The challenges of artificial intelligence for Moroccan companies?

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ABSTRACT

From deep learning to cognitive technology, artificial intelligence is everywhere in digital communication. It allows us to react more accurately to customers and engage them in meaningful, personalized interactions. In other words, without artificial intelligence, there is no digital consumer experience! The design of interactive user interface systems is a growing field of study that requires a wide range of skills, including psychology, artificial intelligence, software engineering and marketing. After a theoretical analysis, the objective of this article is to study the challenges of implementing its practices in relation to a country like Morocco in the different sectors that make up its economy, especially those focused on customer relations and experience.

Keywords: *Digital conversation, machine learning, artificial intelligence, computer technologies, consumer.*

Introduction

One of the big upheavals of our day is artificial intelligence (AI). A technical transformation that brings with it a plethora of problem-solving possibilities, as well as a slew of new uses and concerns. Between fantasies, expectations, and fears, AI now provides businesses with fresh prospects.

The drive to big data and algorithms is bringing new horizons to Morocco, like it is to the rest of the planet. Artificial intelligence is now pervasive throughout our daily lives, evidently in our smartphones (new GPS, speech assistants, etc.) and, gradually, in our automobiles. - and increasingly in our automobiles. The same is true for businesses, where automated translation and chatbots are often used to react to customers on the internet.

According to McKinsey & Company, artificial intelligence offers a significant opportunity for Morocco. Banking, telecoms, insurance, self-mobile business, agriculture, electricity, self-entrepreneurship, and e-gov (e-government), according to the firm's 2018 report "Digital and Artificial Intelligence Potential," there are currently eight industries mature enough to take maximum advantage of these technologies: banking, telecoms, insurance, self-mobile industry, agriculture, energy, self-entrepreneurship, and e-gov (e-government).

1. Aiming for a different kind of intelligence

Alan Turing, a British mathematician, wrote Computing Machinery and Intelligence in the metaphysical journal Mind in 1950. Turing is widely regarded as one of the fathers of computer science as well as a leader of artificial intelligence. Turing investigates artificial intelligence in this article, which had previously been loosely described. In an effort to qualify a computer as "intelligent," he suggests the Turing Test (Alan Mathison Turing, 1950, Computing machinery and intelligence).

According to the Larousse, Artificial Intelligence is defined as "the set of theories and techniques used to create machines capable of stimulating intelligence.

It would be, therefore, computers or machines equipped with programs capable of performances similar to human intelligence, or even, amplified by technology.

These machines are able to :

- Reasoning

- Process large amounts of data

- Discern patterns undetectable by the human eye

- Understand and analyze these patterns

- Interact with humans

- Learn progressively

- Continuously improve its performance

Since 1950, the year AI was created, it has been in a state of flux. It has,

even in January 2018, passed the stage where it would surpass human intelligence.

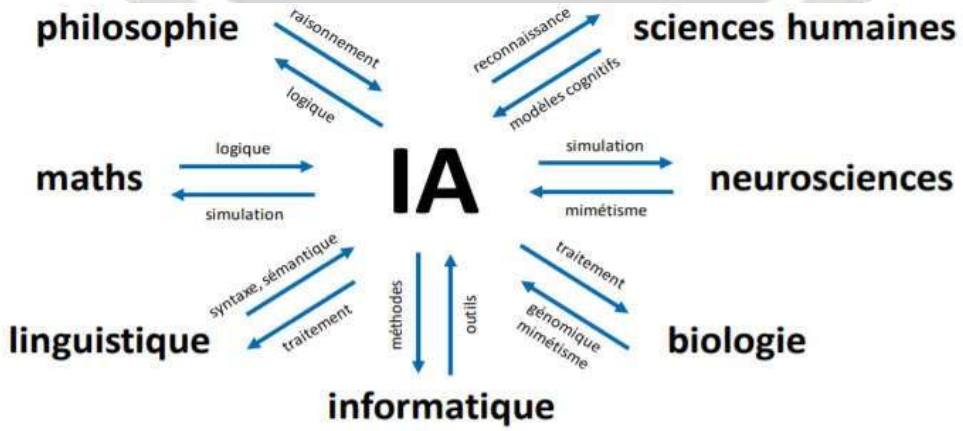
human intelligence.

