

***Features, Positives and Negatives of Artificial Intelligence  
(A Descriptive Analytical Study)***

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**Abstract:**

The study aimed at exploring and investigating artificial intelligence's definition, forms, characteristics, applications and dangers. The study used the descriptive analytic methodology to reach the targets in question. To gather the required data, a review of literature was administered. The study came to the finding that artificial intelligence is a means to welfare and prosperity provided that it is used in conformity with Islam teachings. The study recommended planning training courses on artificial intelligence techniques.

**Keywords:** Artificial Intelligence, Features, Positives, Negatives.

**Introduction:**

Artificial intelligence is the master technological innovation of humanity in recent years. It is the paramount output of the fourth industrial revolution because of its multiple uses in the industrial, commercial, financial, educational and medical fields. It is expected that it is going to open the door for infinite creations and lead to more industrial revolutions that might cause radical changes in man's life. With the

accelerating gigantic technological growth, artificial intelligence is going to be the agitator of advancement and prosperity in the coming few years (Hind As-Said, 2023, p 40).

Undoubtedly, artificial intelligence is not an option, but it becomes a nagging necessity to economic establishment. Thus, the progress of these establishments depends on the extent to which they are able to keep pace with artificial intelligence technologies and systems and employ them to achieve sustainable development and economic leadership (Nacera Uleit, 2023, p.68).

Therefore, the current study seeks to explore the definition, forms, characteristics, applications, and dangers of artificial intelligence. The study conducts the descriptive analytical methodology. It consists of five sections covering the targeted sub-topics as follows.

### **1. 'Artificial Intelligence' Definition:**

Artificial intelligence is "a branch of science that is concerned with machines that solve the problems that need human intelligence to work them out" (Suliman Yaccoub, 2012, p. 3). It is a science that makes machines think, learn, make decisions like humans. That is, the science of artificial science is interested in creating computers that have minds like humans" (Nabila Qeshti, 2021, p. 12). Artificial intelligence is also defined as "systems and machines that emulate the human intelligence to do duties and that are capable of improving their performance in view of the information and data they gather and analyse " (Mahmoud Alam Ad-Din, 2021, p. 10). In other words, it is "a system that is developed as a result of the advancement of the computer and its programs and aims at producing technologies and machines that are capable of doing human tasks after they are programmed" (Gawad Ad-Dalw, Yusuf Abu Hashish and Ahmed Ismail, 2022, p. 63). It is also defined as: "a science that study living things' intelligent behaviors to make advanced computer programs that are capable of intelligent tasks like that done by humans so as to make humans' lives easier" (Al-Asad Al-Asad, 2022, p. 373). That is, artificial

intelligence is the study of humans' intellectual abilities using arithmetic models so as to get the computer acquire them (Sabrina Binyah and Fatiha Bel-Jilali, 2023, p. 619).

According to these definitions, not every machine is regarded as artificial intelligence. Only those machines that can do tasks through studying a problem and take decision concerning them that are considered artificial intelligence. (Suliman Yaccoub, 2012, p. 3).

In light of the above definitions, it is obvious that the aim of the artificial intelligence is to make autonomous machines that are capable of do complex tasks.

It is also clear that the programs and applications of artificial intelligence are designed through studying how the human mind thinks, learn, decide and do when working out a problem and using the findings of this study as a basis for developing the intelligent programs and systems (Abdullah Musa and Ahmed Bilal, 2019, p. 20).

Artificial intelligence has sub branches such as machine learning, expert systems, natural languages processes, algorithms and robots. Machine learning is a system that can learn and develop automatically from its own experiences without pre-programming. Expert systems are programs that use artificial intelligence to emulate Man or an organization's behavior. These systems are experienced in technical fields. They do tasks such as classification, diagnosis, controlling, designing, tabulations and planning. Natural languages processes are concerned with reading and understanding the human language. Algorithms are mathematical steps and logical actions that lead to a definite result or a solution to a given problem. Robots are machines capable of doing pre-programmed duties (Gawad Ad-Dalw, Yusuf Abu Hashish and Ahmed Ismail, 2022, pp. 66 - 67).

In spite of the differences among artificial intelligence techniques, they all have the ability to imitate the human intelligence. That is, they can gather data and analyze it. They can explore relationships among things. They can take deliberate decisions. They can learn from experience, acquire

new ideas and set regulations to use them (Hanan Awad, 2023, p. 127).

