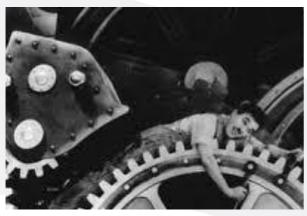# TECHNOLOGY AND DATA

Technology and Work : Technological unemployment or retraining?

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One of the most interesting aspects of our time is how technology and innovation are changing our lifestyle and way of working, **increasingly geared towards a digital and virtual world.**
However, the changes underway and the digitalization have led to many problems in managing and accepting innovation in the workplace. The pessimists are expecting the future of work to be more "invaded" by the technologies used to replace humans in more efficient and faster tasks, to the point that they can even cause a progressive unemployment. So the use of technology, used to increase productivity and realize projects considered unthinkable a few decades ago, has led the workers to wonder if their work is becoming useless. The economist Keynes wrote about this issue in 1930, anticipating the times: *"We are suffering from a new disease of which some readers may have not yet read the name, but will hear a lot about in the coming years, named* **technological unemployment.** *This means unemployment caused by the discovery of tools to economize the use of labor and the simultaneous inability to keep up in finding other uses for the redundant workforce."*
In addition of the pessimists' category, there is the optimistic vision that manages to understand the advantages of a **new era of entrepreneurship**. An era in which technological advances can open doors to new business projects, innovative ways of seeing the workforce, new employment opportunities and in which workers are up-to-date. Therefore, for many, the society is evolving thanks to the technology, improving the provided services and giving new and different perspectives, possibly for the best.

Technology and Human Resources : From E-HRM to Networking

Nowadays, the HR sector appears to be strongly influenced by the ICT (Information and Communication Technology). Thanks to the important contribution of new network technologies, the HR function has been able to play an increasingly strategic role in a market which is more globalized, international and competitive. For the HR function there is a wide range of innovative solutions, summarized by the term **e-HRM (electronic Human Resource Management)**, which is defined as the application of ICT tools and features to improve the effectiveness and efficiency of organizational processes and management of human resources. Today, the ever-increasing spread of e-HRM is gradually questioning the logic of a traditional action, redefining the roles and responsibilities of those who are dealing with RU seeking to become familiar with the various technological options available**.**

In order to use the potential of the company up to its full, they must develop and adequately allocate human resources: it's crucial to have the best ICT support possible. It's necessary that in the company HR and technologies work together as synchronous and balanced as possible.

On one hand, the information system should provide all the support for the organization, while requiring minimal effort and maximum results to those who are called to use it in its different parts. On the other hand, it should assume the role of monitoring the organization itself, also with regards to HR management. ICT tools for operational and strategic management of HR are numerous and highly diversified: from applications that are used to support the accounting and administrative aspects, such as softwares to work in an integrated way on payroll, time and attendance, travel, budget, placement and everything related to HR activities, often outsourced; from widespread services as e-recruiting, e-selection and e-learning ; those that deal with the strategic support for innovation and change processes and organizational relationships. Today, in the business world, not to succumb to the strong competition and to adjust to market changes, they have developed the so-called **"liquid organizations"** based on the conception of the company as a liquid, able to take different forms and fit into situations in constant evolution. Inside of it, employees are in constant contact, thanks to the creation of corporate **networks**, and they are able to create new groups and to form networks, thus enabling the organization to be flexible.

Critical issues and future perspectives of the technological innovation

The spreading of ICT tools in the organization processes, management and strategic development of HR is today very articulated in Italy, and differentiated in both public and private sectors - and even more in small businesses. At the moment, only the most cutting-edge companies are aware of the importance of ICT technologies, whose effectiveness is particularly relevant for internal communication and for the internal business climate, while the attributed value of the technologies in terms of organizational and business innovation is limited.

This shows a **significant gap between** the achievements and the very extensive e-HRM potential, held back by resistances of the management and employees still anchored in cultural limits. Economic resources are often lacking to implement technological changes, or it is decided to direct them to other interventions, that are believed to be more primary in the short term. Otherwise, the necessary internal specialistic competencies are insufficient. Someone wonders if technologies have really simplified the job, or have rather complicated it. Their impact on professional skills is

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undeniable, whereas the latest generation of technological solutions have significant systemic complexity and high levels of integration. For example, a future profession will be the ***data scientist,*** which transforms the vast quantity of the company data into understandable strategic information. In business contexts it still too often happens that different cultures, with their specific skills and adaptation time, are not taken into account in the passage to technological upgrade. Tech implementation should always be accompanied by clear requirements and guidelines. The process of maturation within the implementation of new technologies in the HR department, requires an inevitable passage through a physiological period of time to see the short, medium and long-term effects.

The analysis of economical local and global trends allows the identification of future changes that will determine needed work and skills, while it's more difficult to predict the potentially destabilizing effects of radical and revolutionary tools.

Probably, international competition and technological development make necessary not only a better flexibility for workers, but also a greater resilience and adaptability to change. The work will be interconnected, mobile, and no longer localized in space (office) and time (fixed working hours) and the collaboration between co-workers will happen through the network.

In the workplace, several generations of workers will live together: so it is fundamental to develop specific skills to manage such coexistence. The organization of companies will be less hierarchical and more streamlined, with greater personal responsibility in one's activities and processes. It will be necessary for companies to develop new HR management methods and new contractual arrangements, to take account of the new working conditions. Work will function more and more on cycles and projects, while based on network and **interconnectivity**. Therefore, it will become crucial to plan an ongoing training for workers. Regardless of the realization of this possible scenario, undoubtedly the work of the future will be more and more influenced by technology.

*"**SHRM Competencies**" is a series of articles **written by the students of the 34th edition of GEMA Master's Degree in Human Resources Management**.*