1,1 Artificial intelligence's arrival

The concept Artificial Intelligence (AI) was first used in 1956. "At Dartmouth University in New Hampshire, in the United States, many American academics, including John McCarthy and Marvin Minsky, who were at the forefront of study utilizing machines for purposes other than mathematical measurements, met," says Pierre Mounier-Kuhn, a researcher at the CNRS and the University of Paris-Sorbonne. The aim of their research was to create artificial intelligence. The concept was a strong symbol for "electronic minds," and it continued the cybernetic project of integrating brain and computer research. The voice of one of these scholars, John McCarthy, who talked for the first time about artificial intelligence, came from this workshop on thought machines. According to Pierre Mounier-Kuhn, "this word imposed itself instantly." Many viewers were drawn to it because it was striking, paradoxical, and enigmatic. It accurately represented the projects of Agnès Guillot, 2018 "Petite histoire de l'intelligence artificielle"; Futura tech article -robotics). These experts, it talked to the people, and it helped them to concoct a whole bunch of pro-messes and thus collect credit.

Artificial intelligence (AI) is described as "a collection of theories and techniques used to create machines that can simulate intelligence." As a result, it refers to a collection of principles and innovations rather than a distinct discipline. Others, citing the lack of specificity in the concept of AI, such as the National Commission on Information Technology and Civil Liberties, describe it as ". Peter van der Putten, and Mannes Poel; Artificial Intelligence: Techniques, and ases;

Figure 1 : Une carte des domaines liés à l'IA.



2 Le biomimétisme

Le biomimétisme est l'imitation de processus, de choses, de structures ou de dispositifs naturels. Comme le biomimétisme implique la copie de processus biologiques, l'art et la science de la conception et de la construction de dispositifs par biomimétisme sont souvent appelés bio-imitation. Les chercheurs en nanotechnologie, en robotique, en intelligence artificielle (IA), en médecine et dans le domaine militaire s'intéressent tous à ce domaine.

2. Morocco: Current Situation and Future Prospects

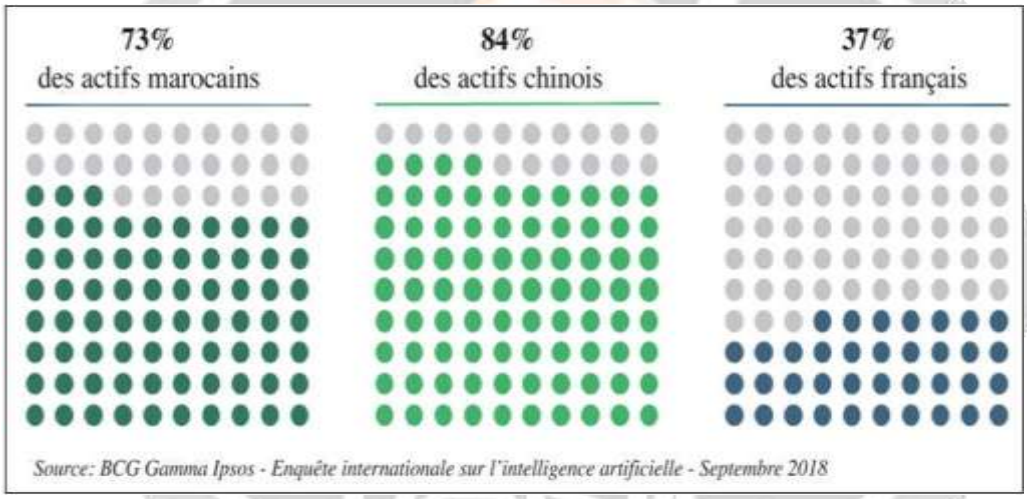
2.1 Research Methodology

In this paper, we used a literature review to investigate the status of artificial intelligence in Moroccan companies in the relevant industries mentioned above. We gathered data from other theoretical and observational studies to arrive at an analytical approach that allows us to benchmark ourselves against other countries investing in AI.

