The Rise of AI & BD

"Success in creating AI would be the biggest event in human history. Unfortunately, it might also be the last, unless we learn how to avoid the risks." – the very eventful saying of ***Stephen Hawking*** directs us in the bend of dualism about AI- worthy of knowing to its lees.

Artificial Intelligence (AI) is an agent that is able to perform tasks that would require human intelligence. Examples of these tasks are visual perception, speech recognition, decision-making, and translation between languages. AI has revolutionised the information technology. It is a sub-field of computer science that includes the creation of intelligent machines and software that work and react like human beings. Artificial Intelligence is transforming the nature of almost everything which is connected to human life, e.g. employment, economy, communication, warfare, privacy, security, ethics, healthcare etc.

The term artificial intelligence was coined in the mid-1950s by McCarthy while conducting a research at the Carnegie Mellon University. Copeland, J. B. (2018, August 17) defines artificial intelligence as a computer-controlled robot to perform tasks usually related with the human beings. Mariam-Webster dictionary defines artificial intelligence as a machine with some capabilities of imitating human behaviour. Artificial intelligence is now growing with modern technologies. The future of artificial intelligence is very clear-cut and company like Microsoft, Dell, Apple and others as well have already inserted this system in their products (Shermarc, 2014). This system is now working on business, education, entertainment and other sectors.

Artificial Intelligence (AI) has emerged as one of the most revolutionary technologies of the 21st century, revolutionizing a variety of different sectors and businesses all over the world. The developing economy of Bangladesh, located in South Asia, has the potential to harness the power of artificial intelligence (AI) to

propel innovation, boost productivity, and increase the quality of life for its people. However, with tremendous potential come substantial obstacles that need to be addressed to enable the application of artificial intelligence in the country responsibly and sustainably.

Although still very small in size compared to the other sectors contributing to the GDP, the IT sector in Bangladesh is observing an increase in exports. According to the BASIS, there are currently more than 4500 Software and IT organisations enlisted in Bangladesh. These organisations utilise more than 300,000 nearby IT experts. Many of these companies are also in partnership with overseas companies. This is creating both employment and export opportunities. Employment forecasts for the IT sector are expected to see steady growth. Making use of the huge population, this sector can expand even further and create more jobs for the aspiring youth of the country.

History of Artificial Intelligence

Artificial Intelligence may seem to be a new technology but if we do a bit of research, we will find that it has roots deep in the past. In Greek Mythology, it is said that the concepts of AI were used.

The model of Artificial neurons was first brought forward in 1943 by Warren McCulloch and Walter Pits. After seven years, in 1950, a research paper related to AI was published by Alan Turing which was titled 'Computer Machinery and Intelligence. The term Artificial Intelligence was first coined in 1956 by John McCarthy, who is known as the father of Artificial Intelligence.

As per the experts, we won't be able to separate ourselves from this technology as it would become an integral part of our lives shortly. AI would change the way we live in this world. This technology would prove to be revolutionary because it will change our lives for good.

Branches of Artificial Intelligence:

- Knowledge Engineering
- Robotics
- Machines Learning
- Natural Language Processing

Types of Artificial Intelligence

Artificial Intelligence is categorized in two types based on capabilities and functionalities.

- Artificial Intelligence Type-1
- Artificial Intelligence Type-2

Artificial Intelligence Type-1

Narrow AI (weak AI): This is designed to perform a specific task with intelligence. It is termed as weak AI because it cannot perform beyond its limitations. It is trained to do a specific task. Some examples of Narrow AI are facial recognition (Siri in Apple phones), speech, and image recognition. IBM's Watson supercomputer, self-driving cars, playing chess, and solving equations are also some of the examples of weak AI.

General AI (AGI or strong AI): This system can perform nearly every cognitive task as efficiently as humans can do. The main characteristic of general AI is to make a system that can think like a human on its own. This is a long-term goal of many researchers to create such machines.

Super AI: Super AI is a type of intelligence of systems in which machines can surpass human intelligence and can perform any cognitive task better than humans. The main features of strong AI would be the ability to think, reason, solve puzzles, make judgments, plan and communicate on its own. The creation of strong AI might be the biggest revolution in human history.

Artificial Intelligence Type-2

Reactive Machines: These machines are the basic types of AI. Such AI systems focus only on current situations and react as per the best possible action. They do not store memories for future actions. IBM's deep blue system and Google's Alpha go are the examples of reactive machines.

Limited Memory: These machines can store data or past memories for a short period of time. Examples are self-driving cars. They can store information to navigate the road, speed, and distance of nearby cars.

