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#IDEA PLUS

ENHANCING LIVES



SOFT SUPERHERO: TAMING THE GENIE

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From the Desk of the Managing Editor

Dear Readers,

When the supercomputer HAL 9000 – at once a concept of suspended disbelief and an untapped reality – is turned off in '2001: A Space Odyssey' (1968), it bemoans, "Dave, my mind is going. I can feel it. I can feel it. My mind is going."

It's 2021, and the human brain is plastic – endlessly malleable. We become attuned to the quilt of the Internet; but we're unsure how it's reprogramming us. Perhaps it's a new sense of self – our attention is scattered, concentration is diffused. Reading a book is no longer the norm. We come to rely on software to mediate our understanding of the world; our own intelligence flattens into something artificial.

It's 2021, and the net's intellectual ethic remains obscure. Intelligence is an output of a mechanical process, a series of discrete steps that can be isolated, measured, and optimised. Information is a utilitarian resource that can be mined and processed with industrial efficiency. Thinking is staccato, stied – we've become mere decoders of information we skim through. There's no place for the fuzziness of contemplation. Ambiguity is not an opening for insight but a bug to be fixed.

It's 2021, and the dawn of a new reality. In the past, man has been first – in the future, the system must be. This reality, as with any other, is an impoverished version of the older one; a clear rejection of direct experiences that constituted the old reality. It's 2021, and we're in a twilight zone. The intended purpose of The Net, software

development and technological advancement is a debate. It's simultaneously a tool of convenience and a platform for exploitation – nothing is truly free of cost. What began as a means to expand borders, inspire human connection, is biologically reprogramming us; after all, every interaction is a mutual exchange.



It's 2021, and the lines between where memory leaves off and Google picks up are getting blurry. The ultimate search engine, after all, is something as smart as people – or perhaps even smarter. We fill up quiet spaces with The Net. The content is dynamic, ephemeral, adrift – there is the issue of permanency and people let their guard down

commensurately only to find out a Facebook comment is forever.

("Dave, my mind is going. I can feel it. I can feel it. My mind is going.")

I feel like I should know – this felt like a moment of recognition.

This edition of #IdeaPlus celebrates the soft-superhero – where systems are based on principle, rather than an attempt at navigating in the moment. It celebrates intellect, accountability, and technologies that will let us see where we've been, how we've erred, so we might have a coherent sense of where we want to go.

Prof. (Dr.) Deependra Kumar Jha,
Vice Chancellor, Adamas University
Former Vice Chancellor, UPES, Dehradun
and GD Goenka University, Gurugram

From the Desk of the Executive Editor

A Season of Light and a Season of Darkness

Dear Readers,

"This day . . . everything was possible. Future became present, that is, no more time, a glimpse of eternity." – Historian Jules Michelet describing the French Revolution.

When the historian Michelet refers to the French Revolution, it is always as a sequence of past happenings, a non-reversible series of events the remote consequences of which may still be felt at present. To the French politician, as well as to his followers, the French Revolution is both a sequence belonging to the past – as to the historian – and an everlasting pattern which can be detected in the present French social structure and which provides a clue for its interpretation, a lead from which to infer the future developments.

Thus even a historic event can be transformed into a myth, giving it a lifetime that spans across centuries. The essence behind it is the mythic value, which is the embodiment of two contradictions. The more diverse the contradictions, the stronger is the mythic value and the longer is the lifespan of the myth. In case of the French Revolution, it embodies two contradictions – the past and the present. The Covid-19 times have become an embodiment of two of the biggest contradictions – the best of times and the worst of times, if we recall the immemorial



lines of Charles Dickens in *A Tale of Two Cities*, again on the French Revolution.

Lives, livelihoods were lost in millions. Digital innovation and advancement took place in the speed of light as if we have skipped an entire generation and landed in the future.

While the macro indicators took a plunge, the Sensex chose to reach new summits. And naturally, following the market, the economy also eventually rebounded. Information technology proved to be the real winner. While some industries were shut down, new businesses Zoom-ed, made billions.

In this edition of *#IdeaPlus*, we have tried to be an embodiment of the two

contradictions – the bane and the boon of the new Superhero called Technology. Noted writers from all walks of life have explored how the two contradictions can co-habit, revealing, in the process, the various facets of the soft superhero as well as the manner in which the genie can be tamed.

May we all live in interesting times, in this season of light and this season of darkness. Happy reading and wish you a Happy Diwali!

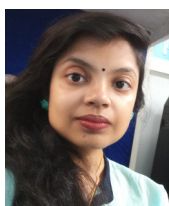
Thanks!

Prof. (Dr.) Mahul Brahma

**Professor and Dean – School of Media and Communications
Adamas University, Kolkata**

Soft Superheroes: Taming the Genie

*Researcher and academic
Dr. Sulagna Chatterjee
writes an insightful piece
on how technology is
dominating the post
pandemic human life.*



Several thousand years back, at a phenomenal palace at 'Aryabarta', the 'Divya Dristi', a divine blessing from 'Veda Vyasa', the poet author of

the epic 'Mahabharata', was bestowed upon Sanjaya, the dedicated auxiliary to the blind king 'Dhritarashtra'. This was as if 'Sanjaya' became a part of virtual reality and witnessed frame to frame the colossal war of 'Kurushetra'. Apart from 'Arjuna', 'Sanjaya' was the only human being who listened to the nascent 'Bhagavad Gita' while that was being pronounced for the first time by 'Lord Krishna'.

Jump cut to 2021, looks like 'Sanjaya' alone had the password to that incredible meeting of 'Arjuna' and 'Lord Krishna'. The present-day human civilization is



We have stood strong through devastating world wars, famines, natural calamities and lot more, yet even the darkest of the dark clouds had a silver lining. We have never ever been struck by such a calamity from which we could not fathom out an imminent escape.

witnessing the literal incarnation of such entwined 'Dur Dristi' and 'Dur Srabana'. The divine magic has been brought to life by the various communication software platforms that are being widely used these days. They have played the pivotal role in not letting the world fall apart in these pandemic-infested times. The human race has rarely encountered as grave an atrocity as this raging pandemic. We have stood strong through devastating world wars, famines, natural



calamities and lot more, yet even the darkest of the dark clouds had a silver lining. We have never ever been struck by such a calamity from which we could not figure out an imminent escape. The tunnel seemed never-ending. And the undying caliginosity of the night would have resulted in an all-encompassing melancholy that is vicious enough to snatch lives.

Yet, "Man is by nature a social animal" as runs the epic saying of the ancient acclaimed philosopher, Aristotle. The sense of amity and intimacy from our fellow beings is an essential component for our well being. And therefore, this most intelligent animal species on earth, i.e. us, refused to give way to the obvious social isolation. And, our creative minds consequently came up with several super efficient virtual platforms that practically ushered in a new era in electronic communication. These softwares provide a next level experience as compared to our previous levels of soft communication. Things that could not even be imagined in the near past have now become mundane realities.

To start with, a glimpse of the contemporary education system that has never been more global, would testify. Almost all esteemed educational institutions starting from the ones belonging to the Ivy league to our very own domestic establishments, are now free-flowing on electronic platforms. Students from all over the globe are being able to attend both professional and skill-enhancing courses in the Universities and institutions of their choice. Even a few years back from now, transcending geographical barriers and attending foreign Universities posed a stout economic challenge. However, at the moment, transcending latitudinal barriers and attending classes at the aspired Institute is only a click away; courtesy our 'soft superheroes'. Maybe the technology was already there even

Apart from education, the software-based platforms are capable enough to render strong support to our gradually weakening economic infrastructure. Starting from tycoons to start-ups, all concerns were faltering in these darkest of times.

before the pandemic had hit, yet such wide acceptance and unbidden acquaintance have developed due to the pandemic-induced physical barrier. This is as if Harry Potter's 'port keys' have come to life. Our 'soft superheroes' have cast the magic spell and 'muggle' life is all decked up with previously unimaginable 'soft powers'. Apart from education, these software-based platforms are capable enough to render strong support to our gradually weakening economic infrastructure. Starting from tycoons to start-ups, all concerns were faltering in these darkest of times. Yet, unperturbed conduction and governance of professional ventures have been made possible due to endless endeavours of our software engineers and their super-efficient programmes. A completely new concept of remote work that is extremely significant to the current scenario, has evolved. And the subsequent familiarization following the advent of such prototypal electronic work environment has been made feasible due to the stout support offered by the unwavering soft communication network. Even domestic start-ups have been sprouting in these odd times. Such incipient entrepreneurs were not

convinced with their own latent potential prior to the emergence of this semi-virtual work space. Such facility has enabled them to work from the comfort of their familiar domestic surroundings and at the same time encompass an ambient local/national work periphery. Subsequently, quite a few otherwise improbable yet promising entrepreneurs are shooting to success with a bit of support from our 'soft superheroes'.

The 'soft heroes' ——— they are literally everywhere, catering every limitation and nursing every blemish of those that are exigent. Talking of 'the blemish', one most essential support that is required for unflustered flow of everyday life is a secure medical support. On this note, it deserves mention that very recently, e-consultation is being provided by renowned medical practitioners. Even paramedics are scheduling laboratory tests within the comfort and safety of a patient's home as far as practicable. Medicines are being delivered to the door step. And all of these have become possible due to clear and perennial soft communication that is capable of connecting the entire Indian subcontinent. Moreover, medical help is even being extended across borders





through virtual sharing of symptoms, reports and subsequent diagnosis. This new application of virtual media platforms have in fact resulted in lower risk of contamination and virus contraction that are obvious amongst people clustering at medical facilities like hospitals, nursing homes, clinics and pharmacies. Further, such 'soft heroes' have made life a lot easier for senior or ailing fellow human beings, who are physically hindered.

Proceeding further on this note, almost all consumable commodities are being vended online these days. And, such 'soft markets' have evolved to be almost as lucrative as their traditional counterparts. This drift of buyer seller communication from conventional face-to-face mode to online platform, has generated ample scopes for employment. Apart from the obvious necessity of software professionals, transportation employees, customer care work force and several allied job openings have surfaced. Further, intervention of software programmes in transport industry, has ushered in a new era in daily commute. Safe and comfortable travel now gets ensured right at our doorstep at any hour of the day or night.

Last but not the least, even software-based safety measures have reduced vulnerability of half of our population—— 'the better half'. Quite a few software applications that are available on both 'android' and 'apple' platforms are being widely installed by modern women irrespective of their employment status. Anywhere, anytime, the feeling of being intimidated creeps in, help is just a touch away. All that is required is to touch a particular digit on the floating keypad of our mobile phone and the 'soft superheroes' will spring to life and the rescue mission is on. Kudos.....

Yet, this is against the law of nature that there should prevail unconcerned good without any unwelcome perturbation. This unprecedented rise of virtual reality and

its uncontrolled entanglement with everyday life, have the subsequent cons. One imminent threat is cyber crime in financial aspect. There are so many senior citizens who are not accustomed to this commercial e-transactions through software platforms. And of course, this ever-increasing application of e-finance has made such non-techy people vulnerable to cyber thefts.

Further, the present generation is being extremely preoccupied with the virtual world, be it social media or be it e-gaming. This habit is degrading their natural communication skills and somewhat indulging in the upbringing of an unsocial folk with subdued emotions and weakened fellow feelings. Mankind is losing their bond with nature due to extremely less exposure to the real world as compared to the LED screens.

However, not to conclude on a grim note.....we get back to where this all started from. The deadly fear of being alone has instigated us to unite in a virtual world. And this is where we find faith and hope, now that we are gradually realizing the looming isolation that might again engulf us if we submit to this mesmerizing virtual reality, we definitely will break the spell. And in turn 'tame the Genie' to cater our true needs rather than getting bereft of our own free accord and human nature.

[Author's Introduction: Dr. Sulagna Chatterjee obtained Ph.D. from Calcutta University. She won prestigious fellowships namely, CSIR-SRF, DST-INSPIRE, I.I.T.-Institute-Fellowship, National-Merit-Scholarship etc. She did M.Tech., where she stood 1st Class 1st and was awarded Gold Medal and Outstanding Academic Excellence Award from Calcutta University. She has delivered several invited lectures in UK, Italy etc.]

Raising Young Minds in the 21st Century



*Ex-IITian and noted techie **Kinshuk Adhikary** provides some useful tips on how to teach the 21st century minds.*

Introduction

Imagine a farmer in 1800s – teaching the young. About seeds and weather, perhaps.

In 1786, the steam engine was invented. No farmer could have envisaged the 19th century changes, the mechanization of every machine, the structure of society, migration from rural areas, rise of

America, electricity, communication etc. Whatever he “taught”, would be quite meaningless to the young mind. Perhaps even harmful for his/ her future.

Likewise, in the transition to “thinking machines”, too many things will change in unpredictable ways. We have to be extremely cautious that we do not think like that farmer.

Two things have always influenced the human mind. The tools he has invented, and the landscape that has changed by use of those tools. These two affect the “mindscape”, and it is to the new mindscape that all our pedagogy must be addressed.

As we have already crossed 1/5th of the 21st century, we can see a bit of the tools



and even the landscape. So, an attempt can be made to study the mindscape that will shape the 21st century.

As to exactly what "seeds" to plant in that mind, one can only be tentative. No ready-made quick answers are possible.

This article has been written mainly for parents and educators. We shall ignore tools since mostly we know what they will look like, automation

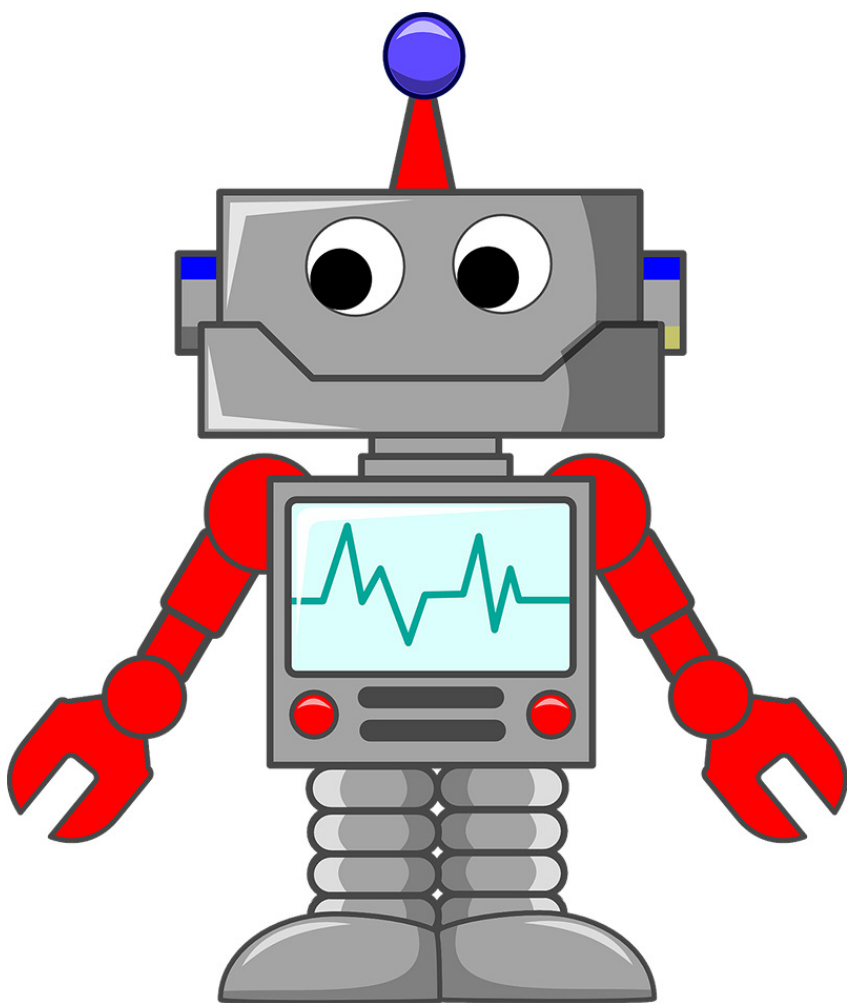
and robotics.

So first, we shall take a look at the landscape, then the mindscape, and briefly touch upon the teaching itself.

The Social Landscape

This is the age of "community". Everything has to be social. Individuality is out, individuals are likely to be outliers, social outcasts, and kept out of the mainstream. Anyone with individuality has to learn to hide himself, put

Two things have always influenced the human mind. The tools he has invented, and the landscape that has changed by use of those tools. These two affect the "mindscape", and it is to the new mindscape that all our pedagogy must be addressed.



on a community mask. Since the 1930s, minds have been getting more and more "connected". Thinking the same thoughts, fed on the same programming (whether by radio or TV or internet). Now the whole planet is linked together, and thoughts (memes) come in waves, become "viral" for a short while, and then die out.

One's community view is the view that must be adhered to. Since there are likely to be two diametrically opposite communities, one has to accept all or none, of

It is going to be a hard, hard world.

Due to heavy automation, shortages of “real work” will be starkly evident, after all, how long can it be hidden that even now, 70 per cent of the workforce hardly do any real work, create things, apply force, move distance.

any one. Loneliness, drug addictions and mistaken turnings in life (largely due to gullibility and low IQ) will be quite common, as the “community” and its highly transient (and quite political) value systems replaces the family system.

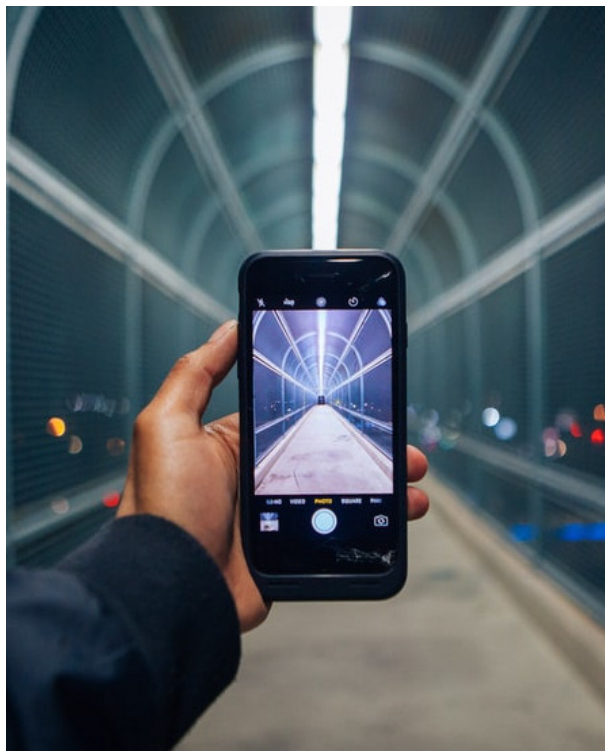
The Work (Livelihood) Landscape

Automation will only increase. As Isaac Asimov said, “The robotic economy has only one direction, more robots, less humans”. Most human work will



consist of being “useful parts of a machine workflow”. Which means, following a script, strictly. With only surface education (read/ write/ speak English, knowledge of running the automated tools etc.) Only a handful of humans will “edit” that script. An even smaller set will tend the machines that run such scripts. Tend means only tinker with surface features, not with basic

building blocks. No one will need to “go into depth”. Not even experts. On any topic. There will be no need to question the building blocks, it will simply not be worthwhile. Some specific skills will be needed to make best use of the capabilities of the machines, to search data, to create models from data, to present the output. Some jobs may require creative abilities. But mostly, in a horizontal undifferentiated society,



the needs will be utilitarian. Workers will be highly replaceable, and thus jobs will change frequently. One survival technique will be to change not just jobs, but entire career streams, i.e. many careers in one life, with phases of online education in between. Pay and salaries will generally be uniform, and low, since most jobs are “gig jobs”, contractual and need-based. Recruitment for most intellectual jobs will be worldwide, only for manual jobs people will be sourced locally. There will be not much difference in pay between mind jobs and manual jobs.

The Mindscape of Young Minds

Now that we have (somewhat briefly) covered the social landscape and the work environment, let us take a quick look at the mindscape. What kind of young minds are we thinking of teaching/ training ?

Programmed Windows: These two words almost define the mind. It receives all its learning through a window. And the

content in the window is programmed by someone somewhere, consisting mainly of pictures, icons, text and animation.

The idea of learning from the un-programmed world outside, joining the dots by using curiosity and logic, is quite alien to such a mind. This, the educator must remember always, and not try useless alternative methods. All content has to be made windows compatible, and fit in with the current programmed context, whatever that is (today it can be a “green world”, tomorrow it can be red, whatever).

IQ , Logic and Abstractions: The lowering of individuality is directly proportional to lowering of IQ. The absence of curiosity about the natural world, means that the logic inside the mind is mostly the programmed blocks of logic.

What sort of logic is this? It is “algorithmic”. For example, the child very quickly learns that “menus can have sub-menus”. It knows “classification” almost instinctively. It quickly catches on to a “tree-structure”, or the “network connections” of social media. It quickly learns to “game the system”, supply wrong profile data, devise complex passwords etc. All this is very difficult to teach to 20th century adults.

This is the age of “community”. Everything has to be social. Individuality is out, individuals are likely to be outliers, social outcasts, and kept out of the mainstream. Anyone with individuality has to learn to hide himself, put on a community mask.

Thus, abstractions used during teaching such minds must be related to its own "context". All examples, inferences, comparisons must be related somehow to the pictures, icons, sounds and text, and their behaviours, that is commonly prevalent in the windows content. Content builds context. And further content must conform to the previous context. It cannot be otherwise.

Ease of Button Clicks: The child is used to clicking buttons, and seeing things magically happen. Goods arrive at the doorstep with a click. It cannot conceive of clicks not working, or tracing the long manual path of some process. For it the only process is: Click -> Get Goodies. While you think this is unreal, for your child, your 20th century vision of a long chain of events finally culminating in an end result, is equally unreal. In his/ her context, things work by a click. One just has to know the right ones.

In your teaching, you have to balance between these two. You may go one or two steps into the cause-effect depth chain, but not too deep.

Tactile Sensations: There are very few tactile (touch) sensations the child receives, mostly it is about touching

Most human work will consist of being "useful parts of a machine workflow". Which means, following a script, strictly. With only surface education (read/ write/ speak English, knowledge of running the automated tools etc.)



smooth glass. Tomorrow, it will all be voice-activated, so even that sensation will be missing.

Do not be under the impression that the child is any less empowered. In its own environment, it is highly empowered. At the age of three, it can navigate the mobile phone icons, fetch on its windows whatever programming it wants.

The only place where touch matters is in emotions, closeness to other humans, closeness to reality of things/ nature etc. And, in building that deep inside thing we call EI or EQ.

False (Programmed) EI/ EQ: The child is really not in a position to "feel" the emotions of others, to respond with its own emotions, to manage its own and others emotions etc. The classical definition of EI/ EQ simply does not apply. What does apply however is that the child draws its emotional life from the programming on the screen. Here, tigers are cuddly soft-toys, supermen suffer from depression etc. Anything that is the current community standard of EQ/ EI.

Some specific skills will be needed to make best use of the capabilities of the machines, to search data, to create models from data, to present the output. Some jobs may require creative abilities. But mostly, in a horizontal undifferentiated society, the needs will be utilitarian.

The educator must be strongly aware of the current community standard of EQ/ EI. Showing tigers as ferocious beasts in their own programmed learning content will be useless.

