

## Theoretical Notes on the Risks, Challenges, and Opportunities of AI at a Social Level

“The biggest danger of artificial intelligence is that we may one day believe that we understand it.” —Eliezer Yudkowsky

When the countless possibilities resulting from the extensive transmission of AI in the world are debated, at least two viewpoints can quickly be confronted regarding this phenomenon:

The first viewpoint refers to Artificial Intelligence as an imminently powerful opportunity for improving people’s living conditions. It facilitates the performance of activities, allows rapid progress in tasks that demand more time and dedication, favors agile and effective decision-making, automates repetitive tasks, can effectively diagnose and/or treat diseases, drives innovation and creativity through the design of personalized and customized products, and has the potential to elevate companies' competitive advantage, among many other functions.

Without falling into the false dilemma fallacy, AI has proven to be entirely categorical, versatile, and supportive in the management of almost all areas, fields, and sectors of human life; and this was established in previous sections, where the usefulness of this technological tool in areas such as medicine, education, systems engineering, and robotics was mentioned. However, this list is much broader, as finance, recreation, home cleaning, or even law, for example, are also areas that have benefited from the introduction of intelligent systems. Some other benefits or professions could be enumerated, and the list would still be endless.

In this scenario, exploring the field of AI is, therefore, an element that many highlight and should continue to be investigated, as the fact that intelligent machines have potentially useful effects for large industries and society cannot be overlooked, and their competitive advantages are increasingly determinant for daily life.

When speaking of Artificial Intelligence as an opportunity, it is not only referring to the possibility of convergence between physical, biological, or digital technologies; above all, it alludes to the fact that AI as known today is much more than automating and mechanizing human thought; “it is generally a structure that visualizes the usefulness and versatility of technological advancements in modern society, which acquires a prominent role in the development, evaluation, and promotion of sustainable development goals” [50]. However, it cannot be forgotten that while there are significant contributions from AI, errors can occur in its processes, as happened, for example, with an AI system that,

instead of distinguishing types of war tanks, learned to distinguish the landscapes where these tanks were located.

Now, the second viewpoint is identified by those who, without incurring anachronisms, foresee in AI a negative force that alters the historical course of humanity in the current century. Undoubtedly, Artificial Intelligence has proclaimed a serious ethical treatment, as researchers and experts have noted that its evolution not only changes or improves people's way of living, but it also “is an entity that evolves dialectically, has the capacity to act autonomously, learn, and self-model based on its own individual and collective experience, at a pace that exceeds human capabilities” [2].

This outlook highlights that the relentless technological transformation has been experiencing growing global concern, especially since it is a product that, according to experts, is increasingly less controlled. The significant importance that humans have given to Industry 4.0 has also forced discussions about its risks or potential threats to human living conditions; risks that are directly affecting the role that humans play and that have a deeper and broader significance if one considers the transformations derived from digitization. In any case, these risks:

“present a very unique nature as they do not physically compromise our survival like environmental, health, or public safety risks do. On the contrary, digital risks affect rights and freedoms and even our political system, as they imply, besides people's privacy, freedom of expression, political freedoms, the functioning of democracy, the principle of equality, and ultimately, human dignity” [51].

This argument envisions a human rights model that is very rarely considered by companies that create AI systems. This model, although it appears diffuse and superficial, crystallizes from a protection paradigm created through international pacts and that, if linked to the development of new technologies, presupposes accepting two figures: The first is that the idea of inclusive innovation for sustainable development must be strengthened, and the second is that in the human rights model, disruptive technologies must incorporate the principles of algorithmic identity, algorithmic vulnerability, and algorithmic dignity; principles aimed at inhibiting the risk to which people are exposed by the digital world.

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The above not only makes understanding Artificial Intelligence in its entirety more complex but also demands specific intervention by public authorities. It could even be said that sometimes the laws seem insipid to solve the problems derived from the misuse of intelligent systems, which is why true governance of digital risks is also required, as Vida Fernández proclaims in his text “The Governance of Digital Risks: Challenges and Advances in the Regulation of Artificial Intelligence” [51]. By governance, this author aims to give meaning to the new forms that governments have adopted to manage the risks posed by new technologies and to which human beings are confronted. While it is a broad and expressive concept, its interest focuses on European public power, which radically differs from those established in countries like China, the United States, or Russia.

When mentioning the risks of AI, there is implicitly an allusion to the possibility of future harm or damage to individuals, and in this sense, some examples can be highlighted:

- People may see the security and privacy of their personal data threatened.
- There is a possibility that in the future, there will be a significant loss of interpersonal interaction. The development of this technology may possibly increase isolation and loneliness.
- Large industries foresee issues inherent to technology and the implementation of intelligent machines in daily life.
- The ease of access to such systems (for example, Open AI’s Chat GPT in all its versions) has allowed entities and malicious individuals to misuse them. So much so that “the European Union's law enforcement cooperation agency EUROPOL detailed how AI language models, which are expected to revolutionize technology and the global economy in the near future, can also drive fraud, cybercrime, and terrorism” [52]. Just days after the launch of this system, the impact that its use could have on society was anticipated, as it was shown that although the system refuses to comply with certain orders, some people have found ways to bypass the content filters that this chat has; therefore, the more the functions and services of AI evolve, the greater the likelihood that it will be used for illegal activities.
- Currently, there is a concentration of wealth in multinationals that employ AI systems in their manufacturing processes. This presents a potential risk of limiting other companies or states regarding access to the technological advancements they implement, creating a monopolized environment that inhibits free market competition.