Theory of Mind: These systems understand emotions, beliefs, and requirements like humans. These kinds of machines are still not invented and it's a long-term goal for the researchers to create one.

Self-Awareness: Self-awareness AI is the future of artificial intelligence. These machines can outsmart the humans. If these machines are invented then it can bring a revolution in human society.

AI in BD Economy:

The prospects that AI brings for Bangladesh in terms of economic growth and increased competitiveness are among the most significant. Artificial intelligence technology can increase productivity across various industries, including agriculture, healthcare, manufacturing, and finance. Businesses can simplify their operations, improve resource allocation, and make choices based on data when they use solutions powered by artificial intelligence. This, in turn, can lead to enhanced efficiency, reductions in costs, and improvements in the quality of customer experiences. Bangladesh has the potential to establish itself as a centre for artificial intelligence (AI) innovation, therefore drawing in international investments and nurturing a solid start-up ecosystem centred on studying and developing AI technologies.

AI in BD Society, Healthcare& Transportation:

In addition, AI has the potential to make significant contributions toward resolving social issues in Bangladesh. Access to medical care, agricultural output, and the building of adequate infrastructure are just some of the challenges the nation must overcome. Healthcare systems that AI powers have the potential to enhance illness diagnosis and treatment, particularly in rural regions that have limited access to medical resources. Precision farming methods driven by artificial intelligence have the potential to maximize agricultural production, cut down on

wasted resources, and improve food security. The implementation of innovative city projects can enhance transportation systems, energy efficiency, and urban planning through the use of artificial intelligence. These innovations could improve the quality of life for people in Bangladesh and close the gap between rural and urban settings.

Tele-communication Challenge:
However, to take advantage of this potential, Bangladesh must first overcome several obstacles. There needs to be sufficient physical infrastructure and digital connection to be a fundamental cause for worry. For artificial intelligence applications to operate at their full potential, dependable internet connection and high-speed connectivity are required. The public and commercial sectors will need to collaborate to increase the availability of cheap Internet services and expand broadband infrastructure across the country. This will allow for data transport without interruptions, access to computer resources in the cloud, and connectivity for devices capable of AI.

AI Education Challenge:
Another area for improvement is the insufficient number of qualified AI professionals. For artificial intelligence initiatives to be successfully implemented, cultivating a talent pool of individuals competent in AI technologies is essential. To educate its workforce with the necessary skills for artificial intelligence, Bangladesh has to invest in education and training programmers. The creation of AI-centric curricula, workshops, and training programs can be facilitated through collaboration between research institutions, research-focused industries, and academic institutions. In addition, it will be essential for the country's artificial intelligence ecosystem to provide competitive incentives and an atmosphere favourable to attracting and maintaining AI talent.

Ethical Challenge in AI:
In addition, there is a need for serious attention to be paid to ethical considerations and concerns around data privacy. Artificial intelligence (AI) systems rely significantly on data; therefore, protecting the confidentiality and safety of individuals' personal information is of the utmost significance. To preserve individuals' right to privacy and defend against the inappropriate use of AI technology, robust legal frameworks, and regulations must be implemented as

soon as possible. Artificial intelligence systems should incorporate transparency and accountability to eliminate prejudice and guarantee that decisions are made fairly. Bangladesh is in a position to benefit from worldwide best practices and work in conjunction with organizations from across the world to create ethical criteria for the application of AI.

Nothing in the world renders along with the mere blessings upon the humanity rather there might have something that can, tremendously, be concerning. Let's see what **Bill Gates** said-

"Humans should be worried about the threat posed by Artificial Intelligence."

In conclusion, AI has a long history of concepts and research that have bought many systems into fruition. Intelligent software and algorithms are programmed into many of the systems we use daily, and it seems that artificial intelligence is the wave of the future. Artificial intelligence has a significant potential to propel economic progress in Bangladesh, address societal concerns, and enhance the lives of the country's population. However, to take advantage of these prospects, solving the problems of inadequate infrastructure, inadequate talent development, and ethical concerns is necessary. Bangladesh has the potential to embrace artificial intelligence as a revolutionary force that contributes to sustainable development if it makes investments in digital infrastructure, promotes education and training in AI, and establishes effective regulatory frameworks. What we have been doing now & what are able to do is pretty much clarified in the words of **Amazon CEO Jeff Bezos** -

"We're at the beginning of a golden age of AI. Recent advancements have already led to invention that previously lived in the realm of science fiction — and we've only scratched the surface of what's possible."