2.2 Is Morocco poised to become a global data science hub?

Morocco has a pool of talent with a passion for algebra, numbers, and computer science, due to its heritage and intellectual tradition. These people are in high demand worldwide, and their abilities are widely recognized

.Figure 2. Assets who expect leadership to speak up and make decisions



AI will revolutionize the world of work and the economy as a whole. For 73% of Moroccan workers, it is a subject on which they expect their leaders to speak out and make decisions. Moroccans are convinced that all professions are are concerned and will be profoundly transformed. The opportunity is real, especially in Morocco, expectations are high, it is up to us to make it happen4.

3. Sectors that lend themselves best to artificial intelligence

In Morocco, not all sectors have the same degree of maturity to accommodate this type of technology. We cannot yet speak of artificial intelligence in Morocco, at least for the majority of companies. The country is still in the "Data Engineering" phase. Companies today are working on data, trying to collect it, digitize it, facilitate access to it and analyze it. This is the stage that precedes the implementation of an artificial intelligence system. The sectors that lend themselves best to this technological phenomenon are banking/insurance, telecom operators, part of industry, retail and the public sector.

We have then collected concrete examples of sectors that incorporate artificial intelligence.

3.1 Public sector

Artificial intelligence (AI) represents an opportunity for the improvement of public services, "AI will make it possible to provide citizens with practical information and thus make their lives easier, modernize the

administration and public services, improve participation in public life and boost economic development through better provision and circulation of information.

AI also makes it possible to develop information technologies and the establishment of a digital economy, to overcome the reticence that may exist within the administration and to organize an ecosystem to ensure the harmonious implementation of a knowledge society, where the various actors can make their contribution.5

3.2 First School of Artificial Intelligence in Africa from September 2019

As of September 2019, Morocco has opened the first school of artificial intelligence in Africa, the Euromed School of Digital Engineering and Artificial Intelligence (EIDIA) at the Euromed University of Fez (UEMF).

A first edition of the Autumn School on Artificial Intelligence (ASAI'18), was held on October 24 and 25, 2019 at the École nationale supérieure d'informatique et d'analyse des systèmes (ENSIAS) in Rabat. This event, organized by the Research Center "Rabat IT Center" under the University Mohammed V, aims to objective is to provide participants with a solid theoretical background in artificial intelligence, reinforced by multiple examples and feedback.

Casablanca, Marrakech, Rabat, Agadir,... several universities are beginning to focus on artificial intelligence (AI). "The ENSEM, the EST of Casablanca, or the FST of Mohammedia have initiated research on robotics, embedded electronics ... including with foreign institutions.

The International University of Rabat (UIR) is also conducting several projects: prediction of cyber-attacks, robotics, autonomous vehicles (without drivers), and finally, a maching learning project with the PSA group. Its objective is to predict the behavior of drivers of electric cars, as well as the autonomy of these vehicles.

By collecting this information, we are already touching the awareness and interest of higher education in this technological revolution by involving schools, universities, professors and students.

3.3 The first artificial intelligence-based anti-fraud technology is implemented by a Spanish corporation.

One of the companies that has incorporated the Spanish company's processes is Salafin, a subsidiary of BMCE Bank. Salafin, a company that finances personal credit and car transactions by individuals and small businesses, discovered 700 fraud cases in 2017. To counteract these statistics, a model was developed that measures the likelihood of fraud while applying for credit with financial institutions. Before the loan is authorized, the possibility of theft is measured in this manner. The machine has been in operation for a few months, and according to AIS Group, it would increase fraud identification by 20-30% at Moroccan financial institutions.

