RESEARCH ARTICLE

Artificial Intelligence: A Digital Revolution in Corporate Sponsorship in Algeria

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Doi Serial https://doi.org/10.56334/sei/8.9.68

Keywords Digitisation; ICT; Sponsorship; Big Data; Electronic Payment.

Abstract

In order to facilitate sponsorship operations for small enterprises, particularly start-ups seeking to grow within the global sphere of information and communication technologies and contribute to the digital world, through the use of information storage and transmission technologies more specifically via research in artificial intelligence it is essential for all developing nations, including Algeria, to advance the application of various digital tools and techniques. This must be achieved by deploying appropriate solutions tailored to their socio-economic conditions, to manage the quantitative explosion of data and the storage of an immeasurable volume of information within a digital database, known as Big Data. Furthermore, it is imperative to implement various regulatory and policy measures to promote and facilitate the use of electronic payment systems, thereby fostering creativity and the development of artificial intelligence.

Citation. Zégouarène S. (2025). Artificial Intelligence: A Digital Revolution in Corporate Sponsorship in Algeria. *Science, Education and Innovations in the Context of Modern Problems*, *8*(9), 771–778. https://doi.org/10.56352/sei/8.9.68

Issue: https://imcra-az.org/archive/383-science-education-and-innovations-in-the-context-of-modern-problems-issue-9-vol-8-2025.html

Received: 06.03.2025 | Accepted: 04.06.2025 | Published: 29.07.2025 (available online)

Introduction

Digitisation refers to all processes, transactions, interactions, and economic activities based on digital information and communication technologies. The digital economy differs from the Internet economy because the latter is primarily based on Internet connectivity. In contrast, the digital economy is more broadly grounded in the various digital tools currently employed within the economic sphere.

Integrating artificial intelligence (AI) into enterprises' digitisation process enhances their operations. This paper aims to shed light on AI, defined as "the set of theories and techniques implemented to create machines capable of simulating intelligence."[1] It thus refers more to a collection of concepts and technologies than a fully established autonomous discipline. Others, noting the vagueness of its definition, most notably the CNIL[2] It has been described as "the grand myth of our time."[3]

[1] *Larousse Encyclopaedia*, s.v. "Artificial Intelligence," https://www.larousse.fr accessed 15 May 2018.
[2] National Commission on Informatics and Liberties (CNIL).
[3] CNIL, *Report – How Can We Ensure Humans Retain Control?*, https://www.cnil.fr (accessed 15 May 2018).

Often classified within the field of cognitive sciences, artificial intelligence draws on computational neurobiology (particularly neural networks), mathematical logic (a sub-discipline of mathematics and philosophy), and computer science. It seeks methods for solving problems characterised by high logical or algorithmic complexity. In a broader sense, the term also refers, within common usage, to systems that imitate or replace humans in executing certain cognitive functions.[4]

To generalise the application of artificial intelligence in Algerian companies, particularly those operating in computing and the digitisation of activities, it is essential to enhance the use of various digital tools and techniques. This must involve deploying solutions tailored to their socio-economic contexts to manage the exponential growth of data and the storage of an immeasurable volume of information within digital databases, a phenomenon commonly known as Big Data. Moreover, it is crucial to implement regulatory and policy measures to promote and facilitate the adoption of electronic payment systems, thereby encouraging innovation and the development of artificial intelligence.

This paper aims to present several key elements that may facilitate

Sponsorship operations in these fields. We will start with definitions, aspects, history and major Players in Artificial Intelligence. after; we will discuss Sponsorship in Algeria . In the end; we will lift the obstacles to the Digitisation of Businesses.

1. Artificial Intelligence: Definitions, Aspects, History and Major Players in Artificial Intelligence

In this paragraph, we will to focus on the definitions of Artificial Intelligence, after aspect of Artificial Intelligence, History of Artificial Intelligence then, Major Players in Artificial Intelligence

1.1. Key Definitions and aspects of Artificial Intelligence

The term *artificial intelligence*, coined by John McCarthy, is often abbreviated as "AI" (or "IA" in French, for *intelligence artificielle*). One of its original proponents, Marvin Lee Minsky, defined it as "the construction of computer programs that engage in tasks which are, for now, performed more satisfactorily by human beings because they require high-level mental processes such as: perceptual learning, memory organisation, and critical reasoning."

