

To leapfrog, Bangladesh must adopt AI

Artificial intelligence will benefit our scientific, technological, and socioeconomic research



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THE year 2019 was a turning point in Bangladesh's history when it achieved self-sufficiency in rice production, more so considering that rice provides over 70 percent of the national calorie supply. That year, the annual rice production rose to 3.5 times as much compared to what it was in 1971. Although Bangladesh still needs to import a small amount every year, the days of any major rice shortage are practically over. How did the country achieve this miracle, especially when the available cultivable land has been shrinking?

Most of this credit goes to our farmers, but another major contributor to this spectacular achievement is our scientific community. Bangladeshi scientists are continuously developing new rice varieties at different research centres. For instance, Bangladesh Rice Research Institute (BRRI) has so far released over 100 varieties with higher yield, better salinity and stress tolerance, and greater micronutrient content. One way to identify a new variety is to improve its genetic potential with research in biotechnology and genetic engineering. However, such a research process is painstaking—it takes almost 16 years, followed by another three for field-testing and adoption by the farmers. But genetic potentials can start deteriorating quickly. Therefore, scientists must continuously work on more varieties before the existing ones lose their yield potential. That means the research must speed up.

This is where artificial intelligence (AI) can help. A research process comprises routine tasks and intellectual endeavour, both of which are essential for a successful outcome. AI can relieve

researchers from routine tasks (such as reviewing existing literature and analysing large data volumes), freeing up valuable time for intellectual endeavours. AI can also offer different ways to investigate the same problem, radically accelerating the discovery process and enabling breakthroughs.

The most common benefit researchers have reported from the use of AI is that

several domains. AI-based tools search through all of them in no time to bring out relevant information. Another such benefit is the development of complex algorithms and correlations between many parameters, which is otherwise extremely difficult, time-consuming, and often humanly impossible. All these features of AI-based tools can strengthen and expedite research works in every

BioNTech vaccine received emergency use authorisation from the Food and Drug Administration (FDA) of the US. Previously, the fastest developed vaccine was for mumps, which took four years. AI was an essential tool in Covid vaccine development. It expedited analysis of large volumes of data, risk identification, performance improvement, and efficient production and distribution.

Globally, the use of AI in research activities is increasing exponentially. It has become an essential tool for any knowledge economy. A PwC report stated that by 2030, AI would contribute USD 15.7 trillion to the global economy. Potentially, a nation can increase its wealth by as much as 26 percent from deploying AI. Bangladesh could also benefit from AI—provided it uses this emerging technology prudently—in its journey to becoming a developing country by 2026 and beyond.

But the path to becoming a developing country is not a smooth one. It can potentially lead to dead ends, as has happened to many countries. They have fallen into what is called the “middle-income trap.” Such countries have failed to make the transition from resource-driven growth with low-cost labour to production-driven growth. Bangladesh must move up the Global Value Chain (GVC) by undertaking knowledge-based research and development. AI offers an opportunity to do just that, avoiding falling into the middle-income trap. Once AI-based tools are introduced in research programmes, they will soon spread everywhere, including industry, education, governance, and service delivery. All these will help Bangladesh achieve a higher competitive edge in the global arena.

As the Fourth Industrial Revolution (4IR) is unfolding, Bangladesh stands at a critical juncture of history. Its transition from a least developed country to a developing country and beyond has coincided with an enormous opportunity for technological leapfrogging by adopting AI-based tools. This is an opportunity not to be missed.



▲
With 4IR unfolding, Bangladesh will do well to make use of the opportunities it offers by adopting AI.

SOURCE:
WEF

conceivable discipline, such as science, technology, engineering, social science, public health, finance, and medicine.

The power of artificial intelligence in facilitating research programmes is amply demonstrated in the speed with which Covid-19 vaccines were developed. Sars-CoV-2, the virus behind Covid, was first identified in December 2019. By December 11, 2020, the Pfizer-

it helps to reveal patterns, increase speed and scale of data analysis, and form new hypotheses. Additionally, searching through online journal repositories and documents (such as patents and reports) is much easier and faster with AI-based tools. One of the greatest benefits of AI is, however, the synergy obtained from multidisciplinary research works, where relevant information is spread across

Imran's ignominious innings



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THE postcolonial legacy of the Indian subcontinent is closely intertwined with frequent constitutional aberrations of an unnecessarily theatrical nature, by opportunistic political actors—which in simpler words refers to illegal, hostile, autocratic, dictatorial and, traditionally, military-led political takeovers of democratic institutions. The catastrophic political journey of Pakistan since 1947 characterises a recurring trend in the discourse of South Asian politics, and makes one feel pity—if nothing else—for the people of Pakistan. Yet, it perhaps hits harder when a once-in-a-generation icon, whose popularity transcended partisan politics and geographical borders, becomes a module of not simply contention, but through his actions, converts himself to the primary anti-hero who scandalises constitutional conventions and deepens what is already a crisis of magnanimous proportions in Pakistan.

In what is now part and parcel of cricketing folklore, political tyrant and erstwhile Pakistan President General Zia-ul-Haq famously made an emotional appeal to the recently retired captain of his national cricket team and asked the nation's beloved Imran Khan to make a comeback and serve Pakistan. Khan, then 36 years old, responded to the president's request, returned as the captain of his team on January 18, 1988—the rest, as they say, is history. Prior to President Zia's clarion call, the Oxford-educated cricketer had successfully stamped his authority in the world of sports and achieved wide-scale international recognition, fame and glamour—a bowler of impeccable skill, a batsman who had the heart of a lion, and of course, a captain who inspired and directed right from the front. Imran Khan led his team to World Cup glory in 1992—uniting Pakistan to celebrate a rare national achievement. Success on the pitch and broader altruistic ventures on his part signalled the initiation of a different Imran Khan: the apolitical politician whose vision for a Naya Pakistan resonated with the younger generation.