Practical Tips on Teaching/ Training/ Pedagogy

The role of the teacher is two-fold. The first role is Content Creator. The second role is Network Influencer.

As *content creator*, the teacher must think in terms of “scenes” unfolding on the windows in sequence. Backgrounds, characters, pictures, icons, sounds and very little text. Animation would be a great addition. Total scenes should not exceed 20 per lesson, total time not more than three to four minutes. Else, topic needs to be broken up. Needless to say, the video/ slideshow must entertain the audience, for in the 21st century, the teacher must first be an entertainer, there are too many things claiming the

student's attention, and he has too little incentive/ pressure to learn.

As network influencer, one's focus is on “maximizing learning being delivered across the network”. The teacher must focus on influencing the key nodes that will agree or like the lesson, and in turn influence their own smaller groups. Of being able to continuously feed interesting content that will increase the network size, improve the group metrics of views and clicks and likes.

[Note: The above two are just a “way of thinking”, nothing more. How much it translates from abstract into concrete depends on the tools the teacher is comfortable with. But the methodology remains the same.]

Do not go too much into “depth”. Depth is a dangerous territory, and no one needs it anyway. All that the student will be doing is fetching data from the internet linked to the lesson, copying and pasting, and coming up with something



that expands or details the model conveyed.

Physical/ outdoor experiments, or experiencing, is definitely a good tool for teaching, even in the 21st century. But, it can be enhanced, or even replaced, by windows in the shape of augmented reality (AR) or gaming. The real advantage in this is mostly political, because any such thing can be questioned nowadays, whereas with electronic systems, stopping criticism is simply a matter of removing the content, as laws around content dissemination are still quite primitive.

The most important thing to teach are “latest tools”. The extreme importance of this cannot be over-emphasized. Getting jobs, employment, pay, work satisfaction, research and publishing, and empowerment of the individual are all tied around “what tools can you confidently handle?”.

Since most tooling requires English for



The British notions that “the purpose of education is to create a gentleman” has to be discarded at the earliest. The purpose of education is to get a job, be a good part of a good machine. Anything else is woolly and will lead to starvation. For there will be much economic chaos in the world before it settles into a machine-driven economy.

interacting, and since most of the internet is in English – there is a dire need to learn English, read, type and speak. Without English, the child is handicapped right from the start in the automated electronic world.

How shall we teach something like “Newtonian gravity”? The teacher has to search the internet, especially videos, and create a short syllabus (try to use the term “playlist” instead) consisting of, say two to three basic introductory videos from YouTube, one or two very short explanatory text material with images, or own videos, explaining whatever the internet left out, with an MCQ quiz. And perhaps finally, to stimulate further learning, a slightly more advanced video on “gravity and space-time”.

The Bigger Picture

It is going to be a hard, hard world. Due to heavy automation, shortages of “real work” will be starkly evident, after all, how



long can it be hidden that even now, 70 per cent of the workforce hardly do any real work, create things, apply force, move distance.

Only hard skills will be payable well, the rest will earn a “minimum wage”, socially distributed.

The British notions that “the purpose of education is to create a gentleman” has to be discarded at the earliest. The purpose of education is to get a job, be a good part of a good machine. Anything else is woolly and will lead to starvation. For there will be much economic chaos in the world before it settles into a machine-driven economy. Excess of capacities, shortages of food, energy and water. War and crime and breakdown of law and order in many cities in the world. Distrust of science and too much trust in religions. Small ghettos of ideological survival, if not actual survival. Dystopia unbound.

And in all this, inexorably, the increase of automation, and of robots. For humans, bereft of the individualistic qualities of the last century, can no longer serve the economic machinery of the last century.

[Author's Introduction: A pass out from IIT-Kharagpur, Kinshuk Adhikary has 28 years of experience in the industry – 16 years in a “purely technical” role as software architect and 12 years in high value business development roles. He has held senior positions with renowned companies such as Hyundai and L&T. He has also held the Head of Technology roles in smaller organizations with tech and business responsibilities. He has been instrumental in architecting (designing and creating) several enterprise software products for U.S/ U.K companies. He promotes management with a strong technology culture. Kinshuk is hands-on and is easily conversant with cutting-edge technologies. He still learns IT/ software, now as a hobby.]

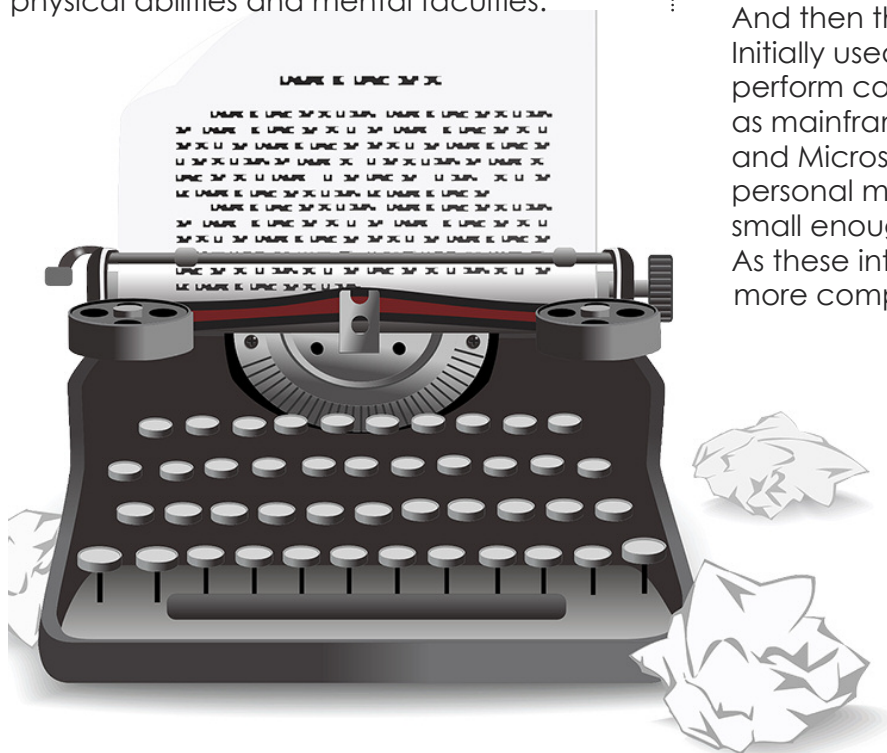
Human Devolution: How Smarter Machines Are Making Us Dumb



Veteran journalist Sumit Moitra delves on how machines are destroying human intellect.

Since the birth of civilisation, humans have developed technologies and created tools to make life easier, convenient and perform task which weren't physically possible otherwise.

But as humans kept adopting technologies – from simple tools to complex machines – we started losing our physical abilities and mental faculties.



The cavemen and cavewomen were much more physically stronger than modern men and women. But as we adopted agriculture and farming tools, we settled down and stopped fighting and hunting every day for food. This took away our hunting skills perfected over years and the brute physical strength to fight the beasts.

We didn't bother as we had the tools to replace the physical labour.

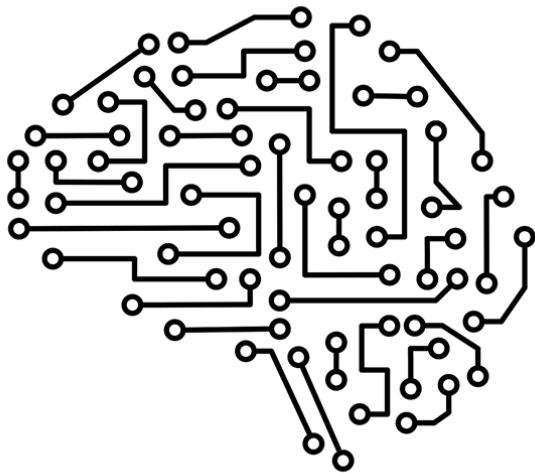
But then a set of machines appeared that started to take away our mental abilities as well.

The counting machines – analog as well as digital calculators – blunted our ability to count numbers and perform simple mathematical calculations in our head. And then the computers appeared. Initially used to launch space rockets and perform complex industrial computations as mainframes, companies like IBM, Apple and Microsoft turned computers into personal machines as their sizes became small enough to sit on a desk.

As these intelligent machines are turning more complex and powerful with

improving computation abilities, they have started performing activities involving decision making of increasingly higher order, making us, the creators of these machines, predictable and dumb and hence, easy targets for manipulations.

We are now being made to perform tasks



which we wouldn't have been doing if we had retained our decision-making abilities. In simple words, the 'smart' machines that we have created have turned us into 'dumb' machines.

Computers Gaining 'Human intelligence'

These days the best minds in digital technology, sometimes in collaboration with neuroscientists or psychologists, are busy making machines, and the codes that run them, more human-like. Computer programmes are becoming better at learning to give outcomes based on analyzing larger chunks of data drawn from past human actions with all its biases and prejudices. Computers can now handle more variables and parameters likely to affect a future event and then select the best possible option from a set of derived outcomes. Consider Google's Multitask Unified Model unveiled in May 2021 in an official blog post by Pandu Nayak, its Vice President, Search. According to Nayak's official blog post, search engines don't provide answers the way an expert would. Using a technology called Multitask Unified Model, or MUM, Google is now getting closer to answering complex queries in a way as if an expert is speaking.

This, Nayak, says, would help anyone find an answer by expressing a complex query in a single sentence rather than typing out multiple queries, one after another, to refine the answer to make the response more meaningful.

Google has already taken several steps towards that goal which we can currently observe.

If you type out a simple query, Google, in some cases, not only lists out all the relevant results but puts out a paragraph at the top taken from the best and most relevant search result as determined by Google's search engine algorithm. While the convenience for the users is that they get a definition of a term or a suitable description of the query without opening any of the link, the downsides of this AI-driven feature are many. First, we lose out on all the knowledge and information that we could have learnt by clicking on several links and reading up some relevant and not so relevant pieces of information that would have contributed to building up our

Initially used to launch space rockets and perform complex industrial computations as mainframes, companies like IBM, Apple and Microsoft turned computers into personal machines as their sizes became small enough to sit on a desk.

wisdom.

Knowledge and wisdom don't come from hunting down a narrow set of data or information.

Knowledge and wisdom arise from observing all that is around you.

If you are searching for information on what was the contribution of Thomas Alva Edison, a few lines at the top of the search query would probably give you a very narrow idea of the subject to help you give an answer to a junior school-level exam question.

However, reading up the content of the top three or four links, might also provide you with some idea about Edison's intellectual fight with Nikola Tesla, and could have broadened your understanding of a great chapter in the history of development of science and technology.

As computers handle more data, more variables and more scenarios, they are getting better at mimicking the human mind.

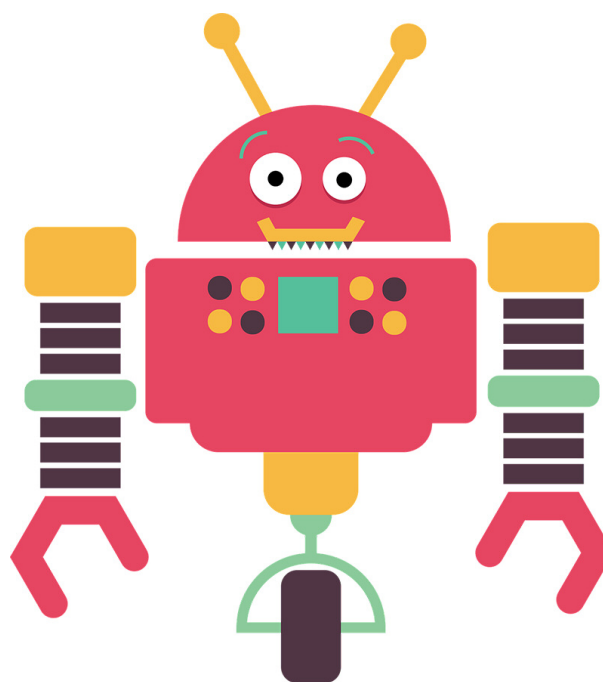
That's what visionary computer scientist

Alan Turing first asked in his paper, 'Computer Machinery and Intelligence': 'Can machines think?' In trying to find an answer, Turing wondered in the paper that it might be revealed that the "whole mind is mechanical", which means a machine might one day mimic the brain, not only in terms of complex computations but creating literature or objects of art.

"I believe that at the end of the century, the use of words and general educated opinion will have altered so much that one will be able to speak of machine thinking without expecting to be contradicted," Turing predicted in that paper. And shortly, after his untimely death in 1954, Herbert Simon and AI Newell created the 'Thinking Machine' that could prove theorems in symbolic logic, and said, "within ten years a digital computer will be the world's chess champion."

Since then, computational power improved exponentially refining the concept of what we now call Artificial Intelligence. But it took more than a century for a digital computer to become a sort of chess champion.

We are now being made to perform tasks which we wouldn't have been doing if we had retained our decision-making abilities. In simple words, the 'smart' machines that we have created have turned us into 'dumb' machines.



The cavemen and cavewomen were much more physically stronger than modern men and women.

But as we adopted agriculture and farming tools, we settled down and stopped fighting and hunting every day for food.

Intelligence Is Computational Power

In 1997, IBM's Deep Blue supercomputer beat Carry Kasparov in a game of chess. But most of us, since the invention and development of computers, kept believing that human intelligence is something gifted to us by nature as an evolutionary phenomenon and that it can't be explained or created using tools of science.

That understanding is no more relevant now.

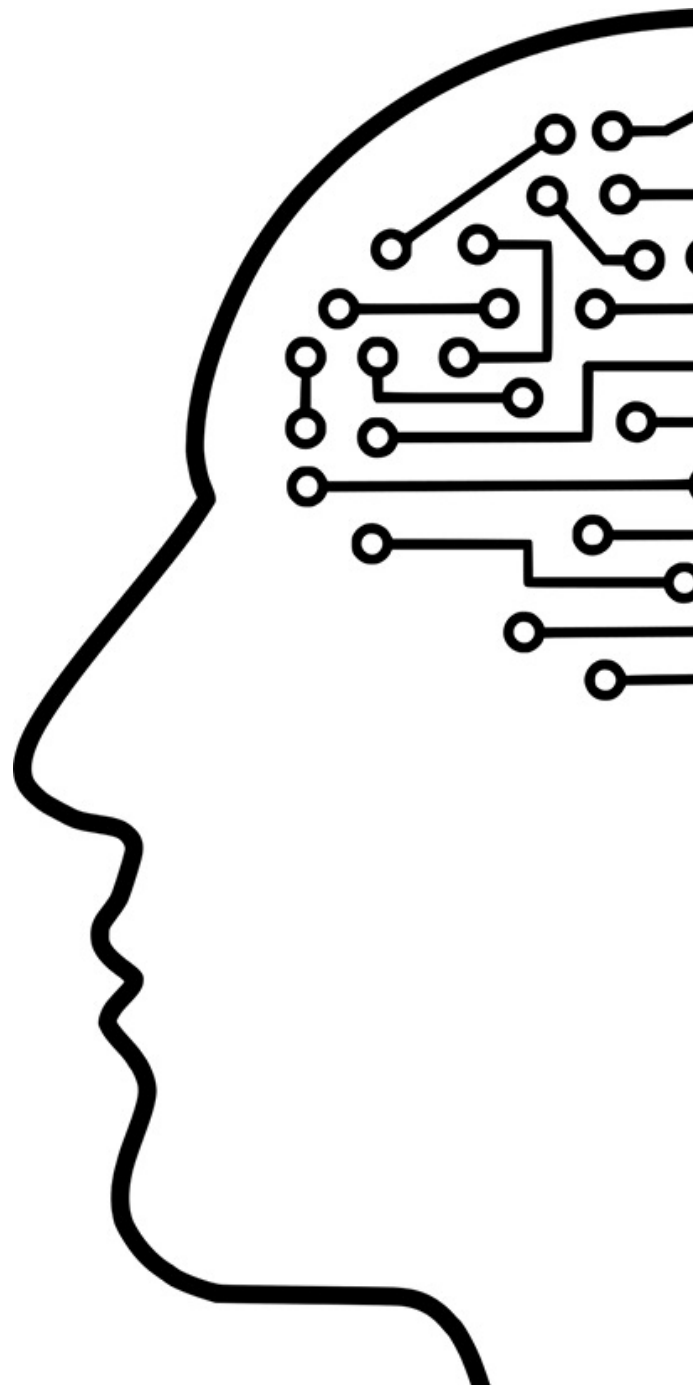
That you take out your umbrella when the sky turns cloudy is not a very intelligent act but a human action based on analyzing sufficient past data that showed that there is high probability of rain whenever the cloud turned grey.

Feed those same sets of data to a computer programme and it would come up with the same advice for you.

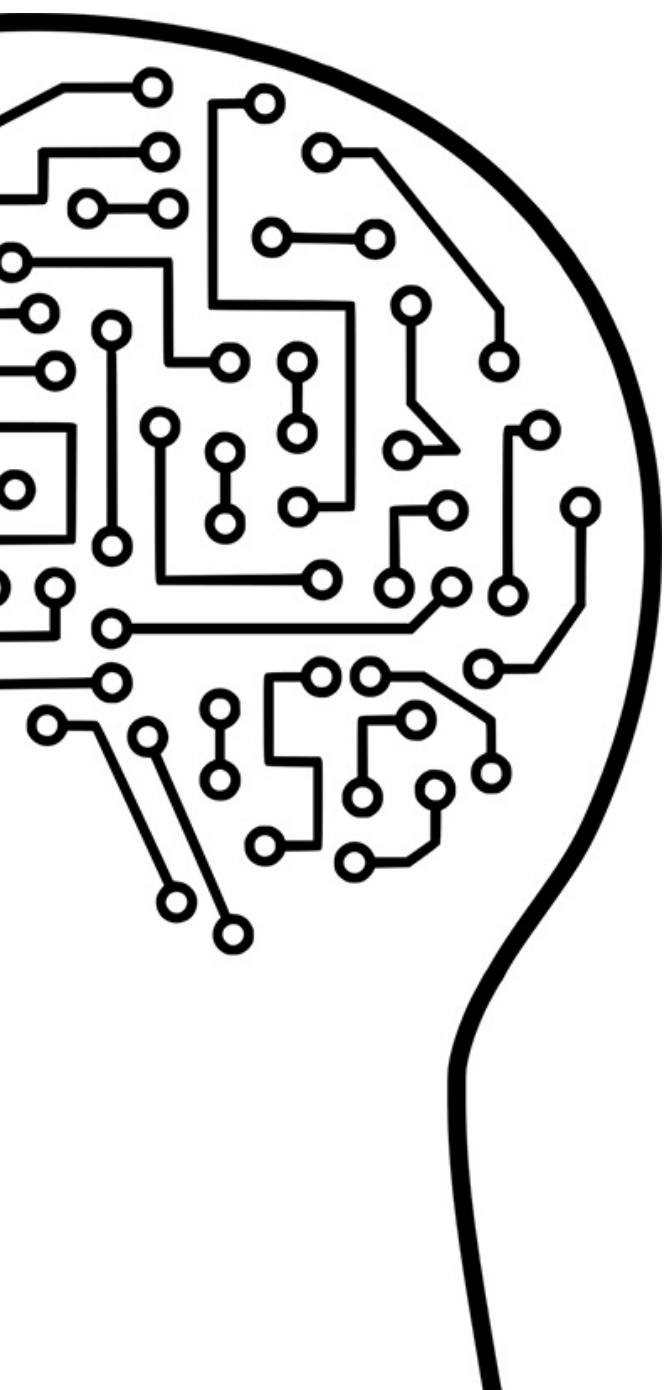
Or it might even give you better advice of not carrying your umbrella that day after considering data about a key variable, the wind speed that might blow away

those dark clouds.

In a game of cricket, you can predict with reasonable accuracy where a ball, hit by a cricket bat, will fall on the ground if you know the speed that which the bowler had bowled, the force at which the batsman had hit the ball, the angle at which the ball hit the bat, the wind speed and its direction and any other relevant data sets.



Every cricketer of some repute has this ability to predict by participating and watching games over the years. A robot with hands and legs having all these data would be able to catch the ball just like a human player. Robots have already competed against and even defeated human players in games of Chess and Go.



Supercomputers like IBM's Deep Blue and Google's AlphaGo have defeated human players.

It's only a matter of time when agile and moving robots start playing games of cricket and football.

Boston Dynamics' robots can now dance, make backflips and perform other acrobatic human-like moves.

Robot Sophia can draw pictures, give intelligent answers to most questions while Artificial Intelligence-driven Natural Language Processing programme GPT-3 can write like a professional.

There is a fierce debate among leading global experts whether these are instances of human-like intelligence or just smart processing of tons of data fed into their system with the help of AI.

AI as the Demon

Theory of Causal Determinism says the current state of the Universe is the manifestation of the impact of past events and cause of future events.

So every human action or even natural phenomenon, in fact, every event in the Universe can be predicted if one is aware of all the relevant data that might impact that particular event.

Pierre-Simon Laplace, almost 200 years ago, thought of a demon that has the

Before the invention of computers and AI, the brain was all biological where memory space was taken by data like friend's telephone numbers, birthdays and anniversaries.

power of knowledge of position and momentum of every atom at the time of creation of the Universe and, with that knowledge, can predict all future events and the fate of every man and woman born in the future.

During Laplace's lifetime (1749-1827), the possibility of such a Demon was in the realm of fantasy.

Birth of AI and quantum computers have brought such a possibility in the realm of reality sometime in distant future.

Science fiction shows like *Devs* created by Alex Garland and *WestWorld* Season 3 created by Lisa Joy and Jonathan Nolan showed quantum computers that could do just that – predict every future event in the world and also reconstruct every past happenings in every details.

If that is a real possibility, what will remain of worth of human life and progress of humanity?

In the 1954 short story, 'Answer', by Fredric Brown, a scientist creates a supercomputer that holds the knowledge of all the galaxies to get the precise answer to the only query he had – Is there a God?

