

## **Report on Digital Skills and Research Methods**

**Why is digital technology important when working with people?**

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## Introduction

The changes of time are not a novelty for humanity; “The last historical change occurred more than 200 years ago, when the Industrial Revolution led societies from agrarianism to industrialism, generating uncertainty, discontinuity, instability, disorientation, insecurity, perplexity and, therefore, vulnerability”. Now three revolutions—sociocultural, technological, and economic—are making the age of industrialism obsolete and forging the age of informationalism. However, this process does not occur clearly or without contradictions, which are characteristic of a change of era, due to the competition between conflicting worldviews that try to prevail in the emerging era. (De Souza, 2001, p. 1).

And, in this change of era, "information technology is generating a new mode of development and a different capitalist mode of production, experience and power" (Ordóñez, 2004, p. 6).

Technology is the result of science and engineering that, applied through different instruments and methods, generate a product capable of satisfying a need or resolving a conflict. However, throughout history, the needs of humanity have been many; so it is necessary to look back and discover what technology is for through the proposed solutions. The device-user interaction or the user-user interaction based on the use of this type of support technologies and on accessible, usable and adaptive natural interfaces, can be fundamental in the development of people in the workplace.

Understanding what technology is for and how it has evolved in the past empowers us to plan our future evolution. In fact, technology is a resource that promotes intelligent solutions to human needs since time immemorial. This report will focus on responding to how digital technologies currently impact people, all focused on the study of its importance when using it at work.

## **Main body**

### **Overview of the types of digital technology used in the workplace.**

From the concept that we previously assumed; it can be deduced that there is not a single type of technology. Indeed, the evolution of technology and social history show how technologies have evolved, from the steam engine to mechanics, computers, computing, or robotics in more modern times.

The importance of technology in the development of societies has always been underlined by both economics and sociology. In the academic world of labor relations, such a situation has also been pointed out, from the most traditional works under the systemic approach, as well as in more modern analyses, especially in the theories of strategic options. Talking about technology means referring to technical progress, and in addition, it means appreciating the impacts that it can configure regarding living and working conditions. Indeed, for several years now, it has been peacefully accepted that technological transformations affect work activity in different ways, determining changes in the way of producing, in the way of performing tasks and in the way of organizing work. job.

According to J. Thompson, it is necessary to distinguish - depending on how the technology affects companies, institutions, or other organizations - between soft and hard technologies and flexible or fixed technologies.

Soft technologies are understood as the set of skills and knowledge associated with creation and innovation without configuring the specific production of an object or artifact. It is mere knowledge applied to improving the functioning of organizations through multiple modalities.

On the contrary, by hard technologies we mean the transformation of materials to produce objects or artifacts. In the same way, it understands by flexible technologies those skills, knowledge or materials that can be used in other products or services; and for fixed technologies those cannot be used in other products or services.

Such technologies have to do specifically with the intensive use of microelectronics, information technology, telecommunications, automation, and artificial intelligence. These technologies, usually called "new technologies", clearly configure a new technical revolution, since there is practically no work today that cannot receive some kind of realization through any of them. These

technologies, while producing a large increase in material progress, are also likely to produce effects on situations as disparate as the volume and sectorization of employment, forms of hiring, ways of working, work control systems, etc. and professional qualifications. These new technologies can be applied to production (automation, robotics), to information (computer science, database), or to communication (cell phones, intranet, networks).

