ARTIFICIAL INTELLIGENCE AND ITS ROLE IN INTERNATIONAL MANAGEMENT

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Abstract: *Artificial Intelligence (AI) represents the ability that technologies or machines have to copy human intelligence as close as possible in order to solve problems and achieve goals. Artificial intelligence systems adapt, analyze data, observe future actions based on existing information and operate autonomously. An interesting change has occurred over time. In the past, the focus was on the hardware, while the software was considered a weak element. Over time, the software element developed, and over time hardware engineers adapted to the evolution becoming software engineers. Algorithms are used to make predictions in almost any field, and if used correctly, the predictions and results are beneficial and commendable. The take-up of these artificial intelligence applications in public institutions is useful to all. Therefore, developing and perfecting basic human skills is important in the long run. Above all, technology enables work to become more human. For managers, leaders or directors it has a tremendous result. It should be pointed out that starting from the first light bulb up to the emergence of the smartphone, technology has evolved. The element that never changes is the people behind the technology, while the most important aspect is that artificial intelligence is changing the working world.*

Keywords: *AI; Deep Learning; Algorithm; Machine Learning*

JEL Classification: *M-10; M-12*

1. The emergence and development of AI

Artificial intelligence was born with the code-breaking genius of Alan Turing and his team. He was known as the father of modern computing and a visionary mathematician.

During World War II, he was breaking codes and ciphers to dismantle troop movements in order to gain access to classified information through a technology called Enigma, a system used by the Germans.

Using this system, Turing was able to save millions of lives, shortening the war. You may wonder what this has to do with artificial intelligence. Turing imagined a thinking machine and obviously he imagined how it could think, therefore he

proposed a study called Turing Test (Sharkey and Turing, 2012).
An interesting change has occurred over time. In the past, the focus was on the hardware while the software was considered a weak element. Over time, the software element developed, and hardware engineers adapted to the evolution becoming software engineers. AI is actually a general category that encompasses instinctive learning, natural language learning, conscious learning and neural networks. These technologies combined lead to improved productivity, achieving the desired results.
Of course, since the 1950s, scientists expected to design artificial intelligent systems by the year 2000, but failed to materialize. In this case I would also rather embrace a viewpoint of the Stanford researchers on artificial intelligence (AI 100), in which they expressed the idea that artificial systems should not analyze activities, be they in the HR field, in order to predict a conclusion, but should be based on predictions over time. The right conclusion and prediction are relatively concurrent.
So, the challenge of AI comes from the fact that it is based on even observation of information, studying that information and adapting resolutions. When a person in the past was killed by a ferocious wild animal, his fellow watcher wisely decided that he should avoid wild animals in the future. This is a prime component of artificial intelligence, calling it simple learning or everyday learning. Simple learning comes naturally, but it is more difficult for digital mechanisms to understand the nuances of each situation.
On the other hand, definite learning is in fact intentional learning that brings intelligence improvement and performance.

2. Components of AI

2.1. Machine learning

This is an element of AI that enables computers to study without being programmed, but explicitly taught.
The process is monitored, and the programmer has to be quite persuasive when telling requesting (by imposing an algorithm with new data inputs) what things to look for, how to calculate them and what action to take.
Through machine learning, unsupervised algorithms develop reasoning, but this is not learned from the programmer. This is where the beauty of AI comes in because intelligent machines can see work or other important spots that the programmer cannot grasp. Definitely, natural language processing or machine learning has a plethora of applications that are yet to be transcribed (Mahesh, 2018; Banaccorso,

2017; Susmita, 2019).

Some forms of machine learning are found among consumers; for example, your streaming service might suggest on your digital platform items, information, videos based on previous viewing patterns and ratings. These elements are actually previously explored through a search engine and are anticipated by consumers and relying on a large amount of information to accurately ensure the outcome.