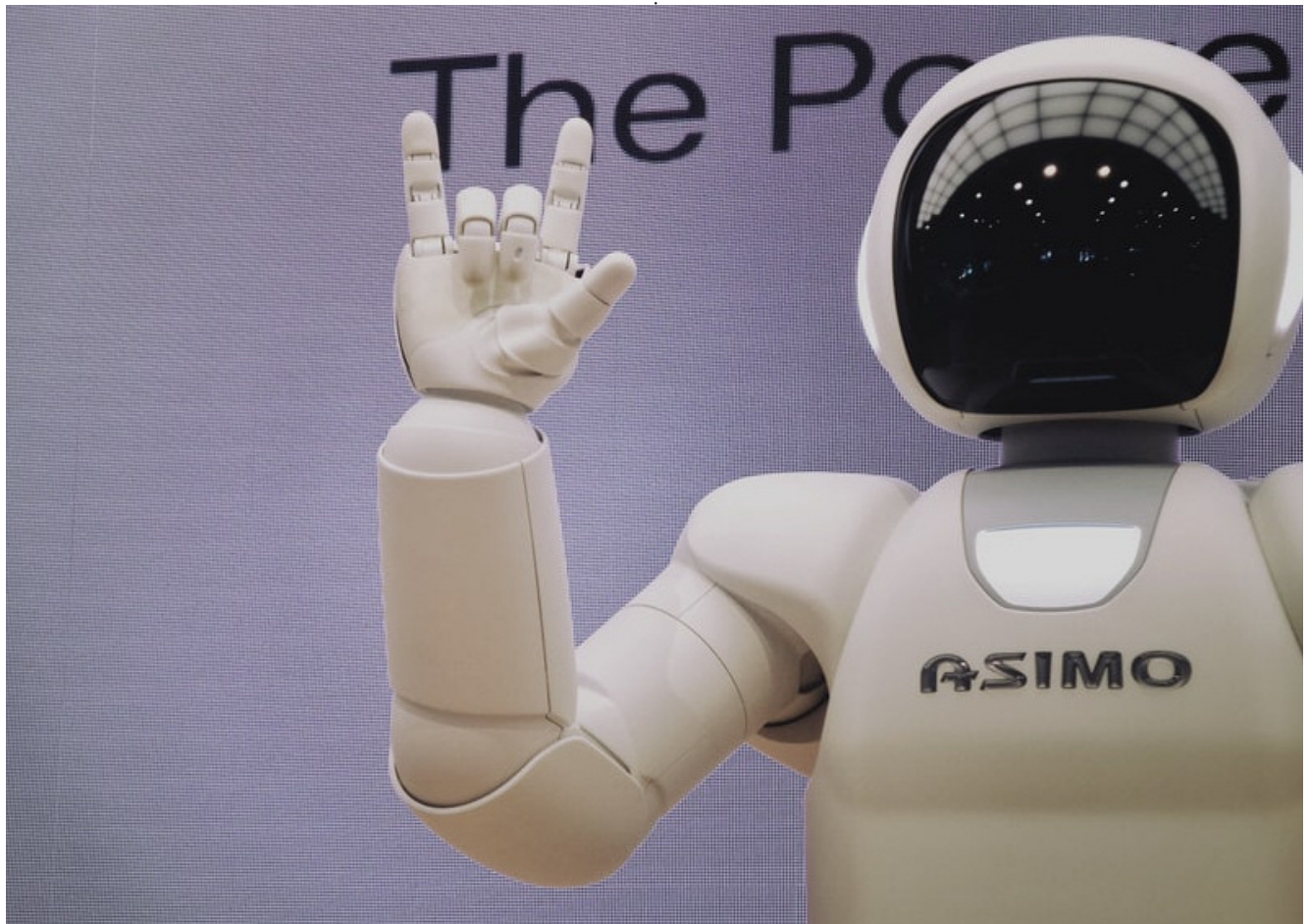
When the scientist switches on the supercomputer, the machine answers – "Yes, now there is a God".

Will this fantastic story turn into reality in future? Probably yes.

Outsourcing Intelligence

The distinction between human intelligence and artificial or machine intelligence would cease to exist in near future.

In his paper published in 2010, Nicholas Carr said that in future we would increasingly be unable to access information in our brain, and, instead would be better at remembering from



where that piece of information can be retrieved digitally.

Also, people have started offloading cognitively complex tasks like analytical reasoning to our smartphones.

Predicting rainfall, and also overall weather patterns, is now a full-time work for several companies that analyze past and real time data to provide advice to farmers, who can now improve their decision on sowing and irrigations and such other acts.

The downside to such outsourcing of decision making would be gradual diminution in the capabilities of farmers to make such decisions on their own based on their own experiences as well as wisdom handed down to them over generations.

And till such time the prediction process through data crunching is not fine-tuned enough, farmers who rapidly lose such cognitive abilities at a cost to their optimum productivity.

While there is a clear trade off measurable in monetary terms, and hence comparable, in this case as farming is essentially an economic activity, the trade off would be hard to quantify if the decision-making process doesn't involve any commerce.

A farmer can measure the difference in his productivity or income generated purely out of his own knowledge and skill of farming against his productivity based on outsourced knowledge and can take a decision on whether to procure or use outside knowledge by paying money. But how can we decide if no money is involved?

Take the skill of writing emails, a key skill needed in the professional world.

If you are working in a corporate environment, you are supposed to communicate most of your thoughts and decision through emails as they are seen as records for future reference.

Now, Gmail uses AI in trying to help you by suggesting content for your email responses.

To illustrate, if someone sends you an

In 2017, The New York Times removed from its best-seller list, a Young Adult fiction by a writer nobody knew of and from an unknown publisher.

email congratulating you for your promotion, there are answer prompts. As the AI becomes more refined and suggests more elaborate answer, and if you keep relying on those machine-generated content, your ability to write an email would be lost.

Take the case of browsing books against scrolling through a best sellers' list. Let us assume you are a programmer planning to create a computer game on your own and want to learn the art of story-telling. The desire is to write the greatest game story ever told. You go to Flipkart or Amazon to figure out which fiction book to buy that might help you to learn world building and character development.

A rudimentary search in the e-commerce site would throw up a set of results where JK Rowling or Tolkien or George RR Martin might feature prominently. The problem is another programmer like you at another corner of the planet with similar ambition would do the same and might turn into a storyteller, no better or worse than you.

Now consider the scenario where you visit your neighbourhood comic bookstore and start browsing. A Japanese Manga comics omnibus, Opus, created by artist Satoshi Kon, catches your eye.

You read up all of it, and get inspired enough to read other prominent Manga comics and then end up creating the story of 'Inception' (2010), long before

Depending upon an algorithm to decide which book to read also exposes you to getting manipulated by false data and you might end up reading a book you never should have read.

Christopher Nolan got inspired by Satoshi's anime movie 'Paprika' and wrote the story for that iconic Hollywood movie.

An algorithm that uses data of already heavily sold books and available stocks at the e-commerce company's warehouse might prevent you from creating the next best computer game.

Depending upon an algorithm to decide which book to read also exposes you to getting manipulated by false data and you might end up reading a book you never should have read.

In 2017, The New York Times removed from its best-seller list, a Young Adult fiction by a writer nobody knew of and from an unknown publisher.

It was not that American young-adult readers have suddenly discovered the genius of a debut author. The book appeared on the NYT's definitive list just because the publisher gamed the ranking system by self-ordering large volumes of that book from only those stores that report their sales to NYT. Had it not been taken off the list after the supposedly scam broke out, the book would have been an immortal data set in all future algorithm generated essential reading lists of YA romance fiction.

The Extended Programmable Brain

The mobile phone that we carry is no

more a calling device, or a miniaturized super computer but an extension of our brain.

Before the invention of computers and AI, the brain was all biological where memory space was taken by data like friend's telephone numbers, birthdays and anniversaries.

We have downloaded all those Birthday data onto Facebook while outsourcing the need to memorize telephone numbers to our mobile's internal memory or to Google's cloud.

In effect, a lot of space has been freed up in our biological brain while we can anytime buy new memory space for our extended brain.

But that extended part of the brain that is powered by a lithium-ion battery is open to manipulation by mischievous human-like computer programs turning us into programmable machines.

Machines that once did jobs that we never liked are now making us do things that we might not like to.

[Author's Introduction: Having spent over two decades in journalism, working for organisations like Hindustan Times, The Indian Express, Network18 and Zee Group, Sumit Moitra is now in charge of publishing two monthly industry magazines as Associate Editor at the data and intelligence division of a Tata Group company. With keen interest in deep learning pedagogy, Sumit has been conducting sessions on critical thinking for students of Global Providence Academy. He also takes occasional induction sessions for students of Bachelor of Business Administration program of Institute of Engineering and Management, where he sits on its Board of Studies. His interest in the future of technology and its impact on ethics, morality and behaviour has been recognised by MIT Technology Review, the definitive publication on technology by Massachusetts Institute of Technology, which has inducted him in their Global Panel of thought leaders, innovators and executives. Sumit is also a graphic story creator and illustrator.]

Do Humans Dream of Artificial Intelligence or Will It be a Nightmare?



*Biologist and scientific thinker **Amrita Mukherjee** delineates the existential threat posed by Artificial Intelligence while dissecting its obvious advantages.*

Artificial intelligence (AI) has become one of the most-discussed contemporary buzzwords and people are divided in their opinions, as to whether, as human species, we have now threatened our own survival with this 'Frankenstein' that we are so enthusiastically creating. Science fiction books and popular movies on AI often paint a very gloomy picture. Talented and influential people like Elon Musk, Bill Gates and Stephen Hawking among many others have warned us repeatedly of the dangers of future AI.

How real is this existential threat to humanity? Most of the concerns raised is about Artificial General Intelligence (AGI) and the problems that would inevitably arise if this AGI were to suddenly become aware of its own existence or in other words, become conscious. This idea is not as far-fetched as some people might imagine. Max Tegmark, a physicist, has said, "It is a complete red herring to think that you are safe from future AI, if it is not



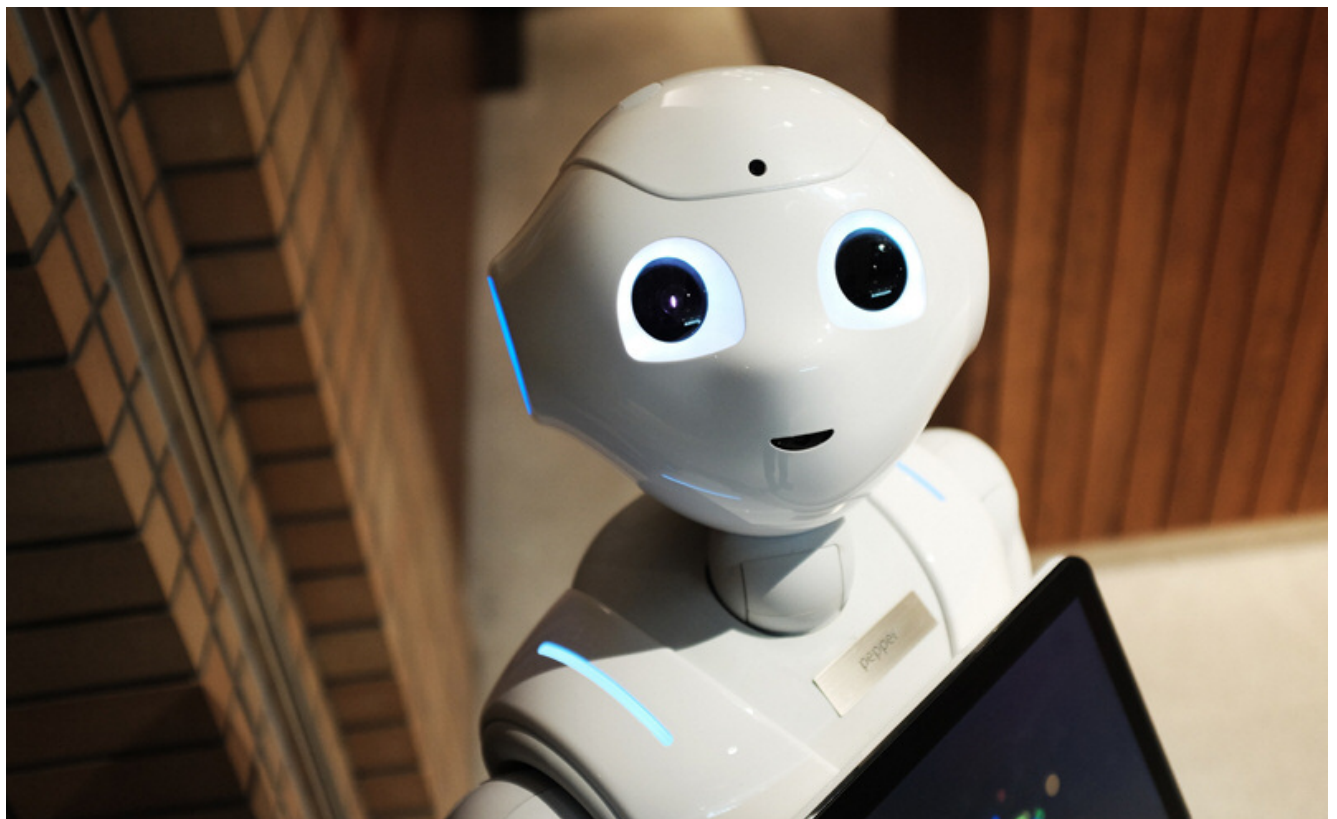
When a human digital hybrid becomes the next obvious step in our evolution as a species; emergence of Artificial General Intelligence or even a Digital Super Intelligence may no longer be a threat.

conscious. Our Universe didn't use to be conscious, it used to be just a bunch of stuff moving around and gradually these incredibly complicated patterns got arranged into our brains, and we woke up and now our Universe is aware of Itself." Whether that will happen in the near or far future is debatable but so far research

and development in AI has already started making significant contributions to all fields of research, particularly in biomedical sciences.

Although the term 'Artificial Intelligence' has been around for a while (first coined in 1956), it did not exist in common knowledge until much later. The real explosion of AI was catapulted first by an increase in computing power and second by the availability of large amounts of information or data. Extensive internet usage and the popularity of social media platforms in the last decade made it possible, for the first time in human history, to gather enormous quantities of 'sample data' from all over the world to train computer algorithms. And now AI algorithms have the power to predict everything from what movies you might enjoy next to what should be on your dinner plate.

The Artificial intelligence that we come across in our everyday lives is Artificial





Narrow Intelligence (ANI), specifically designed to solve defined and limited tasks. Machine Learning (ML) is one of the ways that AI works where computers are trained to perform a specific task without relying on instructions but on patterns, building on sample training data to make predictions. The more data that it has access to, the better it gets at pattern recognition. Deep learning is a type of machine learning that is based on Artificial Neural Networks (ANN), which utilises different ways to learn a task just like the human brain does and is currently used for example, in image and speech recognition tools.

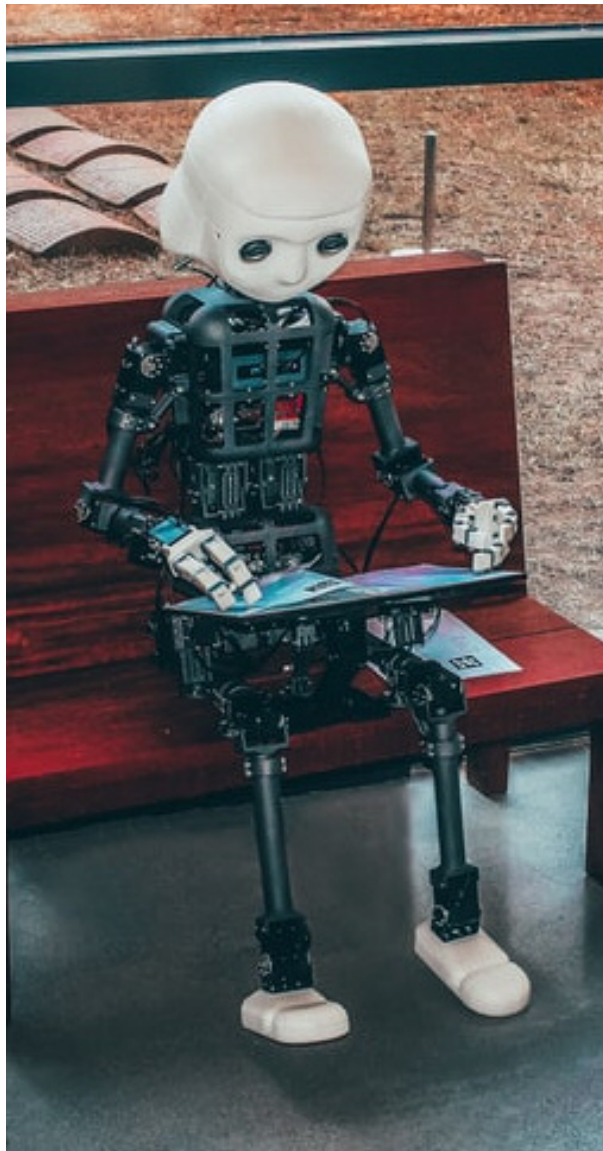
AI in Science and Society

In 2015, Google's DeepMind came into focus when its AI programme AlphaGo (which used Deep learning methods) successfully beat the best human players

in Go, a complex game that requires multiple layers of strategic thinking and creativity. Many experts, who had predicted that AI will not be able to

How real is this existential threat to humanity? Most of the concerns raised is about Artificial General Intelligence (AGI) and the problems that would inevitably arise if this AGI were to suddenly become aware of its own existence or in other words, become conscious.

achieve this success so quickly, were proven wrong. MuZero, their latest algorithm, mastered a number of visually complex Atari games, without even being told the rules of the games. This is not trivial, as such algorithms may prove to be transformative when trying to solve real world problems where no rules exist. Soon after, DeepMind focussed on more scientific problems and in late 2020, DeepMind's AlphaFold made headlines once again for having solved one of the most intriguing problems in biological sciences – predicting the structure of proteins. An article covering this in the



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journal Nature described it as "... a gargantuan leap in solving one of biology's grandest challenges..." Why was this such a big deal? Proteins are essential for almost all functions of life and are made up of linear chains of amino acids that are linked together by chemical bonds. Based on the properties of these strings of amino acids and their chemical interactions with each other, they fold up and arrange themselves into very specific 3-Dimensional structures. These unique 3D structures, consistent for a protein type, gives each protein its distinctive biological function. Solving the structure of proteins is crucial to our understanding of their functions and predicting how and where different compounds (e.g. drugs) could bind. However, predicting the 3D structure of a protein, just from the sequence of amino acids, has been challenging.

Scientists use X-ray crystallography, Nuclear Magnetic Resonance (NMR) spectroscopy or more recently, Cryo-Electron Microscopy (Cryo-EM) to solve protein structures, all of which are considered gold standards, but are time consuming and expensive and in case of some proteins, do not work. Using the predictive power of AI can significantly overcome these drawbacks and dramatically reduce the time that it takes

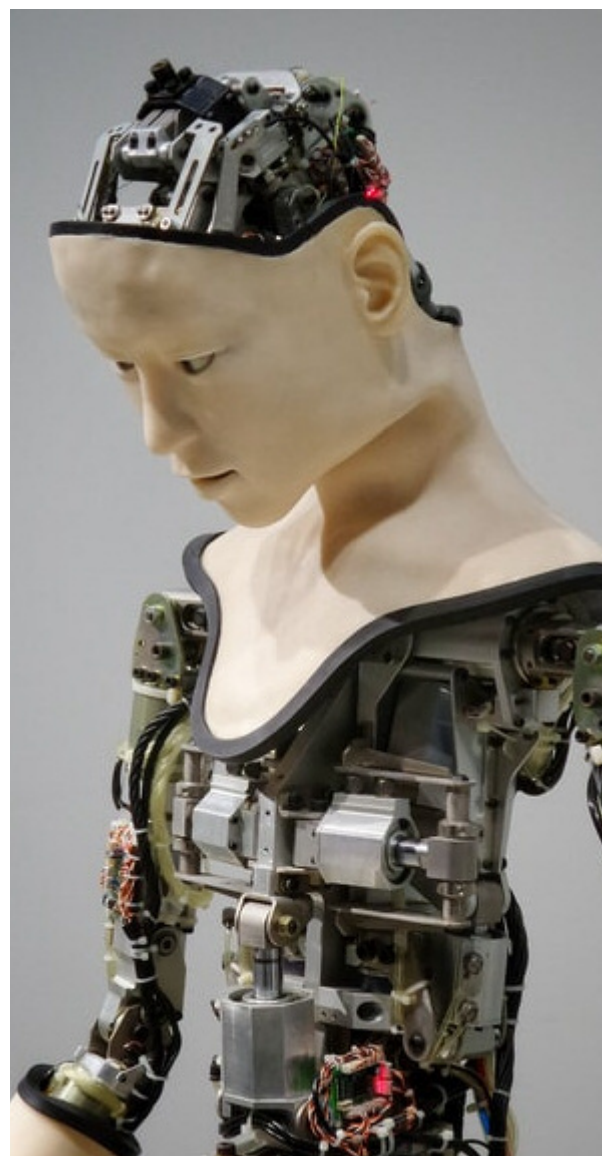
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to solve a protein structure. In future, AI-assisted computational protein design can also help generate novel proteins with new shapes and functions and the possibilities here are almost astronomical. AI has a lot of potential to transform the pharmaceutical industry in the near future. The process of drug discovery including drug design and screening, repurposing of drugs, improving drug synthesis and predicting the properties of drugs, can all be enhanced using AI. Even the drug manufacturing process including quality control and designing of effective clinical trials can be done more efficiently and cost effectively.

Application of AI to diagnostic imaging has consistently shown great promise, although it still has a long way to go, before being incorporated into routine medical practices. It may be possible for doctors and surgeons in the future, to use AI for disease diagnostics, that can help with early detection and treatment of patients. AI-assisted technology will also have tremendous potential to diagnose early and subtle signs of neurodegenerative disorders like Parkinson's disease, years before a traditional diagnosis.

Currently, AI and robotics is already revolutionising the field of prosthetics and promises a far more realistic experience

of limb control than was ever thought possible. Thanks to AI, signals from neurons firing in the brain of a voiceless patient has been successfully translated into words. Perhaps that day is not far when AI-controlled nanobots might be streaming through our bloodstream to target, repair or eliminate diseased cells. But this may just be the beginning, as scientists are seriously considering using neural nanobots and AI to develop a human ‘Brain-Cloud Interface’ (B-CI). If successful, it would be possible to connect our thoughts via the nanobots wirelessly to a cloud-based





supercomputer network. Several companies including Elon Musk's Neuralink is already working on B-CI (although as an electrode-based brain implant instead of nanobots), to ultimately facilitate a symbiosis of Human and AI.

Conclusions

Even in its current limited form, AI is already ubiquitous and we are making unprecedented progress in science and society because of it. While a general AI, even if inevitable, is still far away; our current Narrow AI delegated with performing only specific tasks may not be as innocuous as one might think. Algorithms that keep track of our digital persona over time learns to feed us the kind of information that we are more likely to entertain. Here, we are potentially in danger of being sucked into a 'bubble universe', where our unconscious biases and prejudices are magnified until we might begin to believe, that we live in a completely alternate reality. Taken too

far, this can increase intolerance and violence in societies, divide humanity and precipitate dangerous conflicts. We should be mindful of the information that we use to train the AI, so as to not feed our inherent biases into their algorithms. AI is our creation and it will only reflect and magnify what already exists in the human society. If "God created Man in his own image", AI will certainly be reflecting the image of Man. As we go about navigating this rapidly transforming landscape of reality and enjoying the incredible opportunities that AI is opening up in front of us, it would be good to do so with an awareness of mind. We are, perhaps inevitably, inching closer to the point where the boundary between our organic self and digital self will begin to fade away. When a human digital hybrid becomes the next obvious step in our evolution as a species; emergence of Artificial General Intelligence or even a Digital Super Intelligence may no longer be a threat. Rather, there may come a time to mull over the eternal fundamental question that Man has asked himself for many millennia ... "Who am I?" Perhaps this, is the ultimate existential crisis that awaits humanity.

[Author's Introduction: After completing her Ph.D. at the Max Planck Institute for Developmental Biology in Germany on the role of extracellular lipid signals in cell migration, Amrita Mukherjee decided to focus on the cell biology of neurons for her postdoctoral studies. She then moved to King's College London in United Kingdom, where she worked on the role of mitochondria in cell death and remodelling in neurons. Currently, Amrita is a postdoctoral researcher at the University of Cambridge in United Kingdom working on mitochondrial dysfunction in cells and communication between organ systems.]