Today, understanding the personal journey and cricketing legacy of Imran Khan is fundamental when trying to comprehend the ongoing political crisis in his country. Historically, military interventions in Pakistan have destabilised democratic processes, but for a change, the elected Imran Khan



Pakistan's Prime Minister Imran Khan.

FILE PHOTO:
REUTERS

and his ego have cultivated a unique crisis. As I write this

engineered by politicians, particularly the leading political dynasties in Pakistan, has been a cause of grave concern for decades. For this reason, younger and educated voters resonated with the electoral vision portrayed by Tehreek-e-Insaf. Yet, the Pakistani economy is facing unprecedented challenges, even with active support from a friendly China—from having an outrageously high debt burden to facing increasing inflationary pressure, Imran Khan has failed to bring the kind of stability that he had promised to his nation. And that, in a nutshell, has resulted in his government taking a hyper-nationalistic view of not simply redefining foreign policy goals, but advancing a simultaneously anti-Western and pro-Islamic outlook, simply with the hope of ensuring the endurance of the Captain's political ambitions.

The opposition had denounced the results of the 2018 elections and accused the military of fixing the polls on behalf of Khan. Their move to bring down his government in today's context is, therefore, no surprise. Over the past few months, Pakistan's prime minister has publicly showcased his irreverence towards the West: he visited Moscow and raved about the alliance between Russia and Pakistan, at a time when the world remained in shock over Vladimir Putin's hostilities against Ukraine. Khan did not mince words in bringing to light a supposed US-led conspiracy to bring down his government—a conspiracy whose evidence comprises primarily meeting minutes based on a private interaction between a mid-level American diplomat and the Pakistani ambassador to the US. While the history of American interventionism is another story in itself, obstructing constitutional proceedings based on a single conversation between two diplomats has made Imran Khan even more divisive than he was a couple of weeks ago. And it is in that sense of divisiveness, that he calls his nation to either stand by him or, according to him, stand against Pakistan.

In such circumstances, it seems the Pakistani people will ultimately have to go to the polling booths sooner rather than later, to provide a clear-cut mandate to a new government. Eventually, Imran Khan will undeniably lose the legal, moral and constitutional right to govern Pakistan. Even amid these political challenges, it is certain that he continues seeing himself as the brave, gallant and charismatic saviour of Pakistan—as he was on the cricket pitch throughout his career. But his actions have unequivocally split Pakistan into two, and with the notorious generals looming in the background, the puzzled citizens wait to see what destiny holds for a nation historically tormented by its military, corrupted by its politicians, and misused by the West.

article, the situation in Pakistan remains volatile, fluid and unstable. The country's Supreme Court has ruled that the dissolution of parliament approved by President Arif Alvi and initiated by the deputy speaker of the national assembly on April 3, subsequent to the advice from Khan's cabinet, was unconstitutional. The parliamentary opposition, which includes a coalition comprising the prominent Sharif and Bhutto-Zardari political dynasties, and other parties, invoked a no-confidence motion against the regime of Imran Khan, prior to the deputy speaker's ruling—which effectively triggered, by definition, the process to have a vote on the floor of the national assembly.

Credible media sources indicated that Imran Khan would fail to receive the mandate he needed in parliament to remain prime minister, and that he would either resign or be forced to step down following the vote at the national assembly. Perhaps to the surprise of most, including those in his own party, Pakistan Tehreek-e-Insaf, Imran pulled off what his supporters deemed a masterstroke, which halted the opposition from attaining immediate access to power. He invoked the time-tested go-to policy tool of the national security clause as a means to suspend parliamentary proceedings and put Pakistan towards an unpredictable path.

When he was elected to power in 2018, Khan championed a call to clamp down on corruption and announced his intention to institute a foreign policy agenda that prioritised the sociopolitical and security needs of Pakistan—above and beyond being a conduit for addressing the international policy programmes of its Western allies. His words carried weight: corruption

CROSSWORD BY THOMAS JOSEPH

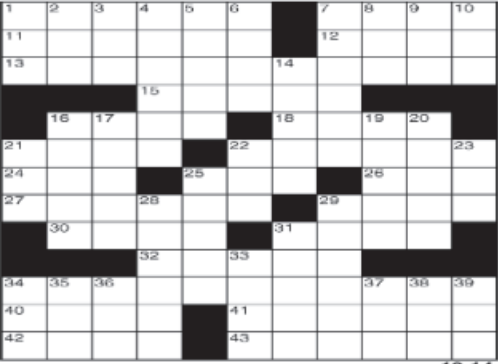
ACROSS

- 1 Training book
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- 13 Made stricter, as security
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- 21 Patch up
- 22 Pollux's twin
- 24 Hoppy brew
- 25 Failure
- 26 Pitching stat
- 27 Team member
- 29 Look upon
- 30 Strike
- 31 Signing needs
- 32 General

DOWN

- 1 Got together
- 2 Boxing great
- 3 Pester
- 4 Supported
- 5 Texas player
- 6 Lusty look
- 7 Met shows
- 8 Unopened rose
- 9 Outback bird
- 10 Puppy sound
- 14 Wanderer
- 16 Vends

- 17 Basketball's Shaquille
- 19 Beer mug
- 20 Tender spots
- 21 Travel aid
- 22 Nasty dog
- 23 Uncooked
- 25 Bus terminal
- 28 Marina boats
- 29 Furniture layer
- 31 Ship of 1492
- 33 Autumn dropper
- 34 Was a pioneer
- 35 Marrying words
- 36 Musician's job
- 37 River stopper
- 38 Take advantage of
- 39 For each



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