The "artificial" aspect refers to the use of computers or complex electronic processes, while the "intelligence" aspect is linked to the aim of imitating human behaviour. This imitation may occur in reasoning for instance, in games or mathematical practice or the understanding of natural languages, in perception (visual interpretation of images and scenes), auditory perception (comprehension of spoken language), or through other types of sensors, as well as in controlling a robot operating in an unfamiliar or hostile environment.

Although most definitions align broadly with Minsky's, numerous variations of the concept of AI differ in two fundamental respects:

 Definitions that link AI to a human aspect of intelligence, and those that associate it with an ideal model of intelligence not necessarily human, referred to as rationality;

[4] *Summary Report – France Artificial Intelligence* [PDF], https://www.enseignementsup-recherche.gouv.fr (accessed 2017).

 Definitions that emphasise the aim of AI as replicating the outward appearance of intelligence (whether human or rational), and those that stress that the internal functioning of the AI system must also resemble that of a human being and be at least equally rational.

1.2. History of Artificial Intelligence

One of the earliest origins of artificial intelligence is likely found in Alan Turing's article *"Computing Machinery and Intelligence"* (*Mind*, October 1950),[5] Turing explored the problem and proposed an experiment now known as the Turing Test, which attempts to define a standard by which a machine might be deemed "conscious."

Turing further developed this idea across various platforms, including the lecture *"Intelligence in Machines: A Heretical Idea,"*[6] his broadcast on the BBC Third Programme on 15 May 1951 titled *"Can Digital Computers Think?"* and his discussions with M. H. A. Newman, Sir Geoffrey Jefferson, and R. B. Braithwaite on 14 and 23 January 1952 under the theme *"Can Computers Think?"* Another likely origin is Warren Weaver's 1949 memorandum on machine translation, in which he suggested that a machine might accomplish a task traditionally considered the domain of human intelligence.

Artificial intelligence was formally established at the conference held on the campus of Dartmouth College during the summer of 1956, attended by figures who would go on to shape the discipline. AI subsequently developed primarily in the United States at Stanford University under the leadership of John McCarthy, at MIT under Marvin Minsky, at Carnegie Mellon University under Allen Newell and Herbert Simon, and the University of Edinburgh under Donald Michie. In France, one of the pioneers was Jacques Pitrat.

1.3. Major Players in Artificial Intelligence

Google, Apple, Facebook, and Amazon possess enormous volumes of data. The following are some examples:

a) Google

Google, a multinational corporation, was officially launched in 1998 by Larry Page and Sergey Brin to commercialise Google Search, which would become the Web's most widely used search engine. Page and Brin, Stanford University students in California, developed a search algorithm initially named *BackRub* in 1996. Heavily invested in artificial intelligence, Google frequently advances its capabilities through acquisitions.

The search engine quickly proved effective, and the expanding company moved its headquarters several times before settling in Mountain View in 2003. The firm experienced rapid growth, launching its initial public offering in 2004 and quickly becoming one of the world's largest media companies. It introduced *Google News* in 2002, *Gmail* in 2004, *Google Maps* in 2005, *Google Chrome* in 2008, and the social network *Google+* in 2011, alongside numerous other products.

In 2014, Google acquired the British company DeepMind, which had developed neural networks capable of playing video games. However, DeepMind's objective is to 'understand what intelligence is.' DeepMind

[5] Alan M. Turing, *"Computing Machinery and Intelligence,"* republished in *Collected Works of A. M. Turing, Volume: Mechanical Intelligence*, ed. Darrel Ince (Amsterdam: North-Holland, 1992), ISBN 978-0-444-88058-1.
[6] Alan M. Turing's lecture *"Intelligent Machinery, A Heretical Theory,"* delivered to the 51 Society, Manchester.

is renowned for its programme AlphaGo, which defeated the world champion of Go."[7] (Soudoplatoff, S. 2018).