In light of the definitions above, it is obvious that artificial intelligence uses data analyses and resources efficiently. It greatly reduces cost and time as a result. It provides human intelligence with rich predictions that help take sound and rational decisions. It can explore the gaps and chances in markets rapidly so that it enables providing high quality products and services. It can do routine work and so clears the way for the workforce to devote itself to innovative and creative jobs (Suliman Bu- Rahlap. 2022, p. 19.).

## **2. Artificial Intelligence's Forms:**

The artificial intelligence is classified according to its level of intelligence into three types as follows (Khalil Saieedi and Marzouq Bin Mahdi, 2022, pp. 28-29):

### **a. Narrow Artificial Intelligence:**

This type of artificial intelligence is the most common and the most available nowadays. It can do specified and clear tasks such as automated cars, speech and pictures recognition programs and smart chess games.

### **b. General Artificial Intelligence:**

This type of artificial intelligence can think the same as man does. It aims making the machine think and plan on its own as it is the case with humans. Artificial Neural Network is an example of this type. It is concerned with producing neural network system for machines similar to the human beings. This type of intelligence is still at the stage of study and research. It needs a lot of effort to become reality.

### **b. Super Artificial Intelligence:**

This type of intelligence exceeds the level of human intelligence. It can do tasks better than humans. This form of intelligence is characterized with its capability for learning, planning, making judgments and communicating autonomously. However, this type of intelligence is not available at this age.

### 3. Artificial Intelligence's Characteristics:

The artificial intelligence is distinguished with the following (Nabila Qeshti, 2021, pp. 14-15):

- Arousing new ideas leads to creativity.
- Using empirical and comparative techniques.
- Learning knowledge and applying it.
- Dealing with hypotheses quickly, accurately and simultaneously.
- Dealing with incomplete data.
- The ability to learn.
- The ability to use trial and error technique.
- The ability to respond to different situations and new circumstances quickly.
- The ability to deal with complex and ambiguous situations.
- The capability for thinking and perceiving.
- The ability to solve difficult problems.
- The ability to use symbols to represent knowledge.
- The ability to imitate humans' cognitive and affective behaviors.

Furthermore, artificial intelligence programs have the ability to work out problems that cannot be handled with familiar approaches. That is, these programs do not follow sequenced steps that lead to the correct answers, but they select a sound way out and they are likely to take an alternative technique to deal with the problem if it is proved of no avail (Murad Dehiya and Samir Bin Saieh, 2023, p. 1005).

### 4. Applications of Artificial Intelligence:

Artificial intelligence is used in different fields that are shown as follows (Hiba Lahmar, 2021, pp. 103-105):

#### a. The Agricultural Sector:

Artificial intelligence technologies are used in greening and farming different crops. They are also used in the field of agricultural researches and innovation (Khawla Qaimash, 2032, p. 363).

#### b. The Commercial Sector:

Technologies and systems of artificial intelligence are used in issuing and registering commercial documents and

responding to clients. They are also used in advertising and marketing goods. They have the ability to gather information about clients and recognizing their attitudes and interests so that sound decisions and steps are taken concerning future needs. Thus, they help companies to provide goods and services in accordance with interest. In addition, chat-robots secure simultaneous responses to clients. Therefore, they enhance clients' satisfaction and reduce time and effort. Too, they are capable of predicting current and future consumers' behaviors so that they create efficient marketing strategies. Artificial intelligence guarantees facilitating payments. Thus, it fosters investment benefits and establishments' returns (Nacera Uleit, 2023, p. 73 and p.84).

**c. The Financial Sector:**

Artificial intelligence is applied in the financial field. It is used in assessing loans and providing security for the financial systems. It is also used in analyzing data, recognizing pictures and improving the services done to the public.

**d. The Industrial Sector:**

Artificial intelligence technologies and systems are used in raising production quantitatively and qualitatively. They reduce time and effort needed for production. They guarantee safety particularly for industries of dangerous materials. In addition, they are used to reduce pollution caused from factories waste.