3.4 Financial Institutions and Insurance

When we discuss AI for banks or insurance providers, it is with the aim of obtaining consumer behaviour forecasts (banking products, insurance contracts, etc.). The software would be more conclusive if there is more details on the client. Based on buying experience and other actions, this technology will anticipate which goods a consumer may buy or be interested in. Which encourages the bank or insurer to provide the client with a policy that appeals to them right away.

3.5 Chemical manufacturing

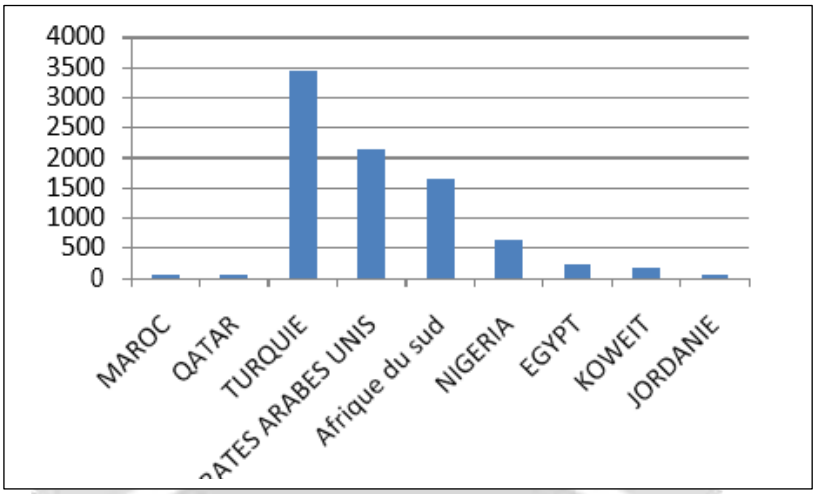
Processing units in the chemical industry depend heavily on precise product mixing in precise amounts, at precise temperatures, and at precise periods. levels of friction Based on development history, AI could assist managers in selecting the best combination of nations to push their productions. It would be replicated factors such as blended volumes, temperature, and strain that have culminated in a specific turnover. (Image courtesy of the Ministry of Industry, Trade, Green Economy, and Digital Economy.)

4. Africa's Artificial Intelligence

Economies have radically changed and are gradually decoupled from globalization, resulting in a digitally interdependent market that is far more vulnerable. Since the industrial economy is giving way to robots, artificial intelligence, the cornerstone of the modern economy, has become inevitable.

Investment in this sector is still very poor in Africa. We compiled statistics based on studies related to investments in the Middle East-Africa area to create the following graph:

Graph 1 : AI investments in the MEA region



When we look at the investment statistics for each country in the Middle East-Africa region, we can see that Morocco invests very little in this area, with just $57 million for 7 transactions and $52 million for transactions, a huge difference from Turkey's $3,459 million for 252 transactions, the United Arab Emirates' $2,151 million for 160 transactions, and South Africa's $1,658 million for 134 transactions.

Conclusion

It must be said that the opportunities provided by AI to professionals seem limitless and have piqued many people's interest. Any industry may be affected. Artificial intelligence is now pervasive in our lives, thanks to modern GPS, voice assistants, and other features on our devices, as well as a growing presence in our automobiles. The same is true in businesses, where we often use a variety of other technologies to react to customers on the internet, such as automated translation or chatbots. But AI helps us to go even further; it's no longer about beating chess champions or outperforming game champions; it's about making businesses more profitable, effective, and creative!

We were able to deduce from this sectoral exploration that we need to coordinate our investments in Big Data in general and AI in particular. We were also able to identify the sectors in which we would need to concentrate as marketers in order to strengthen consumer ties more and more, especially in the banking, insurance, and public services sectors.

Artificial intelligence now touches several realms, thanks to its various applications, which can help us in our everyday lives. However, amid its exponential growth, artificial intelligence has yet to penetrate a number of countries and industries, including Morocco.

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