Human value in the age of artificial intelligence, "Equipos y Talento"

Madrid, Spain – The 1950s and 1960s were a golden age for innovative science fiction. From this era, I fell in love with Star Trek's teleportation concept, which allowed the characters to immediately transport themselves to any location. Older readers will also remember the comic-book hero Dan Dare (Diego Valor in the Spanish translations) who saved the Earth from alien invasions. One of the enemy aliens moved around in a mind-controlled "flying chair."

More relevantly, the concept of **Artificial Intelligence** (AI) was created in the 1950s, when scientists like John McCarthy began working in the field of "science and engineering to build intelligent machines."

It is currently understood that AI systems are capable of learning from experience and adapting to new situations; in other words, they are **systems that are capable of solving problems and taking actions in a rational or human-like way.** AI technologies are capable of perceiving (e.g. images and sounds), understanding (processing language and information), and acting accordingly.

AI systems are already being used, and they will encourage the next business revolutions. Some examples of AI applications include:

- Image recognition systems, which can be used to improve safety
- Language recognition systems such as Apple's Siri and other "virtual assistants." Call centres can use these systems to answer questions from consumers and customers with greater flexibility than human agents. Some of these systems also register the caller's "emotional state" and propose different answers depending on it.
- In financial institutions, these systems are able to predict fraud by identifying and flagging suspicious transaction patterns (PayPal uses this).
- Self-driving cars use multiple AI applications. However, conventional vehicles already use AI solutions: the "self-parking" and cruise control functions gather information from the environment and respond accordingly.
- Japanese companies pioneered the use of industrial robots in factories, and they are now using novelty customer service robots to automate more sophisticated functions. Fukoku Mutual (an insurance company) has already replaced 34 clerks with robots that are able to process health records, detect possible fraud and establish payments.

Of course, these technologies will have an impact on people, and on human resources.

American analysts are devoting a great deal of effort to predict **what specific jobs and tasks will be replaced with robots and machines**. Obviously, automation will have the most impact on repetitive and predictable tasks, and the least impact on tasks that require **management, creativity, conceptual thinking, and interpersonal relationships** – for more details, see the July 2016 McKinsey report: "[Where machines could replace humans - and where they can't (yet)](#)".

In addition, companies will be forced to once again review their existing processes in order to make them more efficient, and to innovate and create new processes. This happened previously with the introduction of digital technologies, and will undoubtedly happen again with the next development.

*It will be essential to foster **cooperation, collaboration, creativity, flexibility, agility** and **diversity** in the corporate culture.*
The successful implementation of AI solutions comes from the **collaboration** of experienced **technical teams** with teams that have a deep **understanding of the market** and its needs and requirements, and who have a track record in **innovating and creating new methods and experiences**.

AI technologies are so varied that it would be prohibitively expensive for a company to employ experts in all of them. **Technological ecosystems** are being developed so that niche companies can collaborate on projects with big corporations that are seeking to transform themselves.

Internally, **the CIO, the CTO and their teams** must be able to understand the cutting edge of AI, and how it can bring value to the business. These executives must be able to understand the business from a big-picture, long-term perspective rather than focusing merely on daily operations and the reduction of costs.

In addition to the corporate culture, HR must encourage the **impression of change, curiosity and the desire for progress**. We should not enter into the debate anxious about the job-destroying impact of AI, but confident and positive about the business and learning opportunities.

We must dare to dream as fearlessly in 2017 as our science-fiction heroes did in 1954.

Reasons for the current AI explosion

The 1990s saw significant and well-publicised developments in AI, culminating in the 1997 defeat of chess legend Kasparov by IBM's *Deep Blue*.

In February 2011, IBM's *Watson* defeated two of the best *Jeopardy!* contestants, demonstrating the ability to reason.

Since 2010, AI progress has been exponential, due to the confluence of:

- Big Data; digital technologies allow the management of huge volumes of information that serve to "teach" the AI systems. According to one EMC report, more than 44 zettabytes of data will be available by 2020, of which 35% will be useful for analysis.
- In tandem with the above, data storage costs have decreased considerably.
- Cloud-based supercomputers are able to analyse and compute massive amounts of data.
- Industries are investing in technology in order to remain competitive in the market.
- The number of start-ups that are investing in developing AI applications has multiplied twentyfold between 2011 and 2015 (CB Insights).

AI Types

There is much discussion over how to differentiate the "groups" and "families" of AI technologies. The following groupings are the most well-known, with the greatest scope for business application:

- _Machine Learning_
- _Deep Learning_
- _Robotic Process Automation_
- _Knowledge Representation_

Neural Networks, Natural Language Processing, Biometrics, Computer Vision, Inference Engines, Sensor Processing and Facial Recognition are also highly relevant.

Machine Learning (ML) is a statistical process that takes a large volume of data and then finds rules, procedures and correlations which can explain the current data and make predictions for the future.

Deep Learning (DL) technology uses structures that are based on how the human brain works, with a set of units or "neurons" established in sequential layers.

Robotic Process Automation implements systems that mimic human activity. These systems usually focus on one task in a process, or a combination of tasks which can be performed on the basis of simple, predictable rules or instructions.

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