**e. The Educational Sector:**

Artificial intelligence is used to reinforce slow learners through introducing individualized learning. It is to provide learning opportunities for the students who are not able to complete their studies owing to social, economic and geographic reasons. It provides a higher quality e-learning for such students. It enables teachers to vary their teaching strategies. It creates a funny and interesting learning atmosphere. It helps teachers to evaluate learners' personality as well as academic work. It can update educational curricula rapidly and efficiently. It is used to assess students' achievement and promote independence and self-confidence in

learning. It explores learners' weaknesses and secures remedial work. It is more likely to be a successful solution to private lessons. It helps learners' do academic researches and home assignments. Too, the artificial intelligence improves the services schools and universities' libraries provide. They have the ability to receive, direct and guide library visitors. They can preserve, classify, recognize, store and restore books and documents (Hind As-Said, 2023, pp. 20 - 21).

#### **f. The Hygiene Sector:**

Artificial intelligence is used in improving the medical fitness tests, diagnosing infectious diseases and giving out medicines. It is also used in doing delicate surgeries and implantation operations. Furthermore, they are effective tools in the compensation devices of persons with special needs. It is used to fight pandemics and epidemics. It can report the increase of the number of people in public places to health authorities. It can tell the likely severe health dangers viruses can cause. It monitors the flow of people and vehicles on roads through radars so that it can guarantee keeping to emergency instructions. Robots are programmed to walk in the streets to ask people to keep distance and to follow safety precautions at the times of pandemics. Robots recognize people who catch infectious diseases. It helps doctors and nurses to keep safe at hospitals and clinics especially at times of rampant epidemics. Artificial intelligence is used to experiments to make serums and medicines.

#### **g. The Aviation Sector:**

Artificial intelligence is used in providing safety on board the planes. It is used in flying planes and checking passengers' suitcases.

#### **h. The Transport Sector:**

It is used in self-driving cars. It is used in following, monitoring and controlling public transport. It is used in recognizing rules breaking vehicles.

#### **i. The Energy Sector:**

Artificial intelligence is used in analyzing the oil companies' massive data. It is used in improving performance

in all oil production and distribution stages. It is also used in creating new performance criteria to increase earnings. It is also used in securing clean energy such as wind and solar power.

#### **j. The Security Sector:**

Artificial intelligence is used to enhance the efficiency of the police force. It is also used for guaranteeing data and information safety. It is used to foster traffic systems in towns and cities.

Moreover, artificial intelligence is used to eliminate poverty, secure job opportunities and raise the standard of living. It is also used in garbage recycling systems to protect the environment from pollution.

#### **5. Threats of Artificial Intelligence**

Using artificial intelligence has got many dangers. These dangers are shown as follows (Hiba Lahmar, 2021, pp. 99-100):

- **The likelihood for bias:** Artificial intelligence is likely to provide biased data because of unconscious errors or due to incomplete stored information.
- **Using he artificial intelligence for cultural invasion:** It is used to dilapidate the society's faith and moral values, and circulate destructive thoughts and attitudes (Hanan Awad, 2023, p. 122).
- **The disappearance of many jobs:** many jobs have disappeared because of the artificial intelligence. That is, the artificial intelligence can do many jobs that are done by humans. This means it is going to replace humans in doing it.
- **The feeling of insecurity:** due to the disappearance of many jobs and low pay because many jobs are not done by humans any longer, more people will feel insecure because of unemployment and low income.
- **Low demand for goods and service:** since the consumers' purchase power falls down because of unemployment or low wages, the level of economic growth declines and thus depression occurs.
- **Widening the economic gap between the developed and developing countries:** as developed countries such as USA and China control the most part of artificial intelligence sector,



this means that their economies are going to grow more and more in comparison with developing countries that undergo weaknesses in investment and digital infrastructure and shortage of qualified workforce.

- Using dictator governments for artificial intelligence to spy on civilians and to threaten their privacy (Al-Asad Al-Asad, 2022, p. 374).

- Artificial intelligence technologies and applications in military field can be used in making autonomous weapon system that enjoy independency and that can take decisions of searching, monitoring, tracking, selecting and attacking targets on its own without human intervention. This means that these technologies can be used as mass destruction weapons (Al-Asad Al-Asad, 2022, p. 374).

-Artificial intelligence raises the level of crimes since it enables criminals to conceal their identities through faking pictures, finger, foot and eye prints, voices. It can be used to impersonate others and break through their bank accounts. Criminals can use artificial intelligence systems to maim others' reputation to blackmail them (Al-Asad Al-Asad, 2022, p. 379).

In spite of these threats, artificial intelligence is of utmost importance. It reduces governmental spending on paper. It improves production and productivity. It fulfills higher levels of economic growth through smart investment in different fields.