Natural Language Processing (NLP) (Khurana et al., 2022) is an important element of AI. Natural language processing means the ability of an intelligent machine to adapt and understand language as communicated by human beings. Natural language processing algorithms are based on machine learning as human talk usually is. I am going to give a practical example by analyzing some researchers who requested the algorithm to generate fake news. The system managed to generate a fairly credible story about people who managed to discover real ghosts in a hidden valley in Romania. The system used is called GPT-2 and uses 1.5 billion parameters to generate a text. The next system GPT-3 uses 175 billion parameters. The machine is therefore becoming intelligent over time and will be able to create text faster than the human mind. Researchers are concerned about this phenomenon because a machine can produce fake news that can be assimilated by humans as if it were real. The NLP system is in constant use by humans today. The functional Messenger service on Android or iPad can read a text and suggest some clear answers for the user. So, the NLP component is already starting to produce answers with satisfactory accuracy.

2.2. Deep Learning or Conscious Learning

This is the most critical element of AI because it generates clairvoyant intelligence. The data number inspired the name DEEP LEARNING (Skansi, 2018; Kumar and Garg, 2018) Deep learning can generate comparisons, analysis and skill in unstructured data. It can translate languages, network security, identify resolutions through images, videos.

For example, an AI component that uses deep learning is found in prediction programs seconds before natural disasters such as earthquakes occur. The algorithms used make a prediction and calculate before the catastrophic phenomenon occurs.

In order to establish the value determined by a measurement unit or a real number for deep learning to be complex for the artificial intelligence, they use neural network.

A neural network is a hardware or software system that leads neurons in the human brain.

Artificial neural networks are a plethora of information that filters data before reaching an answer. Computations in neural networks are fast, so commercial applications, fingerprint recognition or facial recognition demonstrate that AI, through neural networks, has reached its maximum predictive capability.
With neural networks, artificial machines learn the way humans learn. The digital project finds and classifies all images on the internet and helps replicate them in the human brain.
We have to admit that we want AI to penetrate all professional fields and look at the amazing performance that it brings to HR.
Of course, managers in public institutions and beyond would like non-human systems. This would be challenging over time and digitized systems would practically lead to instant completion.
In order not to be disrupted by these technologies, HR managers both in public institutions and private companies in Romania, need to be taught to interact with and understand these artificial technological opportunities.
My question is how can diversity and inclusion be properly influenced. AI is now like a small child who needs to be taught, but who is smart enough to understand the context and impact of decisions.
If used with care we can improve results, though the negative effects of AI are very real. When we think of the negative impact of AI, we often think of a sci-fi movie, killer robots – this is just an unrealistic cliché.
Algorithms are now being used to make predictions in almost every field and if used correctly, the predictions and results are beneficial and commendable.
Bold and Uber, the taxi apps that use AI, were able to improve their strengths, because flexible work schedules manage to be reliable both for drivers and for users. These apps use an algorithm that determines pay rates, drivers' schedules, and their gender, which helps reduce gender income gaps. So, HR managers who have adopted this type of AI through taxi apps get pay equity and time efficiency.
We can see that an unbiased approach combined with AI diversity leads to progress. This phenomenon is only happening because smart cars can be phenomenal, but also terrible if not shaped the proper way. This is where humans come in, balancing algorithms to get a clear picture of what is happening in real life.
It would be interesting if in the Territorial Public Pension Authorities, the HR service implemented a system that uses artificial intelligence. The institution could create a program with an algorithm to select resumes with a hierarchy of competences for civil servants according to the information submitted in the documents. This would help in recruiting candidates and make it easy to track their skills and competencies. Managerial success and performance are maximized using AI in public systems.

Through these systems, opportunities are created and recruits can choose the right career.
There are platforms – such as Slack or Dropbox – that determine what skills people have, and institutions or companies can choose the right employees that fit their profile, creating a strong institution or company.
The values of artificial intelligence need to be understood and quantified by the managers of public institutions and Romanian private companies. Productivity increases; we take for example, the Zoom platform. If an employee uses the platform and saves up to 30 hours per month, then the company or institution saves on average 1,000 lei for an employee with a salary of 5,000 lei.
Therefore, HR performance can eliminate burdensome work that requires stress and wasted time, and managers should use AI for urgent and important tasks, thus supporting employee engagement practices, development and quality.
This is a challenge for managers, but it is necessary for high performance to bring AI to the workplace.