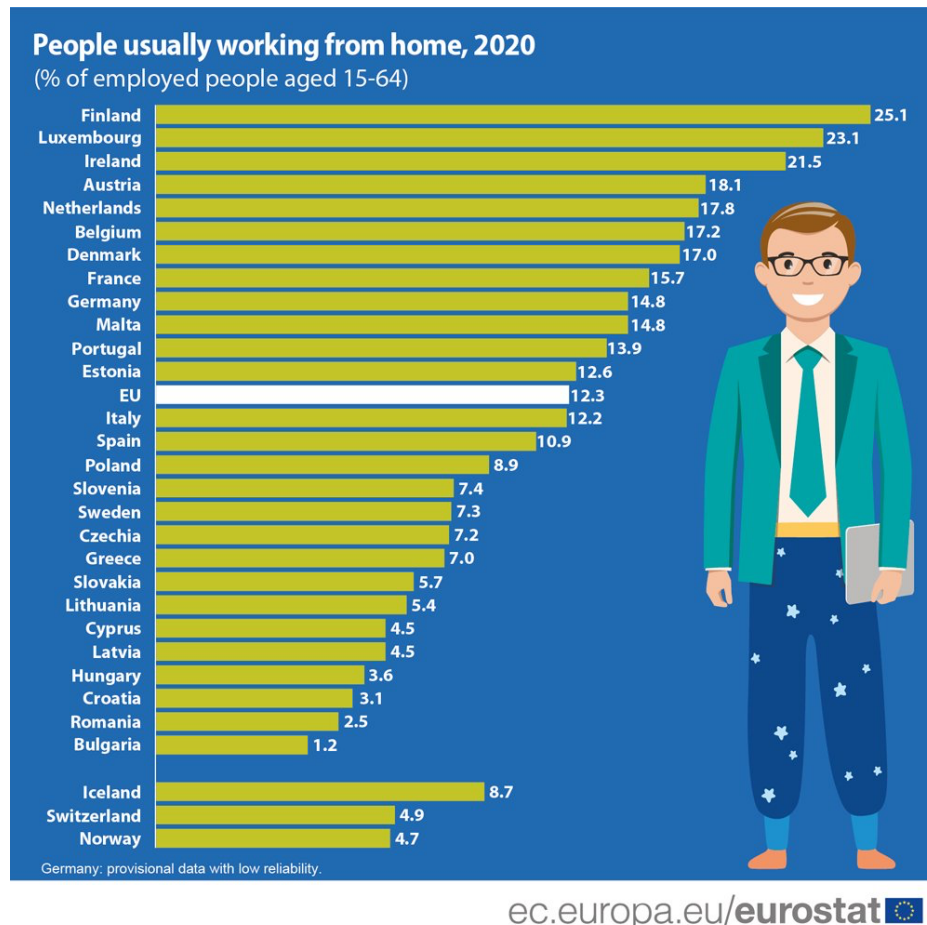
### **How has Covid-19 increased the use of technology in the workplace?**

The confinement situation due to the pandemic has accelerated the immersive use of technologies that already exist, but that still generated reluctance in their formalization or were not covered by a legal framework that regulated them. From the point of view of organizational management and relationship as a society, technology becomes an obligatory determining factor in the coming times. We face a series of social and economic adjustment tensions that should be analysed:

- 1) The main one, the condition of operating with interconnected network technologies, file management and exchange in the so-called cloud, entails the need for new professional profiles and readjust current job skills
- 2) The dynamics mediated by working remotely, with multiple sources of information and constant interaction with devices and information, require autonomy and responsibility while any action generates a record that can be audited and monitored.

Teleworking has been one of those trends that was not widespread before the pandemic. This scenario has completely changed with the arrival of the pandemic, since companies were forced to implement this type of work during the weeks of confinement.

According to Eurostat in 2020, 12.3% of people aged 15-64 in the EU usually worked from home.



Source: EU\_Eurostat. Twitter. (2021).

Figure 1.

During the Covid-19 crisis there has been an increase in demand for cloud services. And this upward trend does not seem to stop here, since everything indicates that this type of technology will continue to increase in any type of application, and that it will be the protagonist in the post-Covid stage. Online schooling and teleworking have made cloud systems become essential tools for managing and organizing company information securely. And on the other hand, Office tools that allow people to work collaboratively on documents or presentations and online whiteboards are more valuable than ever.

It is worth mentioning that during the pandemic, the benefits of AI as a crisis management tool have been more than demonstrated, since, for example, with the help of AI it was possible to identify patterns from Big Data, predict human behaviour and image and voice recognition, support health systems and control the spread of the virus through tracking software. And it is that AI systems can learn by themselves and adapt continuously, and these capabilities will have a special value as companies adapt.

## **What are the benefits of using digital technology at work?**

The business transformation that digitization entails has inexorable consequences on work in the form of benefits. In order to develop these benefits we will have to distinguish: impacts on the way of working, impacts on the organization of work.

- The way of working

The new technologies have clearly affected the ways of working and this situation is manifested by the appearance of new ways and situations of work, which, supported by processes and techniques such as telematics, digitization and databases, allow the relocation of the jobs, the simplification of the content of the tasks of the jobs, and the provision of the same by the worker without the need to leave his home. This situation would be the case of the so-called teleworking in which the physical interaction in the labor relationship is replaced by remote work, focused on those activities that do not require continuous supervision, either because it refers to activities of high creativity or of low qualification. In this way, there is a transfer from the physical place of work, from the office or factory, to the worker's home or in telecentres. This digital technique technology uses for its operation the transport of signals and images through fiber optics and communication satellites, which allows, in real time, to receive and transfer images and data through a single line.

