

The impact of the Fourth Industrial Revolution

A long history of revolutions

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During thousands of years homo sapiens was the champion hominid. Since 80.000 years ago, when the first ancestors have appeared in Ethiopia and, afterward spreaded away on the whole planet, they had to face and to get an answer to the earth's evolution and vagaries.

In his struggle for surviving had to subject the nature, he went through a number of events which have contributed fundamentally to what we are nowadays.

The way along, his evolution is marked by what are called revolutions - the answers, the solutions which human being had to provide to the major challenges (climate changes, famine, pandemics, ect.). By all this dramatical efforts and changes, he turned out to be a survivor, a creative force.

Looking to this evolution, there are delineated a number of revolutions.

Revolutions have occurred when new technologies and novel ways of perceiving the world, triggered a profound change in economic systems and social structures.

- ✓ With almost 10.000 years ago was made the first step by the domestication of wild animals.
- ✓ The next step was done by the **Agrarian Revolution** which triggered a profound shift — the transition from foraging to farming — was made possible. The agrarian revolution which combined force the of animals with those of humans' creativity, improved food production, improved the human's wealth, spurring population growth and enabling larger human settlements and the rise of cities.
- ✓ Thereafter, was a long period when the human kind had to consolidate and create the condition for a new leap – **the First Industrial Revolution?** That began in the second half of the 18th century, with the spanning from about 1760 to 1840. Triggered by the construction of railroads and the invention of the steam engine, it ushered in mechanical production.
- ✓ After almost one century, the flourishing capitalism has created the **Second Industrial Revolution**, which started in the late 19th century and into the early 20th century, made mass production possible, fostered by the advent of electricity and the assembly line.
- ✓ Afterward, the time was compressed, the **Third Industrial Revolution** began in the 1960s. **It is usually called the computer or digital revolution because it was catalyzed by 1980s) and the Internet (1990s).**
- ✓ Today, we are in the midst of a **Fourth Industrial Revolution** that began at the turn of this century and builds on the digital revolution.

This new revolution is not just about smart and connected machines and systems: its scope is much wider. It created breakthroughs in areas ranging from gene sequencing to nanotechnology, from renewables to quantum computing. It is the fusion of these technologies — and their interaction across the physical, digital and biological domains — that make this revolution fundamentally different from its predecessors.

The speed of innovation is faster than ever. The disruptive innovation is not a simple phrase, but is a matter of facts.

We stepped in “digital age”. Artificial intelligence (AI) is all around us, from self-driving cars and drones to virtual assistants and translation software. AI has made huge progress, being driven by exponential increases in computing power and by the availability of vast amounts of data. Results in new types of ‘machine learning’ and automated discovery that enables ‘intelligent’ robots and computers to self-program and find optimal solutions from first principles. IoT, RBA are facts which challenge our life.

Fourth Industrial Revolution outcomes

As every human achievement has its outcomes, this new revolution triggers not only positive outcomes but real thorny challenges, as well.

One of the most critical effects is what Brynjolfsson and McAfee called as being “The Great Decoupling”.

They explain that while digital technologies will help economies grow faster, not everyone will benefit equally—as the latest data already shows. Compared with the Industrial Revolution, digital technologies are more likely to create winner-take-all markets. All the more, when the leadership does not have the change vision, the direct and immediate outcome is the FAILURE! “Vae victis”.

Digitization is creating new types of economic disruption. In part, this reflects the fact that as computers get more powerful, companies have less need for some kinds of workers. Even as it races ahead, technological progress may leave some people—perhaps even a lot—behind. The winners will be the college people, those people with a level of education which give them the possibility to get in friendship with this technology, and by consequence a better fortune.

Geopolitically will create a severe decoupling between the countries with a high standard of education and innovation and those did not invested in education and did not nurtured the innovation.

Citing Klaus Schwab in his book (The Fourth Industrial revolution”)

“Under this conditions we have to admit that the levels of leadership and understanding of the changes underway — across sectors — are low, when contrasted with the need to rethink our economic, social and political systems to respond to the current revolution. As a result, both at the national and global levels, the requisite institutional framework to govern the diffusion of innovation and mitigate the disruption is inadequate at best — and at worst, altogether absent”

Finally, we should accept that Turnaround nowadays is getting itself in a new era, where no longer is an event but is a “Modus Vivendi”. We should talk about the Preemptive Turnaround, not about a Curative one.