b) Amazon

Amazon is a North American multinational e-commerce company headquartered in Seattle. As one of the significant Web giants grouped under the acronym GAFAM, it employs artificial intelligence in its recommendation engine, *Echo*, and in its voice-recognition-based assistant, *Alexa*, available in seven different versions. Through its cloud services offering, Amazon also provides AI-based tools such as speech recognition and conversational robots, commonly known as chatbots.[8]

c) Facebook

Facebook is a social networking service launched on 4 February 2004. It was founded by Mark Zuckerberg and Eduardo Saverin, his college roommate and fellow Harvard University student. Facebook is a major user of artificial intelligence. It selects which posts to display using a recommendation engine and employs an AI engine to detect suicidal tendencies.[9] As Joaquin Candela, Director of Applied Artificial Intelligence, stated, "Facebook would not exist without artificial intelligence."[10]

d) Apple

Apple is an American multinational company that specialises in commercialising consumer electronics, personal computers, and computer software. It invests heavily in artificial intelligence and even maintains a blog that explains its research.[11] The company is also preparing to launch its recommendation engine, *HomePod*, a smart speaker integrated with Apple Music.

e) IBM

IBM (*International Business Machines*), or "Big Blue," is a multinational information technology consulting corporation headquartered in Armonk, New York, United States. It created *Watson*, an artificial intelligence system initially developed to play the game *Jeopardy!*, the American equivalent of the French show *Questions pour un champion*. *Watson* analysed 200 million pages.[12] To ultimately defeat former champions and win the first prize. Today, IBM offers Watson in other fields, such as medicine and law. IBM also maintains a blog dedicated to artificial intelligence.[13]

2. Sponsorship in Algeria: Ooredoo as a Promoter of Start-ups

[7] Serge Soudoplatoff, *Artificial Intelligence: Expertise Universally Accessible to All*, Fondation for politique innovation, February 2018.
[8] See "Machine Learning on AWS," Amazon Web Services, https://aws.amazon.com/fr/machine-learning/.
[9] Sam Shead, "Facebook Is Using Artificial Intelligence to Spot Suicidal Tendencies in Its Users," *Business Insider*, 28 November 2017, https://www.businessinsider.com/facebook-is-using-ai-to-spot-suicidal-tendencies-2017-11.
[10] Steven Levy, "Inside Facebook's AI Machine," *WIRED*, 23 September 2017, https://www.wired.com/2017/02/inside-facebooks-ai-machine/.
[11] See "Apple Machine Learning Journal," Apple Inc., https://machinelearning.apple.com/.
[12] See "Jeopardy: The IBM Challenge – About IBM Watson Fact Sheet," IBM, https://www-07.ibm.com/systems/hk/power/news/pdf/IBM_Watson_Fact_Sheet.pdf.
[13] See "Built with Watson: Stories of How Watson and AI Are Transforming Our World," IBM, https://www.ibm.com/blogs/watson/.

Sponsorship refers to financial or material support provided to an event or an individual by a sponsoring partner in exchange for publicity-oriented visibility (e.g., congresses, seminars, retail outlet inaugurations, product launches, etc.).

Among the first sponsors of innovative Algerian small enterprises is Ooredoo, which has continued its support for the creativity of young Algerian talents as the sponsor of the "Start-up Weekend Algiers," organised in December 2017 by the *Polytechnique Leader Club (PLC)* of the Association of Alumni of the National Polytechnic School, in collaboration with the Scientific Club of the National Higher School of Computer Science (*École Nationale Supérieure d'Informatique*, ESI) in Algiers.

 Its participation forms part of a broader strategy aimed at fostering "Made in Algeria" digital content through dedicated platforms such as incubators currently hosting around thirty technology start-ups, an innovation laboratory named *Innov'Lab*, and the implementation of programmes such as *tStart* to encourage the creation of tech start-ups; *iStart* to support the development of local innovative solutions; and the *Oobarmijoo* competition.

 Through these various initiatives, Ooredoo, a technological innovator and promoter of young talent, once again affirms its commitment to developing a local digital and technological industry.

3. Obstacles to the Digitisation of Businesses: The Traditional Payment System as a Primary Factor

In order to facilitate sponsorship operations for small enterprises particularly start-ups in the process of developing within the broader field of information and communication technologies and contributing to the digital sphere by employing information storage and transmission technologies through research in artificial intelligence in a more specific sense, it is essential for all developing nations, including Algeria, to advance the application of various digital tools and techniques. This must involve deploying solutions appropriate to their socio-economic conditions in order to manage the quantitative explosion of data, namely, the storage of an immeasurable volume of information within a digital database, commonly referred to as "Big Data," "massive data," or "megadata." In parallel, it is also vital to implement regulatory and policy measures to expand the use of "electronic payment" systems and "virtual currencies," which characterise the current global context.