Thoughts While on the Expo Express

*Advertising research professional **Shalini Mukerji** talks about her experiences of Expo 2020 and the importance of digital innovations in advertising.*



One of the highlights of this (nearly) post-pandemic year has undoubtedly been the chance for me to attend the much-awaited show of the decade – Expo 2020. Don't let the name fool you, we are very much in 2021, but the Expo marketing team in Dubai

decided to keep the event branding the same since its conception. The world might have had other plans, but the theme and advertising persisted. There has been a lot of advertising about the Expo for a while now, and it has created much hype around us. There have been times we've looked up to see a plane in the sky, doing casual rounds of the city in 'Expo Colours'. City signboards and radio hosts have repeatedly reminded us about Expo 2020. Even our milk bottles now have the Expo logo on them. We seem to be surrounded by and living in an Expo festival – the many perks of living in the host city for the world fair, one could say. Being in the world of consumer insights and human understanding, I have been

most delighted to jump right onto the Expo Express and have happily done so since its grand opening in October this year. After all, why would one let go of the opportunity to witness 'human progress in motion'? The world fair (which is intended for countries across the world to share their story and plans for the future of human progress) is really a goldmine in cultural commentary, especially in terms of a socio-political commentary for the future. How does each country see itself and talk

The world fair (which is intended for countries across the world to share their story and plans for the future of human progress) is really a goldmine in cultural commentary, especially in terms of a socio-political commentary for the future.



about its history and narrative? How does it advertise itself to the world and how does it want to be seen? How are critical questions of the future in terms of climate change, sustainable agriculture and energy being tackled? How is digital disruption being embraced? How will it change sustainable

living? What is the future of mobility and transport? Only a few questions to get one's mind ticking about the many challenges of the future.

To give you a glimpse of what the Expo 2020 site looks like, there are three themed pavilions (Sustainability, Opportunity and Mobility) that focus on



these mentioned key issues at hand. Then, there are the country and partner pavilions that have aligned themselves to these themes and woven their narrative around how they plan to tackle some of the biggest questions that face mankind. All of this, set in infrastructure that was built as the 'Expo site' with parks and

entertainment hubs, all set to be a mini city of the future once this grand event is done (the Expo is on till March 2022). Walking through the country pavilions gets one to witness the different stories from countries far and wide, explore their perspectives and how they would like to

position themselves on the world stage. Large screens, augmented realities, never-seen-before audio visual effects and interactive media straight out of Star Trek included, walking through some pavilions only reminds one that a Jetsons future is not too far away after all! But there's one lingering question that seems to be my companion through my explorations of the Expo, centered on how each entity – whether a country, a company or an idea – is essentially looking to market itself. What is the

To give you a glimpse of what the Expo 2020 site looks like, there are three themed pavilions (Sustainability, Opportunity and Mobility) that focus on these mentioned key issues at hand.

story they are trying to sell? Leaving the distractions of the medium and experiential narratives aside, what is each entity essentially *persuading* me to do? At the heart of any advertising lies the fundamental concept of 'persuasion'. From Bill Bernbach's revolutionary 'Think Small' campaign for Volkswagen (1959) to the more recent 'FCK' campaign from KFC (2018), great advertising has always been about great creatives creating great persuasion. The end goal for your advertising campaign would be to get your target audience to want to buy you, believe in you and for the campaign to build branded memories in their minds. At Kantar, we believe strongly in measuring in market advertising effectiveness to help clients understand how to optimize campaign effectiveness and ROI. In market effectiveness of a campaign is often affected by a multitude of factors,



Today, more than ever, it is twice as hard, to let alone convince, but to even retain attention and viewership from our target audiences. Getting noticed and leaving meaningful impressions is more challenging than ever before.

including the campaign spend, channels and media used and even market competition. A highly cluttered market would need for clients to therefore ensure their brands are meaningfully different and distinct to create lasting branded memories in their consumers' minds. So, how are these different countries through their pavilions at the Expo, persuading me to invest in them? What is their meaningful and distinct pledge to changing society? Why should I consider travelling to see their grand monuments? Why should a business invest in their future? What lies at the heart of persuading me to be a part of their grand story?

Today, more than ever, it is twice as hard, to let alone convince, but to even retain attention and viewership from our target audiences. Getting noticed and leaving meaningful impressions is more challenging than ever before. We've seen how 66 per cent skip or pay to avoid ads, 48 per cent use tech to block ads and 45 per cent don't watch or do something else when an ad is on. These numbers came alive for me as I was walking through country pavilions and observing people streaming in, phone cameras in hand, but not really reading or

paying attention to what was written or being said as much. While there would be a mesmerizing video playing on screen, my neighbour would be racing to upload this to her Instagram story on her phone screen at the same time. Is the purpose of the campaign, then, effective? Surely it has been able to generate more viewership through her Instagram updates, but has it been able to win her over? If she were an influencer, would her stories generate a wider audience too?

Another thought on why clients are motivated to have integrated multimedia campaigns is that they tend to be 60 per cent more effective than non-integrated campaigns. Catching the audience when you can, and when they are available is essential, as you want your campaign not only noticed, but also remembered and associated with the brand.

This is especially true in a world that is overdosing on information, where every minute seems to be spent in being exposed to information, in the hope of actually and successfully absorbing it constructively. Ensuring this information is then able to create lasting memories and brand associations seems like a daunting



task, like never before. While there are that many more media and digital channels and opportunities and creative ways to win the audience, it is just as changing, complex and chaotic. We have been seeing an increasing demand from clients to test overall campaigns in reaching their target audiences and not just single advertising creatives – again, keeping in mind how each ad in the campaign might be reaching a different audience, communicating a different intended message and relaying a different reason for the audience to believe in the brand. All these while ensuring that all the ads in the campaign come together in a synergistic manner, no matter the

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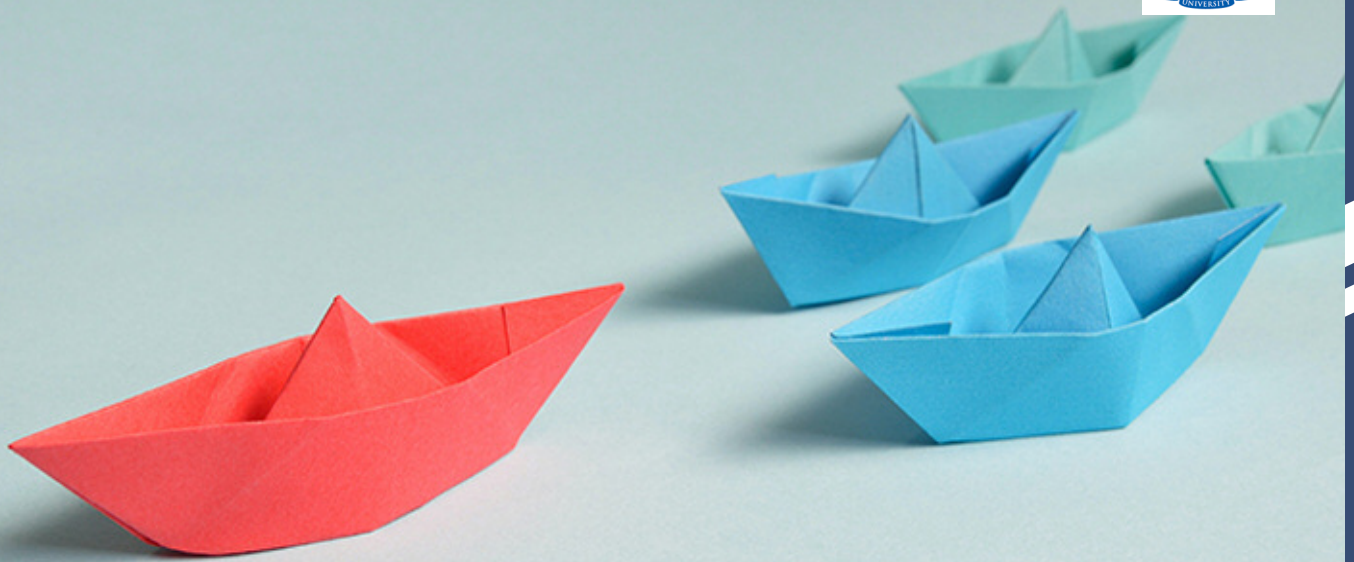
medium used. Campaign impact as well as campaign synergy are critical to ensure cohesiveness in a brand's story and advertising effectiveness.

Think about some of the campaigns you've been exposed to more recently. What has been convincing you to try a new brand? Has it been the medium through which you've seen it? Was it an engaging TikTok video that got you hooked? Was it a trusted influencer who got you thinking about the brand instead? It could be that you are really moved by the narrative and authenticity of the story portrayed? What's been persuading you about the brand you buy?

Much like the stories that I've been

witnessing here at the Expo too, digital innovation seems to lead the conversation. Stepping into a virtual reality aeroplane of the future at the Emirates pavilion allowed me to experience what is to come in 2071. Only another 50 years to a future that I could witness through some really thick and uncomfortable but magical and reality altering glasses today! It gave me a glimpse of a future, not too distant and yet, kept me longing and wanting for a reason to truly believe in it. What was being sold to me was the idea of digitally tailored in-flight meals, health check scores and personalized entertainment all the while travelling in a noiseless hydrogen powered aircraft of the future with very white and clean interiors. The experiential medium allowed me to feel what it would be like. But, did it really convince me about this future? Today, digital innovation seems to be at the heart of experiential existentialism. Yet, I can't help but pause to wonder! Can this alone, truly convince this very human mind and win this beating heart of mine for what is to come? Will I be persuaded by this digitally altering experience alone, or might I really need more?

[Author's Introduction: Shalini is the Global Product Manager for Kantar's advertising effectiveness solution, with a focus on introducing industry-leading innovation to deliver value to clients. She has a deep knowledge of the business impact of human insights, having gained a wide range of experience working across countries (India, Middle East and the UK) spanning different roles in qualitative and household panel research, learning and capability building and now in quantitative brand guidance research. She is an alumnus of IMT (PGDM- DCP) and St. Xavier's College, Calcutta (BSc. Economics Honours), and is also a passionate pianist and musician.]



Digital Leadership in Education

Prof. (Dr.) Dhruvajyoti Chattopadhyay, a renowned academic and researcher and currently the Vice Chancellor of Kolkata-based Sister Nivedita University, talks about the importance of digital leadership in education.



Digital Leadership is the leadership through Digital Tools and using the Big Data to the maximum to gain greater output in an organization. Digital leadership involves significant levels of changes in programmes, behaviour, working and the flow of information with technology as the core element. In this digital age, when the society is embracing technology, it is of vital

importance that we harness that technology for greater human benefit. The way online education has evolved, it has paved the way for another revolution in education, popularly known as Education 4.0. The term Digital Leadership was first used by Utho Creusen at the Catholic University of Ingolstadt, who was a German Social Psychologist, to address leadership for Start Ups, which is also called as Leadership 4.0.

This leadership does not only involve high level technology but a scientifically-oriented strategic mindset, which utilizes the technology in a manner cultivating engagement and achievement. Generally, digital technology covers all sectors and encompasses education as well. Digital leadership is surrounded by various fears and misconceptions, which are required to be clarified by the leaders by motivating and making people understand the rationale behind such leadership.

From past experiences, I have identified

certain critical areas, which if looked at carefully will help successfully implement Digital Leadership in the education sector. These areas constitute parts of the work culture of the entire education sector through which any leader can begin to use the technology to change professional practices and bring about a sustainable change.

Communication: This is the most important area and needs to be given utmost care. Both positive and negative communication have their own impacts and thus need to be dealt with carefully. Communication in the digital age is done via social media platforms, which has the power to reach millions within a minute. Hence responsibility must be assigned in such a way so that productive information can reach to the targeted audience and strategy should involve in using these digital tools to maximize useful communication among the stakeholders – both internal and external.

Public Relations: Strategy should focus on getting positive vibes from the world at large by providing controlled content. Moreover, with the advent of Social Media, the concept of Public relations has undergone a complete metamorphosis and creating storylines have become popular. Hence leaders should focus in creating impactful storylines, which not only captivate the targeted audience but also create charm to make the educational organization stand out of the clutter.

Branding: Branding is one such factor, which makes the organization associated to its target audience. The digital age can help accelerate branding with the help of online tools, which help in creating a proper brand resonance and also enable strong brand reinforcement. Various graphics and animations along with Artificial Intelligence (AI) can really work wonders with branding and strategies should create a positive impact on the

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audience so that the connection of the targeted audience with the organization is closer and people can associate with brands in their daily life.

Student Engagement and Learning:

Student engagement is highly essential in making learning successful. Student engagement allows students to interact with their instructors and put forward their way of learning. There is nothing like real life situations and online education tools can actually help students to learn from real life case scenarios and tailor their own methods in arriving at a solution. Hence, strategies must target experimental learning and leaders should focus developing a streamlined thought process in students.

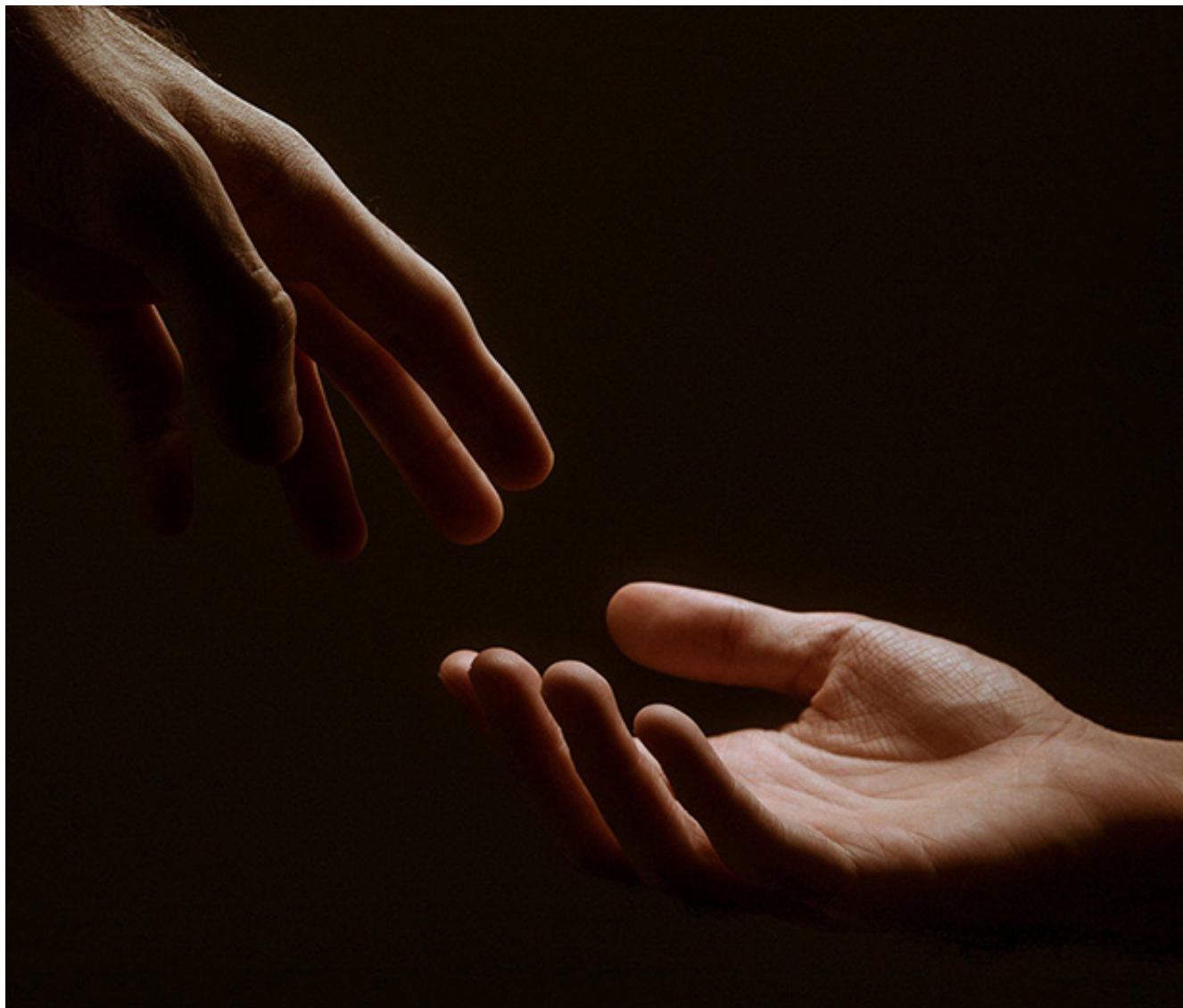
Professional Growth and Development:

The world today has any information on the internet and the Internet of Things (IoT) has made that information available at our finger tips. Leaders should focus on creating Information networks in the form of Learning Management Solutions (LMS), which will give students not only access to vast amount of information available online but will also help students with the access to paid versions of the online repositories, which will enhance their Professional Growth and Development.

Re-Invent Earning Spaces and Environment:

Once the above areas are properly looked into, leaders should reinvent the learning environment that aligns with necessary skill sets and are a reflection of the real world. But, the leaders must be knowledgeable in understanding the dynamics and variables that control innovative learning and should be able to map those variables in their own way to match their organizational environment.

Opportunity: Re-engineering existing courses and resources are very important in generating opportunities through Digital Leadership. Digital leadership will allow accelerating these opportunities by



developing cross linkages across multiple domains and also training the existing resources to upscale their delivery standards and thereby increasing in the overall quality of the Education. Hence Digital Leadership is a complex process but a detail blue print of implementation based on the above areas will help in successful implementation of Digital Leadership in the education sector and will make education truly inclusive and enjoyable.

[Author's Introduction: Prof. (Dr.) Dhrubajyoti Chattopadhyay is currently the Vice Chancellor of Sister Nivedita

University in Kolkata. He was the Founder Vice Chancellor of Amity University Kolkata. Prof. Chattopadhyay has a research experience of more than 33 years during which he had visited numerous places in India and abroad like Kansas, Ohio, New Jersey and Texas in USA and Nihon and Hosei Universities in Japan. Prof. Chattopadhyay has an experience of more than 35 years as a teacher. 25 students have obtained their Ph.D. under his direct supervision and 10 students worked under his joint supervision during their Ph.D. programme. He has around 130 research papers and 6 book chapters to his credit till date.]

AI: Taming the Genie: Use in Healthcare



Renowned Kolkata-based physician Dr. Tanmoy Das writes on the various uses of AI in the larger domain of healthcare.

Artificial Intelligence (AI) is the new age genie, which can be programmed to do the most complex of human tasks, but may turn out to be a dangerous master and hence needs to be tamed for optimal use.

This is a term used to describe the use of computers and technology to simulate intelligent behaviour and critical thinking comparable to a human being. John McCarthy first described the term AI in 1956 as the science and engineering of making intelligent machines.

AI in medicine can be dichotomized into two subtypes – virtual and physical. The virtual part ranges from applications such as electronic health record systems to neural network-based guidance in treatment decisions. The physical part deals with robots assisting in performing surgeries, intelligent prostheses for handicapped people, and elderly care. The basis of evidence-based medicine is to establish clinical correlations and



insights via developing associations and patterns from the existing database of information. Traditionally, statistical methods have been employed to establish these patterns and associations. Computers learn the art of diagnosing a patient via two broad techniques – flowcharts and database approach. The flowchart-based approach involves translating the process of history-taking,

i.e. a physician asking a series of questions and then arriving at a probable diagnosis by combining the symptom complex presented. This requires feeding a large amount of data into machine-based cloud networks considering the wide range of symptoms and disease processes encountered in routine medical practices. The outcomes of this

approach are limited because the machines are not able to observe and gather cues, which can only be observed by a doctor during the patient encounter. On the contrary, the database approach utilizes the principle of deep learning or pattern recognition that involves teaching a computer via repetitive algorithms in recognizing what certain

AI has the potential to enable faster development of life-saving drugs, saving billions in costs that can be transferred to health ecosystems.



groups of symptoms or certain clinical/radiological images look like. An example of this approach is the Google's artificial brain project launched in 2012. This system trained itself to recognize cats based on 10 million YouTube videos with efficiency improving by reviewing more and more images. After three days of learning, it could predict an image of a cat with 75 per cent accuracy. A lot of AI is already being utilized in the medical field, ranging from online scheduling of

The goal should be to strike a delicate mutually beneficial balance between effective use of automation and AI and the human strengths and judgment of trained primary care physicians.

appointments, online check-ins in medical centres, digitization of medical records, reminder calls for follow-up appointments and immunization dates for children and pregnant females to drug dosage algorithms and adverse effect warnings while prescribing multidrug combinations.

There are a number of ways in which AI can help tame healthcare costs.

Guiding Treatment

Choice: In today's world, being able to effectively and accurately harness the power of data



enables more efficient decision-making across most industries.

Healthcare is no different. As healthcare providers begin to move towards a standardised format for recording patient outcomes, large sets of data will become available for analysis by AI-enabled systems, which can track outcome patterns following treatment and

identify optimal treatments based on patients' profiles. In doing so, AI empowers clinical decision-making and ensures the right interventions and treatments are customised to each patient, creating a personalised approach to care. The immediate consequence of this will be a significant improvement in

outcomes, which will eliminate costs associated with post-treatment complications – one of the key drivers of cost in most healthcare ecosystems across the world.

More Efficient Diagnosis: Repetitive, uncomplicated tasks such as the analysis of CT scans and certain tests can be performed more accurately by AI-enabled systems, reducing physician error and enabling early diagnosis and interventions before conditions become critical. As an example, an Israeli start-up has developed AI algorithms that are equally or more accurate than humans, when it comes to the early detection of conditions such as, for example, coronary aneurysms, brain bleeds, malignant tissue in breast mammography and osteoporosis. AI has demonstrated 99 per

cent accuracy and is 30 times faster in reviewing and translating mammograms, enabling much earlier detection of breast cancer than humans are capable of.

Clinical Trials Optimisation and Drug Development: AI has the potential to enable faster development of life-saving drugs, saving billions in costs that can be transferred to health ecosystems. Most recently, a start-up supported by the University of Toronto programmed a supercomputer with an algorithm that simulates and analyses millions of potential medicines to predict their effectiveness against Ebola, saving costly physical tests and – most importantly – lives, by repurposing existing drugs. In clinical trials, AI can optimise drug development using biomarker monitoring platforms – biomarkers allow for gene-



level identification of diseases – and millions of patient data points, which can be analysed in seconds from a drop of blood using at-home devices.

Radiology is the branch that has been the most upfront and welcoming to the use of new technology. Computers being initially used in clinical imaging for administrative work like image acquisition and storage to now becoming an indispensable component of the work environment with the origin of picture archiving and communication system. The use of CAD (computer-assisted diagnosis) in a screening mammography is well known. Recent studies have indicated that CAD is not of a lot of diagnostic aid, based on positive predictive values, sensitivity, and specificity. In addition, the false-positive diagnoses may distract the radiologist resulting in unnecessary work-ups. As suggested by a study, AI could provide substantial aid in radiology by not only labelling abnormal exams but also by identifying quick negative exams in computed tomographies, X-rays, magnetic resonance images especially in high volume settings, and in hospitals with less available human resources.