2.3. Humans versus AI

A number of experiments have been carried out over the years in the medical field. It has been shown that cancer cells – predominantly breast cancer, as it is one of the most common cancers – can be detected with 92% accuracy using artificial intelligence algorithms.
But AI has lagged slightly behind. Human experts have been able to identify cancer cells with 96% accuracy. Of course, we're better together, humans and AI.
The truth is that mixing algorithms with human reasoning and AI has resulted in 99% of identifying cancer cells in biopsies.
It is clear that smart machines and humans complement each other. However, it is clear that AI cannot identify some rare cancers, but because it succeeds in identifying cancer cells, doctors can use the remaining time performing other tasks, many of them strictly patient-oriented.
The skills of the future using AI necessarily involve collaboration between the human being and machines using creativity, curiosity, compassion and thinking, be it critical (Kortlling et. al., 2021).
AlphaGo is the name of an algorithm that trains creativity, used for games. We consider that it is easier for a child to create a game or an original song, compared to an adult who is not so original. Because of the constant AI evolution, creativity will be a disadvantage for humans.
Curiosity is more than just asking questions and finding answers. Curiosity is similar

to creativity because it is embedded in us since we were babies. Babies are always trying new things and learning from their mistakes, developing their skills at the same time. Researchers have been able to show that intellectual curiosity has a major impact on academic performance and that this curiosity does not diminish with age. Leaders can use curiosity as a way to get the best performance from their employees. Harvard research has shown that people with high curiosity fall less prey to bias.

In conclusion, curiosity is a concept that lends itself to a variety of applications in all fields, but also in real life.

Compassion cannot be easily replicated by an algorithm. Compassion is the ability to understand and share feelings with another person. AI succeeds in adopting compassion when it discovers cancer cells and beyond.

Collaboration is one of the skills that can be helped by AI, but it cannot be replaced. AI can recommend people, but it cannot connect us with them. We often notice that we are connected on social media with many people, we even empathize with them, but at the same time we are isolated. AI can help at connections and collaborations, but it cannot replace them.

For example, Alan Mulally, Chairman and CEO of Ford Motor Company, who retired on July 1, 2014, reinforced the notion of collaboration in business, and the company managed to avoid bankruptcy, not only surviving the recession, but thriving. The important thing is to find opportunities to connect with each other.

True collaboration is a hallmark of an organization or institution both in terms of culture and performance within their own work teams and in their own lives.

Critical thinking means learning, studying; it's slower and more painful, but it leads to better long-term results.

From the perspective of intelligent machines and humans, we will never reach the amount of knowledge that a machine can.

Of course, though if there is abundant data, smart machines are designed to get from point A to point B. They don't ask whether or not point B is the right destination.

Today, we humans struggle not to be robots to get a job; but the time will come when all the work we do every day will be robotized and automated by various digital tools and technologies that are developed through algorithms.

Therefore, we need to differentiate ourselves through skills and face the consequences.

Whatever happens with AI advancements, we need to be in control of our own development, capabilities and augmentation.

We ask ourselves the question, after going through so much information about artificial intelligence: does technology make work more human or more robotic?

I can say that work can be quite human, even if there have been unimaginable

advances in technology. Of course, thanks to artificial systems, work is incredibly human and we see the black holes of candidates resumes who can finally connect to software robots, express themselves faster and also express their feelings. In fact, these bots are embraced by candidates. Learning technologies can help us teach people in individual ways.

Chatbots have the capabilities to broadcast conversations in real time with a human interlocutor. The most common types of chatbots are online shops, sites where appointments are made online 24/7.