- One of the most well-known inherent risks of disruptive technologies is the loss of jobs, which brings into question the possibility that machines could eventually replace humans. In fact, the Ministry of Economic Affairs and Digital Transformation publicly released a list of sectors with the greatest expected impact of AI in the short and medium term, as shown in the following graph:

### **Diagram 7. Sectors with Greatest Expected Impact of AI**

**Source: Adapted from the Ministry of Economic Affairs and Digital Transformation [49]**

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In this scenario, people are being forced to re-educate themselves professionally, given that the professional and educational interests that the market will demand will be different, and with this, “analysts predict that in 20 years, 4 out of 10 jobs will be affected by robotization and the automation of certain tasks” [17].

- Although one of the major limitations of AI is the lack of common sense, the interrelation between machine and man, as well as its limitations, need to be carefully thought out from an idea that incorporates the ethical component, to prevent machines from making the same or more severe mistakes as humans.

All these circumstances show that, unlike global risks, digital risks have a greater evolution and can represent a significant threat to society as a whole. Furthermore,

“it is necessary to rethink the unstoppable process of digitization to which we are subjected, whose intensification in recent years exponentially increases the level of risks

that this entails. It is an irreversible process that will continue to increase as all states, companies, and other private entities depend on their growth and development on digitization” [51].

However, despite these risks being constantly enunciated by governments and some entities, people still do not assimilate or perceive them as real dangers. “In this sense, it should be remembered that in the digital realm there have been disasters that have revealed very serious damage on a global scale, such as the NSA's Prism Surveillance system revealed by Edward Snowden or Cambridge Analytica with Facebook” [51], and it is hoped that these episodes will create at least a similar awareness to that of environmental protection and care.

In this context, it is important to note that, in the presence of Artificial Intelligence in our lives, some challenges are also posed, which are related to the current labor and gender gap, as it has been widely recognized that both Industry 4.0 and AI are driven to a greater extent by men. Women, in this particular scenario, do not represent more than 35% of enrollments in careers such as mathematics, technology, science, or engineering (STEM careers), according to data supported by UN Women [53]; drastically reducing the contributions and possibilities of future innovation that this gender can provide.

Another challenge worth highlighting is related to the great possibility that with the constant use of AI, geopolitical inequality gaps in the world will become increasingly accentuated. There is no doubt that different countries have bet on cutting-edge technology in the field of AI, as well as the constant training of their professional workers in the field; a situation that has led major superpowers (China, USA) to compete for leadership in AI development and research. The European Union, although in a secondary position, has also strived to earn a place and recognition in this area.

Although these challenges appear as a dark omen, prominent celebrities and experts like Bill Gates, Stephen Hawking, and Elon Musk have raised their voices of warning about AI. From their perspectives, this technology represents an inevitable risk for the coming years, as they have seen how AI laboratories have ventured to create, deploy, and develop increasingly powerful “digital brains” that no one, not even their creators, have been able to understand, predict, or control reliably” [54]. Among their requests is the intention for a pause until strong regulatory frameworks and authorities are established worldwide. They also explicitly express their interest in developments that help distinguish the real from the artificial.

Elon Musk, for his part, has constantly emphasized that although AI will continue to advance by leaps and bounds in the next 20 years, humanity must learn to decide which direction to guide its development, as despite seeming harmless, it can also be manipulated and used maliciously.

For this reason, it is important to consider two interrelated aspects: on one hand, if experts in the field are currently reflecting on human intervention in algorithms, how much human intervention is necessary or would be appropriate for AI systems to be respectful, legitimate, or promoters of human rights (HR)? And, on the other hand, how could companies or states guarantee human intervention in the decisions that an intelligent machine decides to make? Prospectively, these questions invite reflection on the challenges that Artificial Intelligence presents today and that also relate to our identity as a species; as Corvalán rightly points out:

“If human beings are characterized by diversity, randomness, and imperfection, we are entering an era of automation that could challenge these traits. Although it may sound improbable, in the not-too-distant future, it will be indispensable to seriously consider guaranteeing a fundamental right that could be the cornerstone of the artificial intelligence era: the right to the random and imperfect diversity inherent to human beings” [55].

Undoubtedly, humanity is in the presence of technologies that disturb its tranquility. Today, issues such as discrimination in employment, housing, or credit, as well as people's high dependence on technology, have exceeded limits, undoubtedly generating significant social inequalities around the world. It is not just about job elimination, limited access to AI technologies, or the concentration of power in some companies; this scenario is much broader and also relates, for example, to biases in personnel selection or the decisions that human resources areas make about their workers. Although it seems simple and without much sense or repercussion, this scenario has perpetuated discrimination in various fields and significantly increased unemployment and social inequality worldwide.

In this case, and wanting to delve into the proposed research question: Does the use of Artificial Intelligence by humans represent today a complementary element or an antagonistic technology? It is highlighted that although there are opposing views regarding the use of AI, this type of technology will continue to be a truly useful tool for the entire society. Even though this question deserves serious study, Artificial Intelligence is the cornerstone in the next stage of evolution.

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