The Da Vinci robotic surgical system developed by Intuitive Surgical has revolutionized the field of surgery especially urological and gynaecological surgeries. The robotic arms of the system mimics a surgeon's hand movements with better precision and has a 3D view and magnification options which allow the surgeon to perform minute incisions. Since 2018, Buoy Health and the Boston children's hospital are collaboratively working on a web interface-based AI system that provides advice to parents for their ill child by answering questions about medications and whether symptoms require a doctor visit. The National Institute of Health (NIH) has created an AiCure App, which monitors the use of medications by the patient via

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smartphone webcam access and hence reduces nonadherence rates.

Following are the ways in which AI is changing healthcare now and will later on:

1. Encouraging Healthier Behaviour in Individuals: AI-powered health applications are encouraging people to take their health into their hands by being proactive about their fitness, eating habits, lifestyle choices putting people in control of their health and well-being. AI understands their day to day pattern to provide better support, guidance, and feedback nudging the users to stay active and healthy.

2. Early Detection of Symptoms and Diagnosis of Diseases: AI is being utilized to recognize infections all the more precisely and in their beginning phases. Cognitive technology allows healthcare organizations to unlock a large amount of data to review and store medical information. AI-powered consumer



wearables and other medical wearables enable health caregivers to better monitor and detect potentially harmful episodes at more treatable stages.

3. Clinical Decision Making: Improving care requires the alignment of data with predictive analysis to take timely decisions to support clinical decision-making. Also, AI-enabled tools that use pattern recognition help in identifying patients at risk of developing a condition or it deteriorating due to lifestyle, environmental, genomic or other factors.

4. Drug Research and Discovery: This is one of the more recent applications for AI in healthcare, streamlining drug research and discovery can significantly cut both the time and cost to market for new drugs.

5. Support for Elderly Patients: AI assistants such as chatbots, virtual assistants, voice assistants and robots have the potential to revolutionize the elderly and patients helping people to remain independent, reducing the need for hospitalization and care homes. Conversational AI is enabling digital assistants to have conversations and social interactions with the elderly, reminding them of timely medicine, appointments, or just be a support.

6. Medication Management: AI can monitor the use of medication by a patient. AI can help autonomously confirm that patients are taking their prescriptions and helps them manage their condition.

7. Managing Repetitive Medical Tasks: Examining tests, scans, information

sections, and other everyday assignments should all be possible quicker and precisely by AI-fuelled devices – compiling information, data management, collect, store, re-format and trace data to provide faster, consistent access.

8. Smart Healthcare Devices: Smart devices have become critical for monitoring patients in the ICU. Artificial intelligence is also enhancing the ability to identify deterioration or sensing the development of complications to significantly improve outcomes.

9. Monitoring Health Through

Wearables: Health-related data is being generated on the go with smartphones, step trackers, heartbeat trackers. AI can help extract insights from this data as collecting and analyzing this data can offer perspective to the health of individuals and the population on the whole.

10. Streamlining Patient Experiences:

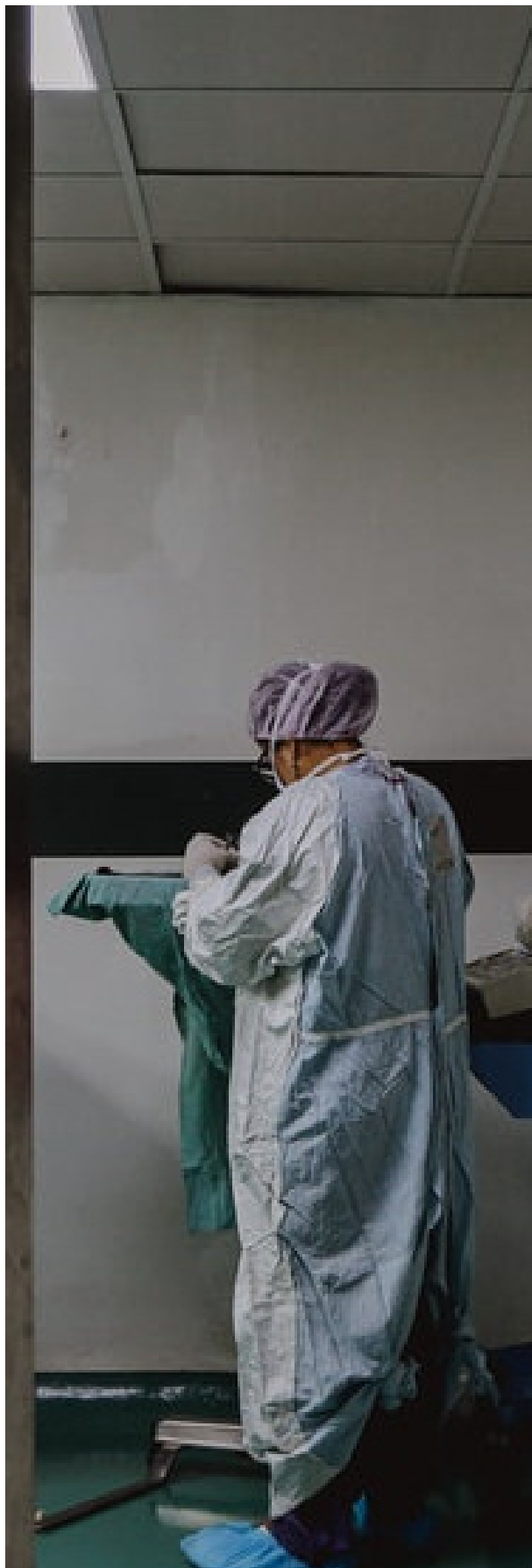
Most patients complain about lack of customer service, paperwork and negative front desk experiences. AI in healthcare technology is helping to streamline the patient experience by helping hospital staff efficiently process data points.

11. Increasing Access to Healthcare:

With many healthcare organizations and private physicians integrating chatbots and virtual assistants on their healthcare websites and applications, they can provide personalized and interactive healthcare to patients. AI is growing into the public health sector and is going to have a major impact on every aspect of primary care. AI-enabled computer applications will help primary care physicians to better identify patients, who require extra attention and provide personalized protocols for each individual. Primary care physicians can use AI to take their notes, analyze their discussions with patients, and enter

AI would be an integral part of medicine in the future. Hence, it is important to train the new generation of medical trainees regarding the concepts and applicability of AI and how to function efficiently in a workspace alongside machines for better productivity along with cultivating soft skills like empathy in them.

required information directly into systems. These applications will collect and analyze patient data and present it to primary care physicians alongside insights into patient's medical needs. Some studies have been documented where AI systems were able to outperform dermatologists in correctly classifying suspicious skin lesions. This is because AI systems can learn more from successive cases and can be exposed to multiple cases within minutes, which far outnumber the cases a clinician could evaluate in one mortal lifetime. AI-based decision-making approaches bring used-in situations, where experts often disagree, such as identifying pulmonary tuberculosis on chest radiographs. This new era of AI-augmented practice has an equal number of sceptics as proponents. The increased utilization of technology has reduced the number of job opportunities, which many doctors in the making and practicing doctors are

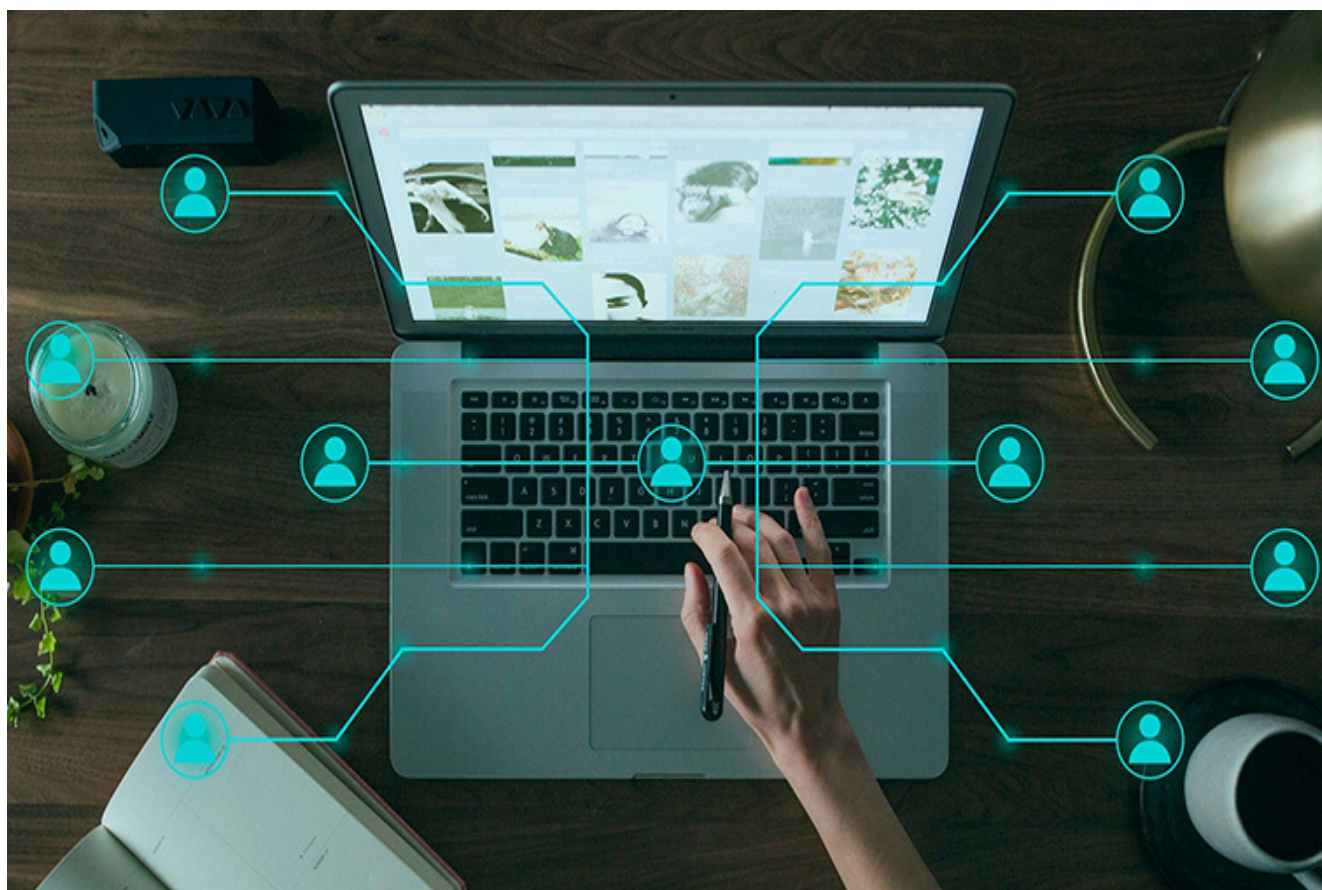


concerned about. Analytically and logically machines may be able to translate human behaviour, but certain human traits such as critical thinking, interpersonal and communication skills, emotional intelligence, and creativity cannot be honed by the machines. AI has the potential, but it is unlikely that AI will replace doctors outrightly.

AI would be an integral part of medicine in the future. Hence, it is important to train the new generation of medical trainees regarding the concepts and applicability of AI and how to function efficiently in a workspace alongside machines for better productivity along with cultivating soft skills like empathy in them.

In conclusion, it is important that primary care physicians get well versed with the future AI advances and the new unknown territory the world of medicine is heading toward. The goal should be to strike a delicate mutually beneficial balance between effective use of automation and AI and the human strengths and judgment of trained primary care physicians. This is essential because AI completely replacing humans in the field of medicine is a concern which might otherwise hamper the benefits which can be derived from it. AI will not replace healthcare workers but instead allow them more time for bed side cares. AI may avert healthcare worker burn out and cognitive overload. As we adapt and utilize AI into our practice, we can enhance our care to our patients resulting in greater outcomes for all.

[Author's Introduction: Dr. Tanmoy Das is presently the Senior Consultant and Head at the Department of Anesthesiology, Perioperative Medicine & Pain under Apollo Multispeciality Hospitals in Kolkata. He has been holding the position since 2003. He is also the President of International Trauma Care (Indian Chapter). He also has active interest in wildlife photography.]



Technology Brings Government Services at Doorsteps



Bureaucrat and writer Sudipta Porel dissects the advantages of using technology for improving governance.

India has a very old history of decentralization of power with the objective of better service delivery. With the passage of time, several inputs were

added to the vista of decentralization spree to make it more tangible but it was restricted to the lowest spatial unit of administration, and never came down to the doorsteps.

In 1858, District Board at the district level was created to cater to the needs of the people and address the issue of civic amenities, which escalated down to Union Board level consisting a few villages. Strangely, over a period of 150 years, such institutional delivery mechanism did not percolate below that

Due to the lack of doorstep governance, fruits of government welfare schemes trickled down to the last mile at whim. Either sizable populace was not aware or could not reap the benefits due to lack of accessibility.

entity as the present lowest unit of Gram Sabha or Gram Panchayat is almost coterminous with the old colonial Union

Board.

The same story of approaching sub-block, block or district level offices continues as a colonial legacy. The governance at doorstep was never conceptualized in the colonial era and as well as in the early part of the post-colonial regime.

Due to the lack of doorstep governance, fruits of government welfare schemes trickled down to the last mile at whim.

Either sizable populace was not aware or could not reap the benefits due to lack of accessibility. As a result, non-transparency, nepotism, corruption, red tapism, bureaucratic delay and several other vices crept into the system.

In the last few years, a new initiative has taken off to extend public services to the doorsteps of people by several state governments and the Government of India utilizing IT and e-platforms. The basic



In the state of Chhattisgarh, a total of 22 services of the Transport Department were made available on the digital platform. Citizen can now apply online and licenses would be despatched to home of the applicant.

objective of such initiatives is to make the process transparent, accountable, accessible, timebound and output

oriented.

Previously, service seekers had to travel a lot to reach the service delivery point to apply for the service and had to wait for unspecified period to get the service done. Serpentine queues were a common sight across the country at every delivery point and people had to make frequent visits at the service providers' doors to get the work done. Taking advantage of the lack of proactive disclosure of the status of disposal, people in search of service remained in dark and fell prey to the corrupt and unethical practices of the delivery system for meeting their needs.

But now, some of the states in India are reversing the trend using digital technologies. They are bringing welfare programmes of the Centre and State governments to people's doorsteps





through IT-enabled services. In the state of Chhattisgarh, a total of 22 services of the Transport Department were made available on the digital platform. Citizen can now apply online and licenses would be despatched to home of the applicant. This pioneering initiative was replicated in other states as well. Transport related benefit distribution have been marred with allegations of corruption, delays and non-transparency for long. This digital service has not only shot down many such vices with single arrow but has also brought about a huge relief to the citizens seeking the service. Repeated visits at the service office, demands of bribes, wastages of time and money in the long queues have been replaced by the speedy and timely disposal of the service through the digital interface. Delhi Government has offered several services on the digital platform including

issuance of Records of Right, Marriage Registration, E-ration card – ensuring easy access by the citizen, assured output in time, doorstep service with digital tracking facility. Almost all the services provided by the Government of Goa have been extended to the citizens through the digital platform and are accessible online. Even the government has planned occasional outreach programmes down the village level to help them accessing through extended terminals. Almost all state governments have now established e-Corner at the Gram Panchayat (village council) and even at village level for ensuring reach of the benefit to the citizens. People came out in large numbers during a day-long outreach programme in Goa to clear the backlog applications regarding ration cards, Aadhaar cards, Dayanand Social Security Scheme, voter ID cards, Kisan cards, and

a few other schemes.

Telangana is one of the pioneering states in the country in making e-governance a reality, providing almost an entire gamut of public services delivery through digital mode. It has introduced 'MeeSeva' (service at door) project with the avowed goal "to provide smart, citizen centric, ethical, efficient and effective governance facilitated by technology. The initiative involves universal and non-discriminatory delivery of all government services to citizens and businessmen of all strata and improved efficiency, transparency and accountability for the government. The initiative features transformed government-citizen interface at all levels of administration along with a shared governance model."

The Government of Karnataka did a pioneering job in leveraging information and Communication Technology (ICT) for the common good and the cherished goal of e-governance at doorstep. It was at the forefront of the country in conceptualising as well as implementing the e-governance initiative. It established E-governance Department a decade back "to enhance and promote the use of IT in the functioning of the Government

Efficiency, ensured transparency, cost benefit, user friendliness, real time tracking and monitoring mechanism, accuracy, and need-based flexibility associated with the new system have relieved both government and citizens.

in order to make the required information available to all citizens and to provide all Services in an efficient and hassle-free manner." The newly created department seeks to enable the Government provide "Any Time, Any Where and Any Device" service to citizens.

In case of West Bengal, one of the major initiatives was the government's policy of spreading infrastructure development to the tier-2 cities and towns, where the industry would be able to find untapped talent at affordable cost. E-governance has the potential to bring about multi-dimensional changes and the cascading effect will benefit everybody down the line, including industry and citizens. Over and above this declared policy, the government has initiated outreach programme to include all grievances and service demand in the digital platform sitting in the villages of the service seekers. It is a revolutionary step for ensuring universal coverage of all service seekers from the villages through government organised camps having digital gateway. IT terminals in the form of CSE and Tathyamitra have their presence at all Gram panchayats throughout the year in West Bengal. Apart from that, half-yearly events like 'Duare Sarkar' (Government at doorstep) and 'Paray Samadhan' (solution at village) will plug the hyphen between service seekers and service providers further. This grassroot initiative has augmented the concept of governance at doorstep in the true sense obviously with the support of the IT platform.

This service outreach camps in West Bengal are coined as 'Duare Sarkar' (Government at doorstep) and 'Paray Samadhan' (solution in village) catering to the needs of the villagers across the state. To facilitate monitoring, coordination and management of various activities and functions of Duare Sarkar, a web-portal <https://ds.wb.gov.in> was

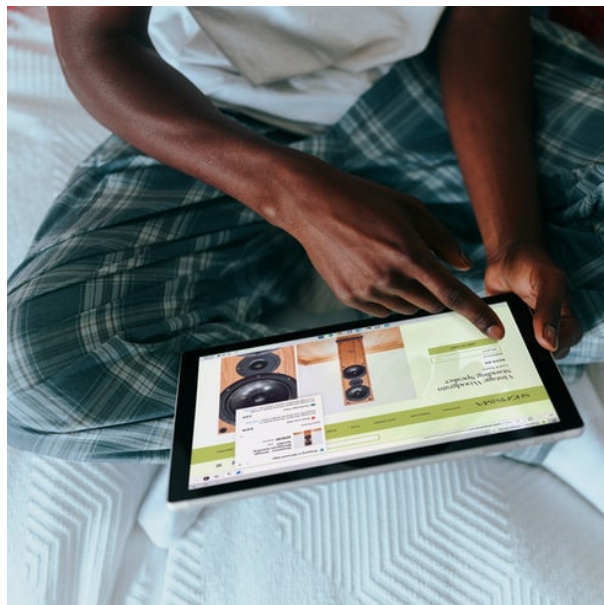
made operational. It is facilitating user registration at all hierarchical levels, camps scheduling, venues and geo-locations tagging, beneficiary registration and recording their grievances as well as service-demand along with online tracking and monitoring of services being delivered.

A huge database has been created during registration of these citizens, generating evidence and ideas for improved planning, towards equitable and sustainable development for the state. The backbone of the campaign has been an integrated MIS portal where an array of ICT technologies are seamlessly integrated making achievements of such magnitude a reality.

In the initial stage itself, 2.75 crore applicants were registered in the portal in a month's time through 32,000 camps, which is probably the highest registration through any IT-enabled village level camps to capture beneficiaries in the world. The schemes like social welfare benefits, SC-ST benefits, scholarships, health cards, small deposit schemes, land record, pension scheme could register huge footfalls in the camps.

Over a period of time, e-governance has become a reality and an inseparable part of governance due to improved efficiency, ensured transparency, cost benefit, user friendliness, better tracking and monitoring mechanism, accuracy and need based flexibility.

With the introduction of e-governance, the service delivery mechanism has improved dramatically injecting an element of 'efficiency' in the system cutting short the procedural delay wrapped in red tapism and individual whims of the personnel in the loop. Apart from that, the transparency in the process could be ensured to the maximum extent in this digitised work flow. Favouritism and nepotism cannot be nurtured in the e-



enabled system for the sake of personal benefit of any stakeholder.

Also, the monitoring and tracking of each and every event has come to the fingertip of user and provider and to be known within seconds. This advantage has eased out the earlier vice of perennial delay of service provisioning. Even the tracking facility extended to the beneficiary has made the service providers accountable for punctual disposal.

With the constant improvisation and introduction of IT in local languages, the digital platform has become more user friendly. The online application and online service return has drastically cut the operational cost of service delivery mechanism benefitting both user and service provider financially. The automated system has eliminated the early oft repeated manual error and accuracy has become the hallmark of e-governance and service delivery mechanism. This faceless service delivery mechanism has substantially reduced the role of touts and corrupt officials in the system constricting the scope of corruption and bribery.

E-governance and the digital platform

thus ensured the service delivery to the end users in a much hassle-free manner and of late even the remote villagers are now acquainted with its benefit. In the recent past, the postal department having its presence across the length and breadth of the country has introduced many e-service including Aadhaar-enabled digital life certificate for the pensioners at doorstep and miscellaneous banking services.

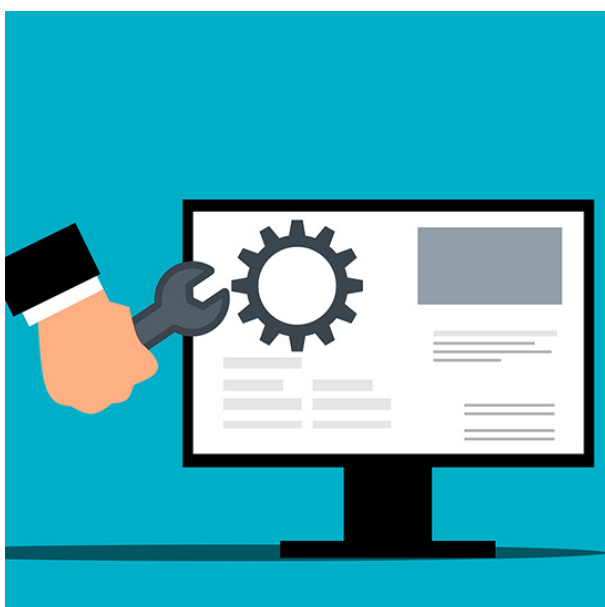
Since long, several public utility services and payment thereon have been made online including electricity, telephone, LPG gas, transportation, taxes etc. All such officers are now having deserted look as citizens have started to pay online for the services instead of joining long queues in such offices. This has saved the cost of processing at both ends and ensured transparent, punctual, monitored service delivery and payment for service on the other hand.

The success of online services of these sectors catering to daily needs has prompted the government to escalate the scale and ambit of e-governance. In the meantime, e-commerce has been successfully launched in the country and citizens in large number have started to

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take benefit of e-commerce and e-shopping. The scale and procedural success built up confidence in the ruling elites to transform the archaic governance model to e-governance model.

Gradually, different departments in the government have started digitising and on-lining its services to reach the citizen seeking services. Most of the state government during the last two decades established separate E-governance departments to expedite the introduction of digital services by all departments. It has started to gather momentum with its increasing popularity and emanating positive feedback from the citizens. Efficiency, ensured transparency, cost benefit, user friendliness, real time tracking and monitoring mechanism, accuracy, and need-based flexibility associated with the new system have relieved both government and citizens. Universal access was the emerging issue to weed out





discrimination at the user level. Government started to establish Common Service Centres (CSC) and Tathyamitra Centre at even remote villages apart from increasing knowledge dissemination to induce citizens for being IT friendly. These

establishments and e-enabled mobile network have drastically changed the mindset of the citizens facilitating makeover from old governance to e-governance.