To this end, our analysis will focus on applying several key digital tools and techniques that can facilitate corporate sponsorship in Algeria.

Firstly, the concept of *Big Data* has been introduced into Algerian regulatory texts aimed at protecting all confidential, personal, and interpersonal information. This is supported by the law on protecting natural persons in processing personal data, which has come into effect. Article 3 of Law No. 18-07 of 10 June 2018, published in the *Official Journal*, sets out and defines "personal data." According to the text, this refers to any information regardless of its format relating to an individual whose personal data is subject to processing, particularly by reference to an identification number or one or more specific elements of their identity: physical, physiological, genetic, biometric, psychological, economic, cultural, or social.

Secondly, virtual currencies such as Bitcoin are prohibited in Algeria, as the 2018 Finance Bill stipulated. Article 113 of the bill states, "the purchase, sale, use, and possession of so-called virtual currency is prohibited."

Furthermore, Article 117 of the 2018 Finance Law specifies that virtual currency refers to money used by Internet users via the Web and is characterised by the absence of physical support such as coins, banknotes, cheque payments, or bank card transactions.

Thirdly, virtual currency is defined as that used by Internet users online. The decision to ban the use of virtual currencies which operate under a system that ensures user anonymity stems from Algeria's desire to "establish stricter control over this type of digital transaction, which may be used for drug trafficking, tax evasion, and money laundering due to the guaranteed anonymity of its users," as stated in the legal text. "Cryptocurrencies are increasingly used today for legal transactions, and even our country is not immune to this phenomenon, which could endanger our security and economy," the text further notes.

Fourthly, the integration of digital payment systems in Algeria began with monetary development and the establishment of the technical operator *Société d'Automatisation des Transactions Interbancaires et de Monétique* (SATIM). The first electronic payment terminals were introduced in 2005, following the creation of the first automated teller machines (ATMs) in 1997. However, sophisticated electronic payment remains in its infancy, as the various digital payment tools mentioned above have not yet been fully implemented.

Among these tools, the bank card has recently become the most commonly used in commercial transactions. Similarly, the introduction of online payment in 2015 has begun to shape an environment conducive to the digitisation of economic activities in Algeria. The bank card is now regarded as a potential commercial instrument, particularly following the 2018 Finance Law, which mandated its usage.

Despite the significance of integrating digitisation into various monetary transactions, especially electronic payments, which facilitate the acceleration of financial and economic operations, the development of electronic payment systems in Algeria continues to face several barriers. These include the informal economy, the prevailing *cash culture*, which reflects the psychological attachment of Algerian citizens to physical currency, and the insufficiency of political initiatives, technical resources, and infrastructure needed to support the e-commerce platform adequately.

Conclusion

Artificial intelligence represents a genuine challenge for professionals. One of the most well-argued responses has been provided by Richard and Daniel Susskind, who analysed the impact of digital technology on a wide range of professions, including those of doctors, lawyers, teachers, architects, accountants, and even members of the clergy. Six primary threats appear to weigh upon intellectual professions: the economic threat, given that expert services are often prohibitively expensive and thus inaccessible to the majority; and the technological threat, in that many professions still rely on outdated methods and tools and fail to embrace modern technologies fully.

In addition, professionals themselves pose moral and psychological threats. They often discourage clients from self-resolving problems by refusing to share their knowledge.

The final two threats are: the risk of declining service quality, and the opacity maintained by professionals who frequently resist evaluation and prefer to cultivate an aura of mystery around their actual competencies.[14]

In this regard, emerging economies must formulate policies with the ambitious aim of securing second-order benefits. Policies designed to enhance participation in e-commerce and digital platforms, for example, can only boost a country's long-term competitiveness if accompanied by apparent efforts to steer the economy toward a position of digital technological development.

[14] Serge Soudoplatoff, *Artificial Intelligence: Expertise Universally Accessible to All*, Fondation pour l'innovation politique, February 2018.

In this sense, it is worth noting that Algerian enterprises will continue to face intense and growing foreign competition in the digital sector in the years to come. However, this potential confrontation is threatened by weak technological advancement momentum, primarily due to a significant lack of support and financing mechanisms and underdeveloped innovation activities.

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