workers”), in meetings (for 61% of the “nomads”) or when dealing with an incident (51% of the “customer relations managers”).

In some cases, the Internet even becomes a veritable source of informal knowledge in itself. This is notably the case for the “nomadic” employees, who are 5.6 times more likely to state that they learn by themselves via the Internet (cf. digital supplement). Even those employees who make little use of ITCs, such as the “jobseekers”, state in considerable numbers that they use the Internet to learn things of use to them in their work. These employees, who incidentally undertake

*** Organised training:** all the training measures organised for professional purposes, such as lectures or training courses, training in work situations, self-directed training and seminars.

*** Informal forms of learning:** Neither structured nor planned, informal learning may have taken place without there being any intention to learn. The definition adopted here is more extensive than that used by UNESCO, which includes any form of non-institutionalised learning, but it has to be intentional or voluntary.

*** e-learning:** all programmes, courses and mediums enabling distance learning.

*** MOOC:** Massive Open Online Course, or on-line training courses open to all, a type of distance learning able to accommodate large numbers of participants.

2 Typology of employees by use of ICTs

	“Nomads” 16%	“Customer relations managers” 16%	“On-line workers” 25%	“Jobseekers” 13%	“Isolated”
Which on-line tools?					
Email	100*	98	99	52	59
Intranet	94	87	96	30	77
Shared document	92	59	70	16	20
Dematerialised services	92	54	73	18	25
Websites	96	81	75	60	15
Social networks	83	28	5	17	11
Instant messaging	92	32	34	16	16
Blogs and forums	80	9	14	8	4
For what purpose?					
To find a solution or answer	96	97	96	89	33
To gather information on a topic	98	98	94	97	15
To communicate with colleagues	95	93	89	36	42
To manage customer/service provider relations	79	88	54	24	37
For corporate communications	59	82	12	18	29
To extend their professional network	71	69	6	16	19
To work away from the office	70	44	21	14	8
To look for a job	28	15	4	26	6

Source: Defis 2017, CNEFP-Céreq. Scope: employees in companies with three or more employees in the market sector excluding agriculture (cf. box) in December 2013, also employees in 2017 who had used an on-line tool for work-related purposes at least once a month in 2017.

*Example: 100 % of employees in the “Nomad” category used e-mail for work-related purposes.

3 Organised training and informal learning by ICT user profiles (in %)

	“Nomads” 16%	“Customer relations managers” 16%	“On-line workers” 25%	“Jobseekers” 13%	“Isolated” 14%	“Unconnected” 16%
Learning through organised training courses undertaken in the course of the previous 12 months						
Rate of access to training	53*	48	55	28	36	22
Share of IT training courses [5]	17	19	18	12	9	1
Share of “health and safety and regulatory” training courses	15	16	24	21	44	41
Titles of most frequent training courses	Management, communication English, big data	Management, accounting, company-specific software	Office automation, taxation, law	Medico-social, vehicle operation	Safety, fire, first aid, health	Safe driving certificate, safety, fire
Informal learning channels: share of employees having learnt things that might be of use to them in their work ...						
By themselves, from books, the press, Internet, TV or radio	83	72	58	63	37	37
From colleagues	77	75	69	59	46	42
From family or friends	36	29	21	20	15	17
By taking part in meetings	61	54	50	22	29	21
At meetings away from work	56	50	29	28	15	17
At the time of a change in their work	38	39	27	19	24	19
By dealing with an incident	41	51	40	25	21	14

Source: Defis 2017, CNEFP-Céreq. Scope: employees in companies with three or more employees in the market sector excluding agriculture (cf. box) in December 2013 and also employees in 2017. *Example: 53% of employees in the “nomad” category completed at least one organised training course.

little in the way of organised training, basically use this informal medium in order to expand their knowledge. Conversely, the other employees who undertake little organised training do not state that they make as much use of the informal forms of learning.

Little use of ITCs, little access to training

Those employees who make least use of on-line tools, the “isolated” and the “unconnected” groups, are also those who undertake the least organised training; even when they do so, the courses in question are usually compulsory ones*. The purpose of more than a quarter of these courses is to obtain an accreditation or licence (e.g. safe driving certificate or security training). These employees do not undertake organised training in order to prepare for change or enhance their efficiency at work but rather to comply with the safety rules required in their jobs. They are usually required in their jobs to operate a machine and constantly to repeat a number of simple operations. Furthermore, these employees do not work in situations that encourage informal learning, and only 37% of them state that they learn by themselves things that are of use to them in their work, compared with 59% overall.

These observations indicate that employees whose occupations or sectors of activity have not yet been transformed by ICTs are not preparing themselves for the introduction of these new technologies, which in many cases is, nevertheless, an inevitability. However, according to one of the most recent reports from the *Conseil d'orientation pour l'emploi* (Employment Advisory Council), no less than half of all jobs will have to undergo significant change because of digitalisation [▲]. On the front line of the jobs most affected by automation and the consequent reconfiguration of their content and the associated work tools are those of maintenance workers, drivers, hotel staff and skilled manual workers in process industries and construction. It is precisely these occupations that are heavily represented among the “isolated” and “unconnected” employees, who are also those with least access to training.

These results lead us to recommend that these employees should have access to training courses aimed at the acquisition of basic IT skills through programmes such as the digital CléA* or to training in digital occupations, along the lines of the commitments in the French government's Investment Plan to improve the skills of young people and job seekers with few qualifications. —●

→ Further reading

[▲] Bibliography in the French version

* **Compulsory training:** training courses in health, safety or regulatory matters required to work in a particular occupation.

* **CléA:** a single, inter-occupational certificate that certifies that holders have acquired the core knowledge and skills applicable to all groups and to all sectors of activity. Since 11/09/2018 (decree), it has been supplemented by a module whose aim is to enable individuals to master the basic uses of IT within the work environment.

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Florence Lefresne
Translation:
Andrew Wilson

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Centre d'études et de recherches sur les qualifications
10, place de la Joliette CS 21321 • 13567 Marseille Cedex 02 / T. +33 (0)4 91 13 28 28
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