The concept of doorstep e-governance is a way forward and several administrative units in the country have started outreach camps, e-portals, rural e-corners and e-phone delivery mechanisms. As illustrated earlier, several state governments as well as central government have taken steps to ensure the delivery of government services at doorsteps mainly using the digital domain.

May be, in the near future, all the services will be at fingertips across the country and this good governance initiative has already been incorporated in the vision document of National e-Governance Plan with the coinage "Public Services Closer to Home". The objective is to have a single-entry portal for the entire range of G2C and G2B services in the country. IT and e-governance over a period of time have witnessed steady transformation in consonance with the emerging global trends and the needs of the people at grassroots. People's mood and the consonant response of the policymakers in the government have paved the way for a robust ecosystem for doorstep governance, which has started to take off everywhere and in every sphere of life.

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Blending ‘Humanized Brands’ with Technology



Brand stalwart
Ujaya Shakya writes
about the creation of
brands with a human face
through the usage of
technology.



The last two years have been extremely tough as we had to go through these exceptional times caused by the Covid-19 outbreak followed by lockdown.

Undoubtedly, all business establishments, irrespective of their strength and type of industry, have been affected and are now trying to recover from the aftermath. The list of challenges are many for all of us. But irrespective of the negatives, Covid-19 lockdown has had positive impact too. One such area is the professional arena.

We were exposed to the world of Information Communication Technology (ICT) like never before. The digital technology enabled us to handle multiple responsibilities with so little resources.

Prudence is in being prepared and having a continuously progressing strategy, which is agile. There is a radical change in the consumer mindset with an evolving new ecosystem.

Although chances of achieving success in the short-term are low, but the choices we make today will bring longer-term success in the future, viz understanding consumer behaviour pattern. This will help in devising novel marketing and branding strategies. Despite the struggles, we all are trying our best to take charge of our responsibilities in our own way by doing regular business activities even though it's not business as usual. We all are hopeful that our future will be brighter with ongoing aggressive



vaccination programmes across our country and the world. As marketing professionals, we need to focus on consumer confident signals, trust our instinct and leverage our business data to calibrate new insights to move forward.

Given that most consumers are just recovering from the current situation, they could be more value-driven due to reduced purchasing power. Subject to the same, they might prioritize their spending into four key segments – critical items (like rice and medicine), essentials items (like personal hygiene, tea, coffee etc.), avoidable items (like beauty products and fashion accessories), dropped items (like air fresheners etc.). But at the same time, due to the ongoing pandemic, they are still going to be ultra-sensitive about their own health and safety.

Prudence is in being prepared and having a continuously progressing strategy, which is agile. There is a radical change in the consumer mindset with an evolving new ecosystem. It got further accelerated due to the current situation. As a business, we have to be well-informed so that we can prepare ourselves for the changing market.

One such key trend that is clearly visible in the post-Covid-19 world even in Nepal is the evolving digital ecosystem which is much faster with over two-fold increase in digital transaction.

Major e-commerce platforms like Daraz and Sasto are leading from the front and coming forward to deliver not just gadgets, fashion items and consumer durables, but also, grocery.

Companies like Daraz, a part of Alibaba Group, has full-fledged AI based technology, which can segment and automate their sales using algorithm and machine learnings to rapidly grow faster than their competitors.

We were exposed to the world of Information Communication Technology (ICT) like never before. The digital technology enabled us to handle multiple responsibilities with so little resources.

Accordingly to Nepal Rastra Bank, the Central Bank of Nepal, there has been a spurt in e-transactions since mid-August 2020. The Period of mid-November 2020 to mid-December 2020 alone recorded e-commerce business worth Rs. 8.2 billion from 1,12,706 transactions, according to the central bank as per the information published in The Kathmandu Post editorial (Structural bottlenecks published on January 4, 2021). This disruption during the pandemic seems to be a blessing in disguise primarily for e-commerce and electronic payment transactions.

Many banks have registered more new accounts as people are doing online transactions. For example, many Small and Medium Enterprises (SMEs) have started salary disbursement via online platforms making it mandatory for even lower wage or contract staffs to have a formal banking account. The online payments and mobile wallets like esewa, fonenpay, IMEpay, Qpay and Prabhupay are gaining good user base. Merchants are accepting these methods of payments without any hesitations. Let me site you my own example. I

regularly buy bakery items from my local store, which has started accepting one of these mobile wallet payments based on QR code. But it doesn't accept debit/ credit cards, as it is easier to operate and receive instant acknowledgement of payment.

Another key trend that one should look out for is businesses trying to go digital by updating the brand's digital portfolio, assets and touch-points. I am sure, most businesses realized the importance of being virtual due to the pandemic and restrictions.

Recent Kantar study shows that the consumers (largely mid to upper segments) are now more engaged in activities like consuming long video, short video, sleep, linear TV, mobile/ online games, online chat with friends/ relatives, online education, cooking/ baking at home, offline learning/ reading, online entertainment, parenting, supervising kid's study, working from home, live video, leisure at home, nurturing skin and pet care.

With consumer become more active online and digital driven, businesses cannot afford to ignore this important touchpoint with ever-growing high





penetration of both mobile and internet. Hence, businesses need to do 'social listening', building scenarios as per the changing times. But at the same time, consumers are also likely to save more, given the shift from consumption to saving economy, triggered by current insecurities. With economy getting squeezed, mass consumer might become more price-sensitive at least for the next few years. Therefore, businesses need to think from the consumer point of view and evaluate the emotional upside they may be experiencing in these turbulent times. Businesses need to communicate by crafting messages with compassionate themes. Going forward, I strongly feel that it will be only 'empathy', which will help to create that salience for the brand. Consumer now will look out for more humanized brands using technology to reach them more effectively. In the given circumstances, we should be focusing not just for survival during crisis but also maintaining consumers'

perceptions through successful positioning strategies for building and sustaining a credible brand image far beyond the crisis. The whole world is now talking about shared economy – knowledge, opinions and views. The hyper-connected world is increasingly providing more avenues to amplify 'compassion' and 'empathy' as key behavioral approaches, expected from large established businesses. A happy person helps to attract and engage another person towards the product, an idea or the brand.

[Author's Introduction: Ujaya Shakya is the Founder Managing Director of Outreach Nepal and the author of Brandsutra. Ujaya has over two decades of experience in the field of strategic 360-degree communication, branding and social communication development. He has developed and implemented successful advertising campaigns, media & PR strategies and BCC programs in public health and social issues]

Charting an Emotionally Strong Digital Life Ahead



Seasoned educationist Prof. Ujjwal K Chowdhury writes a light-hearted piece on digital living and its multiple nuances.

We are in a different phase of life and civilization with the most engulfing pandemic of the century overwhelming the entire mankind. Is there a qualitatively different life ahead for us? Can we be emotionally stable in the so-called New Normal? Many such questions are crowding our minds. And, sadly, in a class-divided society, we are not the same across all classes. The access to resources for a better life in this New Normal varies drastically from one class to other and the pandemic has exposed the underbelly of our society all the more. So, for a middle-class English educated largely urban Indian, what are the contours of this

'New' and how does she/ he navigate these ahead? There are no easy answers here. But there are ten points that come at the top of my mind, which are as follows:

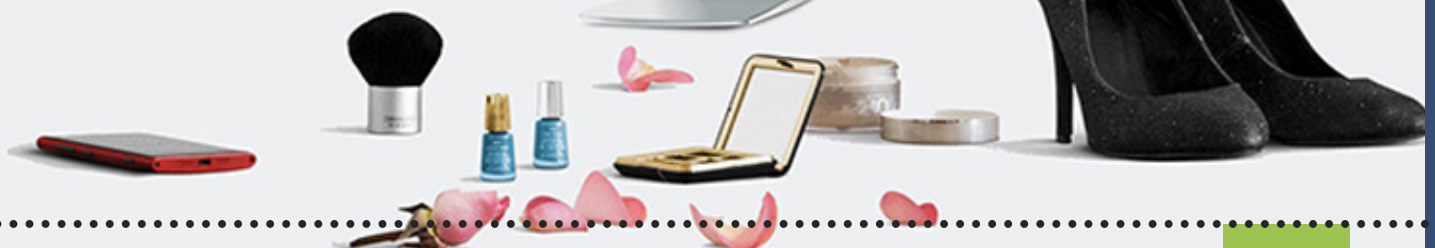
Going Digital and Getting on It Faster

We think that having a laptop, a smartphone, net connectivity on phone and through WiFi is be all and end all of digital life. Those are the basic resources. To what use we put them is the key. Digital life encompasses fast internet-based work, online discussions and networking.

It also involves integrating the virtual and the augmented reality with the physical world and seamlessly straddling all, using social media creatively. The objective is to get most routine or extra-ordinary

services from shopping to government certificates or travel planning etc. online without much hassles.

These are easier said than done and needs quick adaptive skills and comfort with newer technologies.





And, even if you adapt fast, the ecosystem around you shall be slow and may frustrate you in the short run. The way you deal with it, pace your work, help others to get digitally on board will be important. Such small things will determine your outcome and your new dimension of emotional bonding with the people you help.

Blended Is the Way to Go Finally

While digital emerges in the clear tech-platform, personal touch is always more through physical interactions and in-person meetings. In fact, every major activity shall go blended in times ahead (except for physical manufacturing of goods).

From shopping to studying, consulting to mentoring, producing most services and some products to monitoring work: each of these and more shall have a digital avatar and will continue the physical meets and interaction or activities too, both blending without any hiccups. You will meet your doctor, lawyer, teacher, financial consultant, mentor, boss, employee, client, brand manager,

Digital life encompasses fast internet-based work, online discussions and networking. It also involves integrating the virtual and the augmented reality with the physical world and seamlessly straddling all, using social media creatively.

Quality life is not about shunning work, good smart work is not about endless hard work. Naturalist life is not anti-technology, adapting new technology is not about being slave to it.

general friends many times digitally and a few times face-to-face where the personal touch, the uncomfortable issues, the camaraderie, the heated debates, the casual laughter et al are ensured.

Cyber Security against Digital Crimes

Each of us will now learn how to protect our banking transactions, our social media accounts, our online reputation, our personal property and relational data, etc. I am a novice yet in cyber security, but to lead an active and reasonably quality life, my ignorance cannot be my bliss.

Even cyber law, legal implications of digital crimes and harassments etc. would constitute a necessary training going ahead. We need not be unduly disturbed due to these, but schools and colleges will do well to include digital skills and self-protection in their life skills curricula ahead.

Artificial Intelligence and Machine Learning

Even before we realize we get to consume the same genre of music or cinema, we get to buy the same colours or designs, we get to read the same category of news or books, we get to



meet the same set of friends online, and many wonder why is it so. Artificial intelligence picks up our early habits, machine learns our initial preferences, and prompts us to have more of the same. It will be good to understand this phenomenon first so that we do not get trapped in echo-chambers, then learn how it operates. We can create multiple narratives or alternative digital worlds for ourselves, and finally will be great to master it so that we can put this to good use in our professional lives. Everyone, please do online courses on digital learning, AI-ML and Cyber-security, irrespective of what you study or work on. These are now hygiene factors in the New Normal.

Reduce Routine Work, Increase Creativity

Machines can do the routine work better, faster and often cheaper. Allow people

to help you as well, which makes them earn in the process. Focus more on thinking laterally (brainstorming to determine the work to be done) and then vertically (doing the decided work creatively).

Pick basics of design thinking, create your own values and aesthetics, add a new dimension in your work as you move ahead, like that tasty dash of lemon in the routine *daal-bhaat* or fish curry-rice.

More Me-Time with Healthier Habits

Health was never such a dominating priority as it is today with concerns like immunity, blood pressure, cholesterol etc. becoming a much bigger buzzword today, though they existed all along. Digital life is sedentary and needs healthy and limited food intake, with body stretching every one hour, exercise regime twice a day of minimum 15 to 30 minutes, and may be some time for music



and dance or theatre etc.

Self-esteem and confidence are primary for a strong emotional intelligence, and that come through digitally getting best versions of what you are doing, and learning from the same to apply and not merely know.

Maintain Relations across Several Platforms

Relationship of all types are taking multiple avatars today – physical and digital means, across multiple devices, and in person and from remote, face to face and on social media, physical amplified digitally.

So, we will have wedding or birthday celebrations in physical presence of 20 to 80 guests and watched by a thousand digitally.

Wife's birthday is celebrated with gift and dinner, then have a party in a restaurant with some ten odd friends or family, digitally through zoom with remote friends and family, then virtually on FB, and with Instagram recording the memories.

Capturing memories of an occasion close to heart across multiple social media platforms is now the middle-class way of expressing affection and commitment!

In a hurried life, the digital and the virtual comes handy in lieu of the physical, and more assuring in addition to the physical. Cynics may criticize, but even the octogenarian mother, non-user of social media, also enjoys when her special moments are on FB and Insta and people talk about it on phone.

Reduce Unnecessary Travel and Reckless Consumerism

Reduce unnecessary travel locally or long-distance to actually increase its quality and ease. Reduce amassing products to enhance their life and sustainability, and focus on quality use of what you have, rather than constantly having more.

Each of us will now learn how to protect our banking transactions, our social media accounts, our online reputation, our personal property and relational data, etc. I am a novice yet in cyber security, but to lead an active and reasonably quality life, my ignorance cannot be my bliss.

Just now in Goa, a large number of youths have come to celebrate what they are calling as 'revenge tourism' as international borders are still largely closed. Repeated leisure travels to the same place, doing the same set of drinking dancing cuddling rituals, visiting the same spots to click the same pictures – all these show lack of imagination, option and lateral thinking.

Business travel will be heavily reduced with online meetings becoming widely acceptable, AR-VR making meetings 'almost real and face to face' with avatars etc., and quality discussions happening digitally.

Leisure travel should be well thought of, safe, eco-friendly and varied. Having lesser but better quality, along with more sustainable goods and services shall be more emotionally satisfying than just amassing goods with consumerist avarice. Less of fast fashion, more of new and ethical slow fashion should be the trend ahead.



Seamless Learning from Multiple Sources

Every era calls for new age learning, formal and informal, conceptual or technological, liberal or functions. Learning earlier was primarily chalk and talk, with rest being in the fringes. Today, it is blended, a lot of it digital, constant without any fixed timings, often organic without any fixed syllabus, from multiple physical or digital or environmental sources, and novel each day now, more than ever before.

One needs to get accustomed to self-learning, self-discovery, in place of instructed learning of the past. Alongside, a lot of asynchronous learning, that is

learning at one's own place, pace and time, and limited synchronous learning of a batch, whether digital or physical. Degree as a learning purpose shall also reduce with time, and skills and career enhancement as learning purposes will take over.

Quality Life Shall be the Pursuit

Quality life is not about shunning work, good smart work is not about endless hard work. Naturalist life is not anti-technology, adapting new technology is not about being slave to it. So, taming of technology, learning to innovate, timing to relax, seeking multi-dimensional life, and caring to be healthy will constitute quality life. More than money, position and physical power, newer indices of happiness will evolve, though not always with their pitfalls.

[Author's Introduction: A leading media academic and an internationally acclaimed speaker and writer, Prof. Ujjwal K Chowdhury is the Secretary of Global Media Education Council, and until recently was serving as the Pro Vice Chancellor of Kolkata based Adamas University. He has spearheaded some of the finest media institutes in the country and taken them to newer heights. Formerly the Dean of the School of Media at Pearl Academy and the Director of Ramoji Krian Universe (RKU), strategically located within the Ramoji Film City (RFC) in Hyderabad, Prof. Chowdhury has also been a Dean at Symbiosis International (Deemed University) in Pune and Amity University in Mumbai. He also acted as the Dean of Whistling Woods International in Mumbai. Earlier, Prof. Chowdhury has been a Media Advisor with the Ministry of Textiles, Government of India and the World Health Organization (WHO), India. Prof. Chowdhury is widely believed to have introduced the concept of convergence in media education.]

Preparing for a New Virtual World: Humanity's Response to Covid-19



**Academic administrator
Dr. Sanjay Mishra
deliberates on the surge
of digital technologies
caused by the Covid-19
pandemic.**



By late May 2020, over 200 countries and territories in the world were affected by the Coronavirus pandemic. This included urban clusters and even rural regions.

With the spread of the pandemic, almost all regions implemented lockdowns, shutting down activities that required human gathering and interactions – including colleges, schools, malls, temples, offices, airports, and railway stations.

The lockdown resulted in most people taking to the internet and internet-based services to communicate, interact, and continue with their job responsibilities from home. Internet services reported rises in usage from 40 per cent to 100 per cent, compared to pre-lockdown levels. Video-conferencing services like Zoom

Digital transformation technologies such as Cloud, Internet-of-Things (IoT), Blockchain (BC), Artificial Intelligence (AI), and Machine Learning (ML) constitute a bulk of the of what is being adopted by organizations as part of their transformation effort.

have seen a 10 times increase in usage, and content delivery services like Akamai have seen a 30 per cent increase in content usage. Cities like Bangalore have seen a 100 per cent increase in internet traffic.

The lockdowns across countries have resulted in a rise in the use of information systems and networks, with huge changes in usage behaviour and patterns.

Employees learnt and adjusted to new the “normal” – meetings went online and



office shifted to the home. These changes are common across most organizations dealing in business, society, or government barring few extraordinary situations, where physical set ups could not be avoided.

The rate of change was also very high. This allowed very less time for organizations and individuals to arrange for devices or set-ups.

There was a digital transformation already underway, before the pandemic set in. It has only gained prominence owing to the impact of lockdowns.

Increased Digitalization

With significant rise in the use of video and audio-conferencing tools, organizations have ramped up their technology infrastructure to account for the surge.

This has led to increased investments in bandwidth expansion, network equipment, and software that leverage cloud services. Employees have become acclimatized to the idea of work-from-home (WFH), meeting and transacting online, firms are shifting to WFH as a norm rather than as an exception. This is being adopted by many firms, which have the digital infrastructure in place to handle the required load and bandwidth.

Education is another domain in which there is a dramatic shift to the online mode of transacting. Since the beginning of the lockdown, schools, colleges, and universities around the world have shifted their classes to video conferencing platforms like MS Teams, Zoom and Google Meet. Along with these synchronous modes of teaching, asynchronous platforms like edX and Coursera have also seen an increase in enrolments. Some institutions are now shifting entirely to the online mode for the forthcoming academic year, with the exception of sessions that require a physical presence. Looking into the need, the regulatory bodies and boards have

With significant rise in the use of video and audio-conferencing tools, organizations have ramped up their technology infrastructure to account for the surge.

also responded with apt measures. This is by policy enhancement and by developing new modalities of evaluation along with revamping the sequence of syllabus.

Digital transformation technologies such as Cloud, Internet-of-Things (IoT), Blockchain (BC), Artificial Intelligence (AI), and Machine Learning (ML) constitute a bulk of the of what is being adopted by organizations as part of their transformation effort.

Blockchain (BC) technology has presented an opportunity to create secure and trusted information control mechanisms. As education and healthcare services witnesses a shift to the digital domain, BCs enable a way to secure and authenticate certificates, health records, medical records and prescriptions. Research on the design of such systems along with maintaining their ease-of-use and usefulness is gaining importance. Another issue is that of designing systems that work with smart contracts – how the contracts are authenticated, how these contracts will be designed in a complex chain of processes with many agents involved, and how arbitration related to contracts

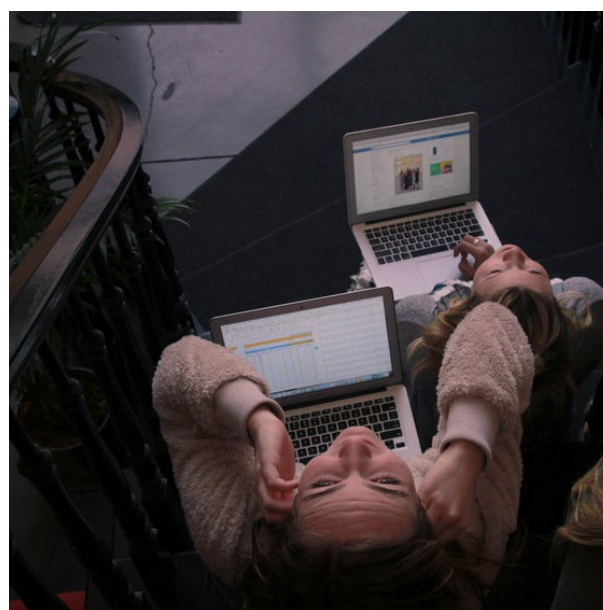
will be handled.

Work-from-Home and Gig Workers

The gig economy is driven by online platforms that hire workers on an ad hoc, short-contract, and mostly informal basis. Well-known examples of these include Uber and Airbnb globally and Ola and Swiggy in India. These platforms have grown immensely since the wide availability of smartphones from 2010 onwards. During the lockdown, workers employed by these platforms have suffered heavily, as the demand for their services, taxi rides, rentals, or skill work, has disappeared. Further, since these workers had no guaranteed salaries, their incomes dropped dramatically.

In the post-pandemic scenario, there is likely to be, in the short term, a slow return of gig economy workers, as manufacturing and service firms return to their old activities. However, it is anticipated that in the longer term as the threat of infection and spread recedes, the gig economy will thrive. This will also be driven by the WFH culture.

Another key issue is that of work allocation and collaboration, across and inside teams, and across projects. This issue will





face a rise in scale and importance in the post-pandemic world, as the numbers of WFH and gig workers increase. This leads to requirement of the design of work norms, work contracts, trust-building, and team-building, amongst others. The benefits of digital technology notwithstanding, the

'dark side' of virtual teams and dispersed work also assumes importance in the post-pandemic world. Substantive issues related to technostress – particularly work overload and presentism are in rise in these situations. Issues like design of collaborative work, evaluation, team

performance and motivation, stress, and the issue of continuous learning are to be taken very seriously.

Workplace Monitoring and Technostress

Huge populations are working from home using the Video Conferencing technology. They are under continuous monitoring and are expected to be on the job continuously. It has become easier for the supervisors and managers to call employees at any point of time. Employees on WFH are finding

It will be interesting to understand the different privacy concerns of users while adapting to both Covid-19 tracking apps, and online classroom applications.

themselves under intense scrutiny and all interactions are 'hyper-focused'. Though this has improved productivity in the initial phases, yet it has also led to increased technostress where employees must learn new technologies, be available for work at almost all times, stay with digital devices all the time, and cope with multi-tasking. Post-pandemic, it is likely that workers' organizations will demand no-digital hours, where they will find refuge from the constant work pressure. Issues to be addressed will be concerning to work equity, balance, and managing stress.

Increase in Online Fraud

There is a surge in the use of technology. Many of the users are first-timers with limited understanding of security measures. This has resulted in a rise in online fraud, scams, intrusions, and security breaches. The pandemic has created a scenario of insecurity. This is inviting fraudsters to exploit the crisis situation by extracting money or information. Organizations and governments are aware of this threat and are taking countermeasures

It is well understood that a pandemic can have severe consequences, including changing the political contour of the world, destroying empires, and creating nations.