In order to face the above threats and make optimal use of artificial intelligence technologies, they have to applied in accordance with Islam teachings. Moreover, effective criminalizing and penalizing laws are to be passed for artificial intelligence abuse. The infra-structure of artificial intelligence such as informatics webs, digital environment, different computers and funding are to be provided. Free access to information is indispensable. Learning, developing and innovating smart technologies are essential as well. Adapting the society to accept and positively interact with artificial intelligence technologies is required too. The government ought to clearly publicize the uses of artificial intelligence

techniques. Moreover, artificial intelligence systems are to be gradually applied. The characteristics of the society are to be considered when using technologies of artificial intelligence. In addition, individuals who lose their jobs because of using artificial intelligence are to be provided with alternative ones (Hind As-Said, 2023, pp. 61 - 62). To add, the privacy of personal data is to be secured.

### **Conclusion:**

The current study aimed to explore and investigate the definition, forms, characteristics, applications and dangers of artificial intelligence. The study reached the following results:

1. Artificial intelligence is defined as a simulation of human intelligence processes by machines, especially computer systems. That is, it the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. It is applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experiences.

2. Artificial intelligence is classified, according to level of intelligence into three forms; narrow artificial intelligence, general artificial intelligence and super artificial intelligence. Narrow artificial intelligence does specified and clear tasks such as car driving, speech and pictures recognition programs. General artificial intelligence thinks the same way as humans do. Super artificial intelligence exceeds the level of human intelligence. It can do tasks better than humans. This form of intelligence is characterized with its capability for learning, planning, making judgments and communicating autonomously.

3. Artificial intelligence is characterized with its ability to arouse new and creative ideas, use empirical and comparative techniques, learn knowledge and apply it, deal with hypotheses quickly, accurately and simultaneously, respond to different situations and new circumstances quickly, solve difficult problems, use symbols to represent knowledge and emulate humans' cognitive and affective behaviors.

4. Artificial intelligence is used in different fields such as agriculture, commerce, finance, industry, education, hygiene, aviation, transport, energy and security. It is also used to eliminate poverty, secure job opportunities and raise the standard of living. Too, it is used to enhance garbage recycling systems and protect the environment from pollution.

5. Using artificial intelligence has got many dangers. It is used to dilapidate the society's faith and moral values, and circulate destructive thoughts and attitudes. Many jobs have disappeared because of the artificial intelligence. So, it increases the level of unemployment and cause low income, dipped demand for goods and service, slow economic growth and depression. Dictator governments use artificial intelligence to spy on civilians and to threaten their privacy. Artificial intelligence raises the level of crimes since it enables criminals to conceal their identities through faking pictures, finger, foot and eye prints, voices. It can be used to impersonate others and break through their bank accounts. Artificial intelligence technologies and applications in military field can be used in making autonomous weapon system and that can take decisions of searching, monitoring, tracking, selecting and attacking targets on its own without human intervention. That is, these technologies can be used as mass destruction weapons.

6. In order to combat the dangers and make optimal use of artificial intelligence technologies, they have to be in conformity with Islam teachings. Furthermore, effective criminalizing and penalizing laws are to be passed for artificial intelligence abuse. The infra-structure of artificial intelligence such as informatics webs, digital environment, different computers and funding are to be provided. Free access to information is indispensable. Learning, developing and innovating smart technologies are essential as well. Adapting the society to accept and positively interact with artificial intelligence technologies is required too. The government ought to clearly publicize the uses of artificial intelligence techniques. Moreover, artificial intelligence systems are to be gradually applied. The characteristics of the society are to be

considered when using technologies of artificial intelligence. In addition, individuals who lose their jobs because of using artificial intelligence are to be provided with alternative ones. The privacy of personal data is to be secured as well.

In light of the above-mentioned findings, in order to enhance artificial intelligence in Algeria, the current study recommends to consider the following:

1. Planning training courses for public and private servants on how to deal with artificial intelligence technologies.

2. Teaching artificial intelligence in schools and universities.

3. Creating an Islamic artificial intelligence system that enhances Islam teachings and fights destructive cultural invasion that aims to demolish the nation's identity.

4. Passing laws that criminalize and penalize misusing artificial intelligence technologies.

5. Emphasizing safer use of artificial intelligence technologies.

6. Convening national and international partnerships in artificial intelligence projects.

7- Securing funding for further research on artificial intelligence.

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