Another benefit in the way of working configured as a result of the impact of this new technology on work is the virtualization of labor relations, that is, the replacement of physical meetings and travel by virtual meetings through telephone conferences or video conferences. These virtual work teams, between people located in different places, who may or may not be employees of the company, take shape in cyberspace through a communication system and develop a common work project, characterized by a certain labor autonomy, collaboration of data and knowledge, interdependence, and by an assessment of their work based on the results produced.

A third benefit of digitalization on the ways of working has to do with the automation of some tasks of support functions. In this way, this new technology favors automation processes in carrying out administrative tasks, favoring self-service by workers in the process of attending to specific issues: filling out requests, forms, reimbursement of expenses, reservations, etc.

- Impacts on work organization

The new technologies and especially digitization also generate important effects on the organization of work. As is known, the organization of work is a consequence of the power of direction that any employer has, by which, it has the power to design and resolve the way in which the company will be structured in its operation.

As a consequence of digitization, jobs begin to demand new characteristics: people-focused, mobility, simplicity.

It is the people who occupy the jobs that are redesigned and who make up the main capital of the companies. Technology will simply allow – by focusing on people – your work to be more productive, more agile and innovative.

The possibility of being connected through various devices, which interact through digital techniques, fragments the old jobs located in a certain place, giving its occupants freedom of movement. Digital work revolves around people, and follows them wherever they go, being able to carry their entire workplace in the palm of their hand.

Simplicity means that the tasks of the new positions will have to be simpler as a consequence of the necessary simplification that digital work leads to. Knowledge workers will have to integrate a greater amount of knowledge in their jobs, having to understand the new digital logic of their operation, but they will surely have tasks with less routine content than before or they will be able to perform them in a simpler way.

### **What are the disadvantages of using digital technology at work?**

Digital technologies are often presented as “neutral” suggesting that in themselves they are neither good nor bad. Although we know that they can be used to benefit the power of a few or to generate new forms of collectivism, it seems important to remember that technologies have inherent properties that are not neutral. Technologies can not only affect power dynamics in a society, but can also reinforce existing imbalances or asymmetries of power in society.

Among the disadvantages of the use of technology in organizations, we can point out the dependency that these can generate both in the employees and in the organization itself, to the point of paralyzing any process if it fails due to any eventuality. It can make workers forget or don't know how to run some process manually.

The greater the dependence on technology, the greater the vulnerability will be, because as previously indicated, the mistake of forgetting or ignoring the way to execute processes manually in the event of any eventuality can be made.

In some cases, the use of technology can reduce the creativity of employees due to the automation of processes that can become monotonous and continuous, since they do not warrant or accept any type of change. Although in some aspects technology contributes to the security of the company or any workplace, in others it can put it at risk.

The world of technology is constantly evolving, for this reason, once it is incorporated into the organization, it is necessary to update it with some regularity so as not to be left behind with respect to the competition and society itself. This update requires an investment. All data that is stored digitally or in the cloud may be susceptible to theft, deletion or loss, which could put the company or any labor entity at risk.

## **Conclusions**

Living in a change of era implies great challenges. Beginning by understanding the context, which is permanently changing, diverse and demanding, in an era in which practical knowledge is essential to be part of the gear or existing networks. It also requires the redefinition of ideas, mechanisms, and instruments to influence society, considering it vulnerable, given the turbulent environment.

As previously stated, digital technologies are changing the ways of working. In this way we can no longer think of work in traditional terms. Traditionally, work was a place that was attended, spending the hours stipulated in the workday stipulated by employment contracts. In such a place, a set of tasks were carried out, which were considered the worker's contribution to the company, and for which a salary was received in return. In today's world work has changed and the situation is increasingly complex. Technology, and especially digitization, frees the worker from the limitations of a fixed location, and then work is no longer a place to go. It is increasingly an activity that is fulfilled with a purpose and that generates a result. And what is remunerated will be such a result. Consequently, the traditional logic of the historical work contract is changed, thus prioritizing the logic of performance and not the reward of an effort that may not contribute to the success of the business.

Digital technologies offer both people and companies new opportunities for development and efficiency, even at the risk of blurring the boundaries between professional life and family life. For this reason, it is necessary to find a balance between such situations in order to ensure a suitable basis for business transformation sustained in a situation of comfort for workers.

The aforementioned situations should lead us to assume as a principle that the massive diffusion of digital technologies is giving rise to a new time, which changes the economic reality, altering value chains and forcing companies and individuals to adapt their business models. This technological revolution driven by the mobile internet, cloud computing, the internet of things, robotics and artificial intelligence is shaping a new era capable of designing a new economy, in which workers and companies must make efforts adaptation in order to avoid problems and be able to respond to these disruptive effects of the new digital age.

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