– for instance, some governments took a strong stand against Zoom sessions for education, forcing the platform provider to upgrade security. It is likely that these scams and frauds will increase in intensity after the pandemic. Organizations will be forced to implement massive security arrangements, along with extensive information campaigns by government departments. Security innovations and firms that offer security services have shown good progress and will continue to do so.



Internet Access and Digital Divide

Internet and Information technology have been pivotal technologies during the pandemic scenario where we will see a huge surge. However, the challenge is the management and regulation of the internet itself. It is a global resource and no one country can control its protocols and features. But, its local access and availability is an in-country issue. Some countries can allow selective use of this resource creating regional imbalance. This has been the case during the pandemic too where some countries have restricted access to the internet, for certain reasons.

The regulation of the internet will become crucial after the pandemic as it will remain a policy tool for governments. They can intercede on aspects of monitoring, bandwidth control, surveillance, intermediary liability, and e-commerce.

The pandemic has brought the world to a situation where those not connected to the internet are facing total exclusion. Those on the wrong side of the digital divide are completely left out. Reasons for the divide are many – unaffordable device access, unaffordable Internet access, content relevance, access skills or government-ordered Internet shutdowns. In developing countries, the condition is more serious. Thus, it becomes extremely important to explore the possibilities of ensuring connectivity. Covid-19 has brought about a situation where internet access seems to have become necessary for survival. As a few studies have suggested, access or no-access to ICTs may reinforce societal inequalities, where the post-pandemic situation may enhance this further. With substantial use of technology in accessing basic requirements like health and education, it is imperative to understand the impact of the digital divide on social equality. Therefore, the impact of connectivity



should draw policymakers' interest and, perhaps, offer ways to enhance it towards better inclusion.

Internet Governance

People's data requirements has gone up dramatically during the pandemic. With a significant digital divide in societies, this surge in the Internet data requirement has revived the discussion on zero-rating plans.

Zero-rating plans enable firms to let users access data from their sites and services, without having to bear data charges. Usually, this is not strictly permitted as it violates the basic principles of net neutrality, where internet traffic has to have the same priority and cost. India, for instance, had an exemplary record of regulating zero-rating plans. Although the government did not permit the implementation of such plans, in the aftermath of the pandemic, the telecom regulatory authority of India (TRAI) decided to allow waiving charges for data and voice for certain websites. The list primarily consisted of the sites related to Covid-19 – such as the World Health Organisation and India's Ministry of Health and Family Welfare. The list also included

some private players. The principal aim was to allow people, across all socio-economic levels, access Covid-19 related information.

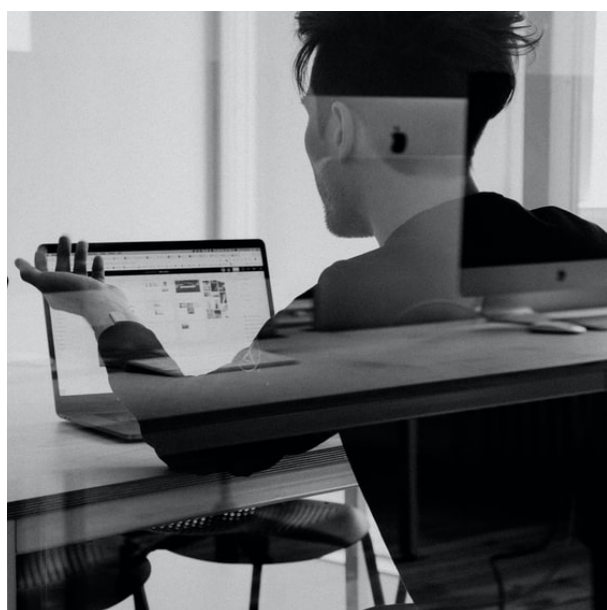
In current times, when the productivity of people depends significantly on the internet, its shutdown can be extremely detrimental to societies.

With the pandemic, when the internet has become the most important tool available to citizens, the impact of Internet shutdowns has become grimmer. Shutdowns lead to severe implications for all aspects of life. It is important to understand the far-reaching human rights impact of internet shutdowns, which are exacerbated in the current scenario. Shutdowns have deep political reasons and in many cases the consequences are indeterminate.

Digital Money and Payments

Digital currencies are likely to have a key role in the post-pandemic situation. As digital payments are contact-less, they will be encouraged by governments, and will likely see a surge. This will also be boosted by the gig economy and WFH situations.

There are two distinct phenomena related



Video-conferencing services like Zoom have seen a 10 times increase in usage, and content delivery services like Akamai have seen a 30 per cent increase in content usage. Cities like Bangalore have seen a 100 per cent increase in internet traffic.

to digital money that has aided the fight during the pandemic. First, banknotes and coins were suspected to be carrying the virus and digital payment was preferred to the 'dirty money'. Online delivery services were encouraging customers to make payments through digital payment systems like a credit/debit card or mobile payments, with mandates by the government in several parts of India. This is likely to result in a surge in digital payment usage, which will lead to work on the diffusion of digital payment technology. Second, during the lockdown, there was a loss of jobs, and governments provided aid through payment apps and digital payment modes. These are a convenient mode of fund transfer from donors to recipients, as seen in previous crisis relief cases as well. In various crisis and disaster events, where the mobility of civilians was restrained, many mobile payment service providers provided quick funds transfer of remittances from migrants to their homes, and relief aid from the government to victims.

Surveillance and Privacy

Issues of surveillance and privacy are

gaining prominence with digital usage during lockdowns. Commentators, such as Yuval Harari, have written about the potential for state surveillance “under the skin” as governments rely on digital means to monitor the spread of the pandemic. As many governments have started using apps on smartphones to monitor infected persons and trace their contacts, civil society organizations have raised privacy and state surveillance concerns. Post-pandemic, these measures of monitoring populations for epidemiological reasons with digital means are likely to continue and become prevalent. Though the concerns of privacy and surveillance are valid and have to be addressed, these digital platforms are the most reliable and efficient way of tracking disease spread. “Surveillance is a distinctive product of the modern world”, and today we are living in a surveillance society where any

internet-based activity using a mobile phone or other electronic gadgets can be monitored and accessed in unfathomable ways. Covid-19 has introduced a new application of surveillance for tracking citizens with the symptoms of the virus. This includes the Covid-19 tracker in China, the Aarogya Setu app for tracking infectious citizens in India, and contact tracking apps in the United States. While these technologies are innovations for fighting the global pandemic today, the issue of government surveillance on citizens has evolved repeatedly. We can focus on the multiple benefits of these apps, but also should not ignore the potential social complications that are possible to arise, including the historic problem of bureaucratic control by the government, using IT. Closely related to surveillance is the issue of privacy that mobile apps, including





Covid-19 trackers, often tend to threaten users' personal information. For example, online classes during the pandemic lockdowns have suffered issues of 'intrusion of privacy' as students and teachers are on camera in the private spaces of their homes. Privacy in the digital age has become a research topic of high priority for researchers.

It will be interesting to understand the different privacy concerns of users while adapting to both Covid-19 tracking apps, and online classroom applications. The risks involved in the breach of privacy by these two technologies are unlike and must be investigated with adequate contextual references.

Looking into the present patterns we can assume the following implications of development of technologies during the Covid-19 Pandemic situation:

- While deploying security technologies

like the blockchain, it will be important to understand the implications of smart contracts, their integration in workflows, and their effectiveness in complex resource-constrained settings, as in developing countries. Further, understanding the implications of secure and non-erasable technologies like blockchains will become relevant for regulation.

- Many issues arise with regard to work-from-home and gig work, which include aspects of trust, measurement of performance, communication effectiveness, and collaboration.

- It can be expected that the dark side of virtual work and gig work, will raise questions of stress, presenteeism, work overload, surveillance, and monitoring. New and severe forms of digital surveillance will have to be understood and their implications gauged.



- Though much work has been done in understanding the parameters and impact of the digital divide, it will be important to understand how those without access suffer more from the consequences of the pandemic when the world survives on digital communications and operations.
- Management of the internet within countries is important, and aspects of enhancing networks include regulating zero-rating plans cautiously, seeing their implications for welfare, and how they can enhance access.
- Internet shutdowns during and after a pandemic lead to severe difficulties for citizens, who have come to depend on these services.
- Digital payments and their impact in crisis situations, for providing aid and subsidies to affected populations, and for disaster management.
- Surveillance issues about the extent of data collection by contact tracing apps

Internet shutdowns during and after a pandemic lead to severe difficulties for citizens, who have come to depend on these services.

are important areas of research. Issues of persistence and elimination of data, the expanse of data collection, sharing of data between apps, and the multiple trade-offs involved.

It is well understood that a pandemic can have severe consequences, including changing the political contour of the world, destroying empires, and creating nations.

For the Covid-19 pandemic, we envisage a dramatic shift in digital usage with impacts on all aspects of work and life. How this change plays out remains largely dependent on our responses to and shaping of the emerging trends which will have substantial consequences in the future.

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Role of Tech-Driven Media in Building Brands during the Pandemic

Noted journalist, communicator and educator Prof. (Dr.) Mahul Brahma talks about strategic tech-driven media communications and its key role in helping corporates build their brands in the VUCA world.



Volatility, uncertainty, complexity and ambiguity – these four elements form what is known as the VUCA world. This phrase has found a new meaning with the onset of Covid-19 as it somewhat captures the pulse of the emerging world, which is tormented especially by the uncertainty and volatility. These are not normal times.

These are times when we are more concerned about survival.

Therefore, building a brand has become more challenging.

In uncertain times, the only tool that can be effective towards



establishing the trust of a brand, which is the cornerstone for brand building, is strategic media communications. With this arsenal of strategic tech-driven media communications, a leader needs to build the brand and trust with the customers and key stakeholders.

Tech-Driven Media Versus Non-Tech-Driven Media

With the onset of the digital dominance in the mediascape, a marked divide can be seen between media then and media now. Gone

With the onset of the digital dominance in the mediascape, a marked divide can be seen between media then and media now. Gone are the days when a handful of editors in their ivory towers used to determine the narrative of the nation.

are the days when a handful of editors in their ivory towers used to determine the narrative of the nation. Today, every individual with a smartphone can be a citizen journalist and social media has taken up as the most potent platform for disseminating news. The excitement of the morning headlines is slowly moving into oblivion with real-time news, both real and fake, making its presence felt in the digital world. Today, tech-driven media has become the order of the day...the power increasing manifold due to the Covid-19 crisis during which there was even a phase where newspaper publication was on hold for months. This non-availability of printed newspapers conditioned readers to consume news in digital formats, even e-papers. A recent survey done with millennials revealed that they consume news primarily through social media platforms, not even through news portals or apps. Therefore, the focus of this piece is primarily leveraging tech-driven media to build brand during crisis.

Strategic Media Communications – Then and Now

Every society, every civilisation and every race devised its own way to strategically communicate to its people towards building their brands using media – it can be about achievements, it can be about the divine right to lead, it can also be the



claims of king's religious authority to lead the people. A few examples of strategic propaganda are a clay tablet found in ancient Iraq promoting more advanced agricultural techniques or the pyramids, obelisks and statues by Babylonian, Egyptian and Persian leaders.

As we can see, historically, strategic media communication has been used to drive key agenda, including growth and brand building. Things have not changed in today's emerging VUCA world as well, and all it takes is to incorporate a strategy to transform strategic tech-driven media

communications into a growth driver and a brand builder.

Steps for Using Strategic Tech-Driven Media Communications for Brand Building

As it is explained in my book, 'How to Communicate Strategically in Corporate World', the



first step towards strategizing is to do a SWOT analysis, wherein you identify organisational strengths, weaknesses, opportunities and threats. This analysis is needed to build an organisation's brand and drive growth. And, then you do a similar analysis for strategic media communications. Then, comes the key role of aligning the two. For tech-driven media communications to play a strategic role in building a brand, it is important that communication aids the company in achieving the strategic objectives utilising the strengths and opportunities available, leveraging on this alignment.

For a leader, the next step towards building a brand and thus driving growth is to identify the target customers and cluster them as per their attributes. For example, a client base can be divided into two segments – existing and potential. Then, you have other stakeholders such as internal customers or employees, promoters and partners. Once the key stakeholders are identified, a leader needs to further drill down and identify how to reach key decision makers in each of these segments so that the brand attributes can be shared. This is a key step towards laying the foundation of



As we can see, historically, strategic media communication has been used to drive key agenda, including growth and brand building.

brand building.

The target audience classification needs to be very exhaustive as in today's emerging VUCA world – only targeted and customised communication works. The identification of key clients needs to have an alignment with the business needs of the organisation so that it can achieve its strategic objective of building the brand.

What's the Narrative?

Once a leader has clarity till the last level of communication, it is time to identify the content through which the leader will communicate the brand attributes. Relevance and content packaging hold the key to the engagement of a key stakeholder.

The steps become easy once a leader puts herself/ himself in the shoes of the stakeholder. For example, a CXO will not like to see a pitch document. She/ he will be more interested in very crisp one or two-pager knowledge pieces on business trends. The preparation of these knowledge pieces will help you become relevant to the CXOs. Similarly, when handling media, you have to be careful of the relevance of news that you want them to publish, which will help build the

brand. The news needs to have a wider appeal to the readers of the publication. While it may be the cover story of your internal magazine, the same news may not be relevant at all to an external editor.

In some cases, a leader may have to share the same news across multiple target audiences but then the same news needs to be packaged accordingly for different media. The internal magazine cover story may be reduced to a line in CXO communication or a brief in a newspaper. Therefore, both packaging and content matter while sharing the brand story.

Strategy Remains the Key

In brand building, the name of the game is strategic alignment to the organisational goals. Every communication – media, branding, corporate, financial, internal, social media and the likes – needs to have the objective of enhancing the business of the organisation and building the brand. Every communication needs to have a strategic alignment with the overall brand story. It is very important for a leader to not be confined to a silo and always keep an eye on the bigger picture. The thinking



needs to move from tactical to strategic. The objective of a leader has to be to convert communications into a growth driver for the organisation. The need of the hour is adaptive strategy. In this VUCA world, where uncertainty is playing havoc, every strategy needs to be revisited. This strategy should be characterized by adaptive planning, early adoption, evolutionary development, continuous improvement and a rapid and flexible response to change. Therefore, media communications, especially leadership and brand, needs to be adaptive and evolutionary.

On Tech-Driven Media Strategic Communications during the Covid-19 Crisis

These are the Covid-19 times that has hit the economy real hard. So, this is the time of crisis and thus crisis takes the centre-stage.

There are two types of crisis – one where the organisation is the only one impacted, let's call it traditional, and the other, where the industry or overall economy is impacted, just like the Covid-19 times. The latter is an opportunity and not a crisis.

In uncertain times, the only tool that can be effective towards establishing the trust of a brand, which is the cornerstone for brand building, is strategic media communications.



Let me elaborate!

There is no denying that these are hard times. Economic growth has taken a hit, industries across sectors are making losses, some are even shutting down, people are losing jobs and livelihoods. Wherever you look, there is negative news. So, now even if a company is not cutting down on the workforce, it makes a good story. Even if a company is not cutting salaries, it makes a good story. And, if an organisation is managing to grow and give bonus to its employees, it will make a great story. In good times, these stories are in abundance and so lost in the crowd. Everyone has become fatigued with negativity all around and so they want to hear something good in the air. So, this is the best time to build the brand. The only caution that a leader has to maintain is – there needs to be a lot of sensitivity and empathy in the way the

news is communicated using media. It is critical to be aware of the ecosystem and placing a positive story sensitively in a negative environment is an art that leaders have to master.

Conclusion

Strategic tech-driven media communication is playing a key role in the growth of an organisation via building its brand. The need is alignment of overall strategic objective of the organisation with the objective of strategic media communications. This alignment will boost the growth of an organisation via building its brand, especially during these Covid-19 times. The need is of survival and strategic communications can provide that support by sending out the right message to the key stakeholders – promoters, investors, internal as well as external stakeholders, and existing and potential clients. The brand building will build an ecosystem, wherein the organisational growth can be achieved.

In these tough times, every bit of positive brand-building story, which usually gets lost in a crowded news space, gets prominence in media. So, leaders need to make the best use of such crisis using the right mix of empathy and sensitivity. Never let a crisis go waste...build your brand!

[Author's Introduction: Prof. (Dr.) Mahul Brahma is the Dean of School of Media and Communication under Adamas University in Kolkata. He is an award-winning author and a TEDx Speaker. He has two decades of experience as a Senior Editor and a corporate leader in communications and CSR. Prior to Adamas University, he has held leadership positions with the Tata Group, The Economic Times, CNBC TV18, and The New York Times. He has won several national-level awards in branding and crisis communications.]

Onus on the Hand Holding the Lamp

Academic and researcher Nitesh Tripathi delves on some of the contradictions that humanity faces subject to the unhindered progress of technology.



In this article rather than talking about the 'genie' i.e., technology that comes out of the lamp, I will talk about the one who rubs it i.e., humans. And, the 'moth' that keeps hovering around the lamp. Also, instead of indulging in technology bashing or praise, I'll highlight several general beliefs and



technology (especially media technology) related behaviours of human beings that are

problematic and need to be rectified.

Are We Turning into Moths?

To begin with, I'm not talking about the moth that goes through metamorphosis and turns into a butterfly with beautiful wings, but the one that keeps hovering around impatiently waiting to get roasted in the heat of the light source. It's really fascinating to see a moth flying around the lamp. It seems as if its waiting for the elixir of life but unfortunately it is nothing more than a suicide mission. The way moth becomes fixated with the light source, we also have become fixated with certain ideas regarding life that are harming us. Being fast, multitasker, over productive are few of these notions. And it is because of these notions we are unable to cope up and utilize the technological advances to the fullest.

Becoming Nocturnal

Just the way moths or other insects are active during the night, humans have also

become accustomed to waking and working at nights. They have now developed the habit of burning midnight oil (ironically, I wrote this article at night!). They are putting too much stress on themselves in order to push their limits and excel. They have truly become nocturnal creatures.

No wonder in the entire world, there are many cities that never sleep and the people living there say so with pride! Sometimes, humans don't even have work and yet they keep themselves awake the

**The impatience/
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whole night to spend time on the social media or finish marathon sessions of binge watching.

Thus, rest takes a backseat as the media content is keeping them on the edge of their seat. Not just this. Believe it or not, we sometimes wake up without any purpose. In fact, there is a term for this – Revenge Bedtime Procrastination i.e., decision to sacrifice

sleep for leisure time that is driven by a daily schedule lacking free time or punishing self on the inability to make the day productive. So cruel! isn't it?

Risking it All and Exceeding the Limit

Do you remember the scene from the movie 'Do Bigha Zamin' (1953) where Shambhu agrees to pull rickshaw very fast in order to earn more



money? Ultimately, the wheel breaks down and he meets with an accident. Same way, our mental health is collapsing with too much pressure being exerted on ourselves mentally and physically. Such has become the norm that the greatest feats have already been achieved and the only feat that can be achieved is by doing the same in lesser time. For

example – climbing Mt. Everest is not a biggie but climbing it faster is. Athletic records have already been set and now can only be broken with risk of injuring self with a muscle pull. We are moving towards the age of excess with little thought about restraint and caution. You might think that people are taking risk just for the job's sake. But no. They are doing so

everywhere. For instance, on 'Social Media' you would find people resorting to risking even their lives in order to get just few likes. This risking of health and lives is somewhat similar to how motivated moth is while chasing the light source. And we know how does that turn out. In Greek mythology, Icarus flew too close to sun, melted his wings and drowned in the sea. And hence the saying goes – don't fly too close to the sun. This shows that exceeding your limit takes a toll. But in today's time, people are

The way moth becomes fixated with the light source, we also have become fixated with certain ideas regarding life that are harming us. Being fast, multitasker, over productive are few of these notions.

exceeding their limit and that is why burnout (exhausting physical and mental strength) has become very common. People take pride in saying that they are workaholic (trust me it's nothing to be proud of). For them, let me spell out the outcomes of burnout – inability to concentrate, depression, mental breakdown, writer's block, frequent fatigue, and decline in productivity. No one is invincible. You can think of yourself as a robot but you are not.

Problematic Behaviours and Beliefs

After the comparison of humans with moths, I'll explain how certain common beliefs and technology related behaviours (many of them related to media technologies) of humans are making it difficult for them to cope with modern day technologies-

Excess Dependence: Technologies are like tools that are meant to enable us but

they also disable us in certain ways. It is in this context that Marshall McLuhan had said that technology is an extension of our body. For instance – car is an extension of our leg and mobile phone is extension of our eyes (vision), ear (hearing), mouth (voice) and brain (memory). But with too much dependence, they have not remained extension but turned into the only alternative for us. We are not trusting or using our body functions but rather relying on technology. One example is the use of phone calculator. It is this total dependence that makes people feel helpless when they don't have technology access for a while or their tech devices breaks down.

All time Availability: We check frequently our mails and social media feeds for notifications. We pick up phone whenever it buzzes or if there is a ping. We pick it up and check even if there are no notifications. We get impatient if we are



unable to check our phone. Even our work place dictates us to check mails frequently which ultimately compels us to be available online all the time. This depletes our cognitive resources and makes us distracted and tired due to which we are unable to do any other task after that. In today's fast-moving world, we need to stay updated to remain relevant.

But many times, we are unable to cope up. And with this comes anxiety, stress, and FOMO (Fear of Missing Out). This all-time availability near our devices and technologies is similar to how moths hover around the light source without even resting for a while.

Modern Life Success Mantras: The present era philosophies related to life are all about promoting capitalism and materialism. And their messages are echoed by media content as well. Several phrases such as YOLO (You Only Live Once), Carpe Diem (To seize the day), Life is too Short, Now or Never etc. compel human beings to push their limits even when there is risk of adverse impact. Well life is not a race. Also, life is not a marathon. You don't have to run to the finish line. Because that finish line is nothing but the end of your life. Remember we are one who have set ourselves goals and deadlines. And life is definitely more than that. It's not about reaching from one point to the other. Enjoy the journey while you still can. In this modern world, doing things fast is a skill and is preferred over any other skill. Industrialization is responsible for killing creativity and replacing it with speed. People who are fast (and first) are awarded. (Not just by companies but by Guinness World Record as well) There is no place for runner up or losers in this world. And thus, a rat race ensues in true sense where people fight for food, job, money and other resources. In today's world, time is money. Work more, earn more.

The technologies around us especially media technologies have rewired our brain and turned it into Dopamine seeker. Yes, the hormone which is known for generating pleasure. We have become addicted to dopamine and we find stimulants to allow its secretion.

People who clock more time in office hours are given compensation. All these expectations, philosophies and reward systems ultimately make people push their envelope.

Hooked to Dopamine: The technologies around us especially media technologies have rewired our brain and turned it into Dopamine seeker. Yes, the hormone which is known for generating pleasure. We have become addicted to dopamine and we find stimulants to allow its secretion.

Information consumption is one way of generating it and that's why we are hooked to checking our social media feeds regularly. Another way is through use of stimulants such as coffee and tea that keeps us awake throughout the night to complete our work by giving us that needed boost of energy. But there is a catch. Too much secretion of dopamine is bad. This was proved by a study done by James Olds who let a mouse pull a lever in order to administer itself shock in its



lateral hypothalamus (which is responsible for secreting dopamine). The rat kept pressing it until it died.