These bots are business optimization solutions in both companies and budgetary institutions. A chatbot dedicated to the HR business will optimize the answers to the most common questions faced by retirees and they can receive quick and efficient answers. For example, such a bot would alleviate complicated dialogue situations between a civil servant from a pension authority in the country and a retiree.

This artificial adaptation eliminates phone calls, emails or other difficult communications. Chatbot systems make a great impression on those interacting with public institutions and can be the element that attracts qualified staff, which could be a huge advantage, especially in an area where qualified staff are in short supply and their expertise cost a lot.

This encourages remote work. The connection with the workplace is greatly influenced with digital interactions having positive effects on HR departments.

3. The role of artificial intelligence in HR (Tawalkar, 2019)

The HR system is moving towards the digital revolution and is using various methods to streamline resources using big data analytics, artificial intelligence and cloud computing (Amla and Malhotra, 2017). Most of the organization has used artificial intelligence or digital technologies in HR such as chatbot, machine learning and automation of robot processes in human resource management that supports recruitment, screening, onboarding and interviewing activities.

3.1. Recruitment

Amla and Malhotra (2017) noticed that only 40% of companies and industries use artificial intelligence. Organizations such as SAT, Facebook or GE use digital technologies in screening, interviewing and identifying new talents for the recruitment process in an organization. With the help of AI, the hiring manager can review the application and the candidate can get a quick and correct answer.

Automated chat or answering machine systems play a key role in solving recruitment issues in an organization or even a public institution.
Artificial intelligence is useful in automating the interview by examining with word tests or speech patterns. Through AMY digital software, the interview can take place while AI can improve the candidate's experience. Tools such as AMY and Clara commonly schedule interviews or job meetings. In an organization or public institution, HR has to play multitasking roles where using technology and AI companies are trying to reduce workload. AI offers solutions to many problems and helps increasing the efficiency of human resources in an organization. The HR manager can track the right candidate in a short time with the help of technology by identifying the right candidates based on the required skill sets.
Nowadays, AI is used to reduce favoritism and helps increase transparency in the workplace. This way the organization can select the resume. Through AI applications can be used to analyze job descriptions. Artificial intelligence will help reduce employee redundancy at the workplace.
Various robotic tasks have been carried out to increase efficiency at the workplace. Now computers and digital technology can work behind the scenes in industry. Through computers and modern technologies, industries can manage data analysis and provide real-time feedback during training, changing the course of action based on the progress and responses that industries have got (Riebli, 2018). To save time, companies have been using Microsoft 365, which helps employees to work and increase efficiency at work.

3.2. Benefits of artificial intelligence in HR

1. Reduces the burden on administrative staff in the company.
2. Helps in talent acquisition and identifying the right candidates for the job.
3. Helps in predicting employee retention rate in the workplace.
4. Can overcome human limitations and work accordingly.
5. Reduces the rate of errors occurrence.
6. Maintains workflow in different departments.
7. Companies can get accurate results.
8. Increases employee engagement at the workplace.
9. Minimizes biased decision-making behavior.

3.3. The challenges of artificial intelligence

Implementing AI impacts the levels of management that drive hard in the minds of

employees. Getting the ideal candidate is a challenge for us using AI tools.
Adopting these AI applications in public institutions is beneficial to all. Therefore, developing and refining core human skills is important in the long run.
Above all, technology enables work to become more human. For managers, leaders or executives this is a tremendous result.
It should be remembered that starting from the first light bulb up to the emergence of the smartphone, technology is evolving. The element that never changes is the people behind the technology, while the most important aspect is that artificial intelligence is changing the working world. To this end, we have developed a survey that includes this question. It will be sent to the Pension Authorities with which Romania has social protection agreements in 34 countries, 26 of which are EU members and a second survey will be sent to the Territorial Pension Authorities. A first step has been taken, starting with the Pension Authorities in Germany, Israel, Spain and Austria. Next year, at the next conference, I will present how these countries use AI.

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