Such is the level of addiction arising out of this hormone that we feel anxious when we are unable to check messages, reply to a comment, pick call, or get likes on our picture. In fact, this 'urge' to check all notification has a term – Inbox Zero. Quite apt, Isn't it? So, accept it or not – we've got addicted to these doses of dopamine.

In fact, we have become somewhat like a Pavlovian dog who secreted saliva out of excitement after hearing bell for food. Similarly, we also get excited whenever we get a ping or hear our mobile phone ring. And feel low when we don't get any notification and hence keep checking again and again in the hope of getting something. The impatience/ restlessness arising out of inability to check phone is

the reason why we are unable to tolerate boredom (which is in fact a free time). And thus, media use has become a default activity in free time.

Impatience and Love for Distraction:

Another behaviour that is worrisome is that of inducing interference. While multitasking and distractions could easily be avoided but humans have developed a liking for multitasking (by the way multitasking is a myth as you can only do one task at a time) which seems more fun and rewarding. Another habit related to this is preference for receiving earlier reward than delayed one.

This urge for instant gratification can be seen in various forms such as playing video games, online shopping, Online food ordering, and checking messages/ social media feeds etc. We have grown accustomed to pace and being fast, thanks to our technology. But this has also increased our impatience. We become restless if any technology doesn't work (elevator, fridge, or phone). For instance, if website page takes too long, we close it and go onto other page.

I would like to end by stating that it is important to understand how technology is altering us or the way we use our technology because only then we would be able to rectify issues arising out of it and 'Tame the Genie'. One of the biggest remedies is practice of restraint and caution. This way we won't become dependent on our technologies. I could have provided more remedies but I guess I have 'exceeded' the word limit.

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AI and Nature Conservation: The Way Forward



**Seasoned journalist
turned academic
Dr. Mrityunjoy Chatterjee
talks about the role of AI
in conservation efforts.**

Technology has always disrupted life. These disruptions have been viewed as both positive and negative. The debate will continue eternally. However, the advent of Artificial Intelligence has brought in immense possibilities in Bio Diversity conservation. AI has the potential to accelerate global efforts to protect the environment and

conserve resources by detecting energy emission reductions, CO2 removal, helping develop greener transportation networks, monitoring deforestation, and predicting extreme weather conditions

Can artificial intelligence predict human/wildlife conflict?

AI can help in filling the lacunae which exists due to the unavailability of data. It can help in identifying conflict areas through the detection of human presence in forests.

How can technology help conserve biodiversity?

Technologies to identify individual animals, follow their movements, identify and locate animal and plant species, and assess the status of their habitats

AI can help in filling the lacunae which exists due to the unavailability of data. It can help in identifying conflict areas through the detection of human presence in forests.

remotely have become better, faster, and cheaper as threats to the survival of species are increasing.

How AI can enable a sustainable future?

Environmental Sustainability

AI can also manage the supply and demand of renewable energy using deep learning, predictive capabilities, and intelligent grid systems. Finally, AI can help reduce traffic congestion, improve cargo transport, and enable autonomous (or self-driving) cars

What is conversational AI?

Conversational AI is the set of technologies behind automated messaging and speech-enabled applications that offer human-like interactions between computers and humans. ... Conversational design, a discipline dedicated to designing flows that sound natural, is a key part of developing Conversational AI applications.

What is Green AI?

The term Green AI refers

to AI research that yields novel results while taking into account the computational cost, encouraging a reduction in resources spent.

What is Green Machine Learning?

Green Machine Learning via Augmented Gaussian Processes and Multi-Information Source Optimization. ... An Augmented Gaussian Process method exploiting multiple information sources (namely, AGP-MISO) is proposed. The



Augmented Gaussian Process is trained using only “reliable” information among available sources. In October last year, officials discovered a maggot-infested body of Solo, a young tigress, in Bandhavgarh National Park in India. A case of suspected poisoning, her death was a testament to how conventional wildlife conservation methods have failed. Hundreds of animals lose their lives to varied causes– floods, fire, and

poisoning to poaching, every year. In India alone, 74 animal species are critically endangered, and the country ranks on the global ‘shame list’. Many of these animals are keystone species whose extinction can collapse entire ecosystems and food cycles. Conventional and exhausting methods of surveillance for wildlife conservation have failed us. Existing and conventional wildlife

Artificial intelligence is useful in understanding the repeated behaviours in animals – reproduction patterns, foraging routes, and hunting habits. Every animal exhibits the same basic behaviour.



monitoring systems and methods of surveillance are insufficient and inefficient. They are either incapable of scaling or are physically exhaustive. Fortunately, the application of technology in wildlife and biodiversity preservation comes as a ray of hope. Applications of Artificial Intelligence and Machine Learning can change the dynamics of the field in favour of these threatened species.

An Algorithm Fit for the Wild

Artificial intelligence is

useful in understanding the repeated behaviours in animals – reproduction patterns, foraging routes, and hunting habits. Every animal exhibits the same basic behaviour.

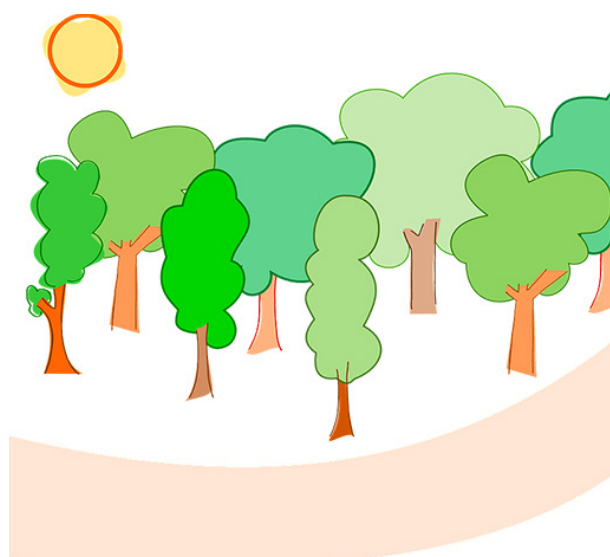
An algorithm fit for wildlife surveillance needs to be trained on a large volume of metadata, including millions of images, sounds, and routes. Artificial intelligence is versatile. It can be moulded into various algorithms and can be used for surveillance, image capturing, security, animal counting, controlling poaching, and research.

An Eagle's Eye for the Wild

Conventionally done by Forest Rangers, tracking animals is exhaustive and has no room for errors. Rangers are not equipped well enough to deal with the task regularly. Also, the ratio of rangers to the area of territories that they need to monitor is humungous.

Artificial Intelligence-enabled robots, or drones with image datasets and processing, can help wildlife conservation authorities to keep track of the animal population.

Similarly, Computer Vision technology can help. The technology used in AI-enabled drones can detect the type and species



Conventional and exhausting methods of surveillance for wildlife conservation have failed us. Existing and conventional wildlife monitoring systems and methods of surveillance are insufficient and inefficient.

of animals and inform researchers about their daily activities. Machine Learning algorithms powering these drones developed with a wide range of datasets will also equip AI to recognise these animals. Large animals like rhinoceros, whales, and elephants can be spotted via satellite images and help researchers keep an eye on these animals.

Computers to Count

Algorithms used for animal detection are similar to the 2D Bounding Box Annotation Service for Machine Learning – animals in a single class need to be more precisely identified. Semantic segmentation coupled with image annotation is the best and correct technique to approach counting the animals. The method makes multiple animals detectable by using computer vision algorithms to localise the object. It can visualise different animals in a single class or single entity, helping perception to learn from it and separating it from its natural surroundings.

Guardian of the Wild

Poaching significantly threatens wildlife in the world. The illegal wildlife trade is worth \$23 billion, and it has driven my species to the edge of extinction. Forests can be made more secure for animals by

DeepMind’s AlphaGo is also using Machine Learning to identify and count animals. Mapping the world’s wildlife can take up to years, but the company’s artificial intelligence tool can analyse millions of images in a short time.

using Artificial Intelligence security cameras equipped with night vision and object detection in the dark. Installed at sites where poachers infiltrate, these can detect persons carrying weapons and alert authorities to save animals. Artificial intelligence-powered acoustic sensors, trained on datasets of the sound of forests, run on edge and collect data. These can be used for learning the sounds of forests and reporting anomalies. It can alarm authorities whenever the sound of chainsaws, gunshots, or motor vehicles is detected in the vicinity of the forest and can help reduce poaching and logging.

Worldwide Efforts in Collaboration with AI

The University of Southern California recently developed “Protection Assistant for Wildlife Security”, also known as PAWS, to assist wildlife conservation. The program uses mathematical models to analyse previous data of patrol routes and poaching, determining the territories rangers should focus on in response to poachers while randomising patrol routes, making it impossible for poachers to pick up a pattern. DeepMind’s AlphaGo is also using Machine Learning to identify and count animals. Mapping the world’s wildlife can take up to years, but the company’s

artificial intelligence tool can analyse millions of images in a short time. The programme has analysed millions of pictures taken at Serengeti National Park, Tanzania, and mapped them in an hour. The World Wildlife Fund is also working with Intel to apply technology to monitor and protect wildlife. It is using Intel’s Movidius Visual device to survey the areas of Northeastern China inhabited by Siberian tigers. The platform is based on Intel’s deep learning library MKL-DNN and Tensor Flow tools optimised for Intel architecture to provide a deep analysis of images and help track tigers.

Thus, technology provides the advantage of securing the wild without disturbing its habitat and minimum interference Learning from Nature’s Ecosystems We still have a lot to learn from nature. For example, while we know that climate change and drought can have significant impacts on ecosystems, the reverse can also be true; some ecosystems are proving resilient in both natural and urban settings. Other recent research points to additional mysteries, such as trees cooperating and sharing resources via underground fungi networks.

Nature can be a catalyst for our own





innovative thinking. As ecosystems change over time, organisms develop different strategies for handling some of the same challenges human society faces, such as how to produce energy or food, avoid disease or eliminate waste. Biomimicry is a discipline that seeks to emulate nature's time-tested patterns and strategies to create new solutions. Ashok Goel, a professor at Georgia Tech's School of Interactive Computing, created a cognitive research assistant with similar principles in mind. After feeding a cognitive system several hundred articles from an interactive biology repository, his students were then able to pose questions, such as "How can I make a better desalination process for sea water?" (Animals have a variety of methods for this. For example, seagulls remove salt by filtering seawater through special glands.) Through interaction with this cognitive assistant, the students were able to draw inspiration from biological systems that they used to invent new technological solutions.

Sometimes, before we can apply cognitive technology to help solve a particular environmental problem, we need to study nature more deeply. Lake George, in upstate New York, is one site where such work is taking place. The area has no heavy industry or significant agriculture, and the water is clean enough to drink straight from the lake. Its pristine condition presents a unique opportunity for scientists to study an ecosystem that's much closer to its natural state to better understand and model basic physical and biological processes.

Through the Jefferson Project at Lake George, scientists are analyzing data coming from an IoT sensor network in and around the lake, and using that information to build and refine computer models of the lake's ecosystem. Over time, as more data is collected, machine learning will enable a better

understanding of how stressors such as salt runoff from roads, invasive species, land-use changes and climate change impact the lake's water quality. Such insights could ultimately lead to additional uses for cognitive technology, such as advising policy makers about the economic impact of their road treatment practices, or helping other governments and communities manage lake resources more efficiently.

"Through machine learning and video analytics, cognitive technology can help us understand what the norms are and discover anomalies or problem areas. This will help us minimize deforestation, track urbanization, mitigate diseases and better understand and control ecosystems." – Rick Hamilton, Client Innovation Leader, Watson IoT, IBM.

Looking Ahead to a Brighter Future While dire predictions remain about the future of our natural world, there is hope as governments, academia, businesses and citizen scientists worldwide come together to protect the environment for our children and grandchildren. With the help of cognitive technology, we're building a brighter – and greener – future, where environmental harm can be detected and acted on in real time, and more sustainable choices are available for consumers. "When I think about the ways that cognitive technology is going to help us protect and conserve our natural resources, really the sky is the limit," says Hamilton. "We're only at the beginning."

[Author's Introduction: Journalist turned Academic administrator, Dr. Mrityunjoy Chatterjee has over 35 years of experience in mainstream Media and Education industries. Widely travelled, he has held coveted positions across Media and Academia. Mrityunjoy is presently the Director of Outreach at the Kolkata-based Adamas University.]

Case Studies in Curricula: A Slice of Real World in Academics

*Academic and scientist
Dr. Arindam Mitra
explores the importance
of using case studies in
the teaching-learning
process.*



The conventional lecture mode of instruction is not an effective tool to facilitate active learning and does not enable retention of concepts in the long run. On the other hand, case studies

can offer long-term retention of concepts and boost practical higher-order thinking skills relevant to the concerned curriculum. Case studies constitute a teaching strategy, where students use observations and experiences to investigate and solve a real world-like problem. Actual cases are taken more seriously by students and can be more impactful in learning.

However, instructors might be hesitant to use case studies in classrooms, as teaching specific topics might consume time in the process. Besides, properly assessing and grading individual students





Figure 1:

can be challenging. In reality, case studies consume an identical amount of time for grading and assessment as other assessments, if a proper rubric is in place beforehand. On the other hand, the students might feel that they may not be receiving good grades as some students in a group might put more effort than others. Also, coordination and conflict resolution are needed to make case studies effective as there will essentially be differences in opinion and thought processes in a group. However, case studies, when implemented, can equip

Instructors might be hesitant to use case studies in classrooms, as teaching specific topics might consume time. Besides, properly assessing and grading individual students can be challenging.

students with impactful active learning and handling of a real world-like problem. Case studies also require students to use higher-order thinking skills such as creation, judgment or evaluation. Furthermore, through case studies, students can develop teamwork skills, learn to respect differences in opinion and can become better at conflict resolutions. Students tend to develop cooperation and like to give their best when working in a team. Besides, real-world problem-solving can assist students when they start their independent

careers. The instructor must provide periodic feedback and expectations from participants, which can further smoothen out any conflict.

Case studies work best in small groups of three to four students. A student can serve as a group leader for each group. Besides, case studies in a group can generate innovative solutions as it fosters collaboration and creativity to tackle complex real-world problems. Distribution of rubric of student assessment is also helpful. Monitoring of group progress during the class and participation and cooperation are encouraged. An instructor may assist in facilitating academic learning from time to time. Figure 1 highlights the significant impact and benefits of the implementation of case studies in the curriculum.

Figure 1: Impact and Benefits of Case Studies Implementation in the Curriculum

Specific codes of conduct of students are expected or required for case studies to be compelling. These could include taking responsibility, respecting all group members,



volunteering when needed, time commitments, contributing to discussions, active listening, clear communication, giving and receiving feedback,

and focusing on the team's success and expectations. Some interaction guidelines for students include consensus-based decision-making, confidentiality,

participation, and timely submission of assignments. All participants should read and actively participate in case studies focusing on all Bloom's levels of thinking, particularly higher-order thinking questions. For online classes, several strategies can facilitate the implementation of case studies. Such methods might include the use of Breakout rooms in Zoom or Microsoft Teams, Google Jamboard, Google Slides, Google Docs, and others. Sharing of materials on a Learning Management



Methods might include the use of Breakout rooms in Zoom or Microsoft Teams, Google Jamboard, Google Slides, Google Docs, and others. Sharing of materials on a Learning Management System such as Canvas is effective.

System such as Canvas is effective. In the case of physical classrooms, the arrangement of chairs and tools should facilitate discussion and interaction among students. Collaboration and problem solving of case studies require a higher order of thinking among students. Mentoring and guidance from instructors play a crucial role to make case studies impactful inside classrooms.

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Artificial Intelligence: An Ally of Pharma and Healthcare Industry



Academics Srija Sur and Joyeeta Bhattacharya writes about the phenomenal applications of AI in the pharmaceutical and healthcare industry.



Artificial Intelligence (AI) has been one of the most debated topics of present times as it is transforming nature in almost every way. The challenge is to decide whether it will

make the planet a better place to live or it will push the human race towards disaster. The seed of AI was sown during the 1950s and still continues to hold great future potentials.

AI can be defined as the science and engineering of making intelligent machines – especially intelligent computer programmes. This definition was given by John McCarthy, the father of AI. So, in brief, AI is an amalgamation of computer science and life sciences. It involves the making of software or a programme, which thinks intelligently like a human brain. It deals with machines that help in finding solutions to complex

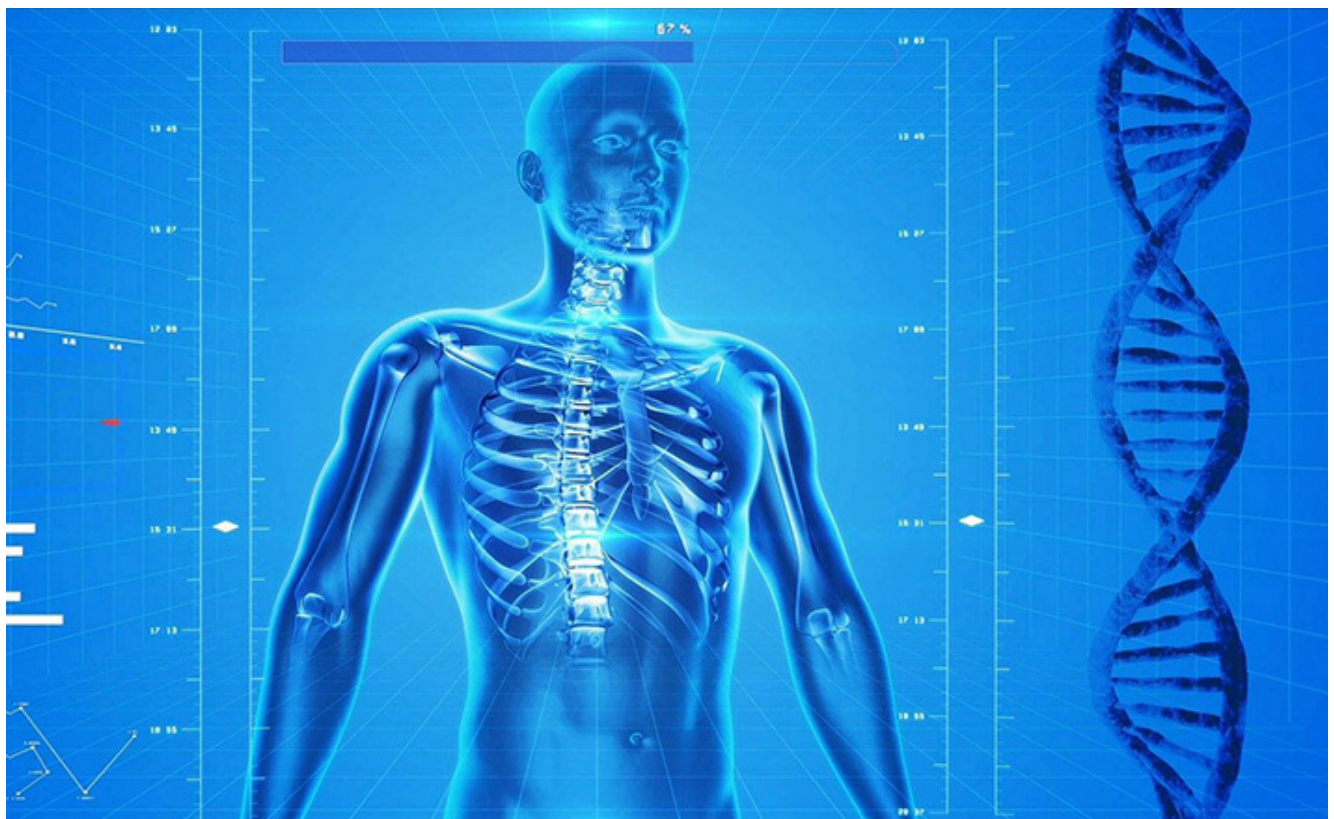


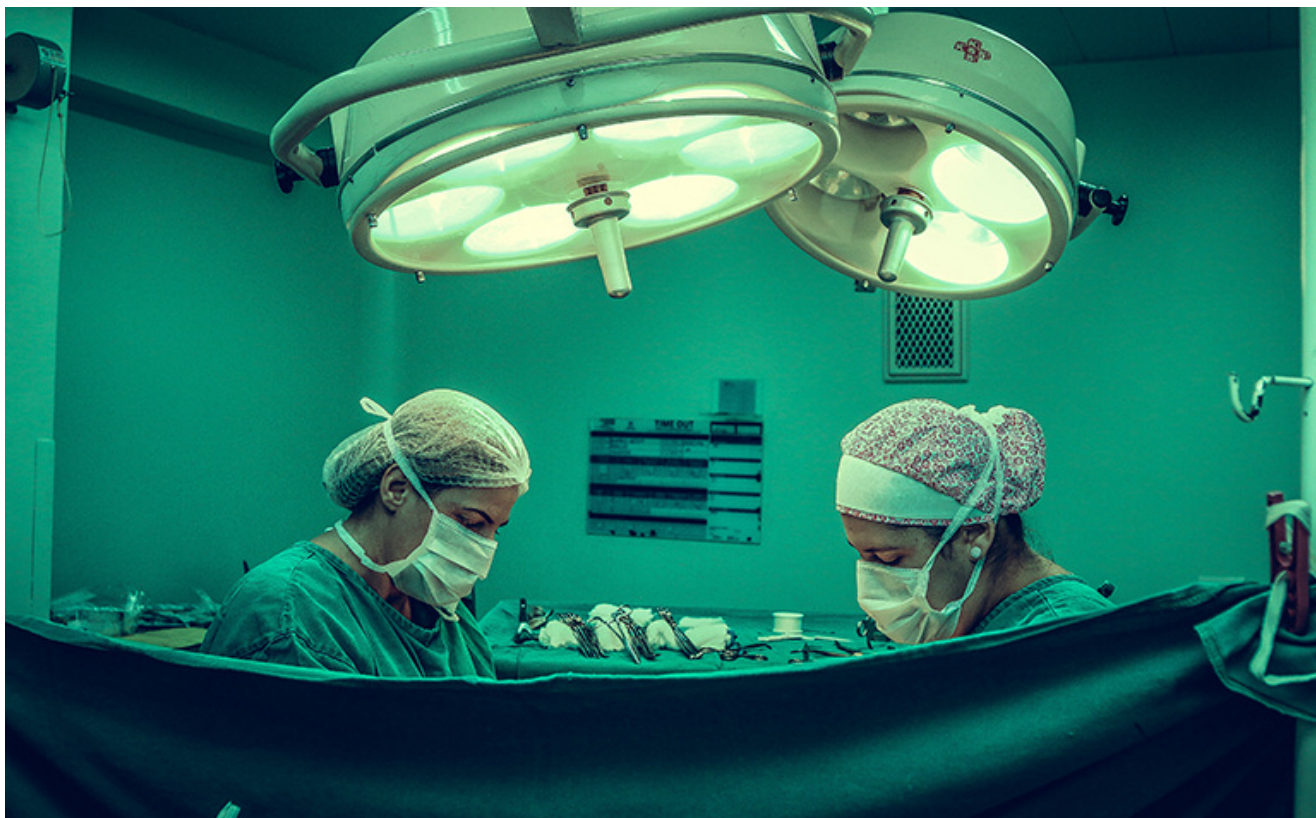
problems in a more human-like fashion. Computers are fundamentally well suited to perform mechanical computations using fixed programmed rules. This allows the artificial machines to perform simple monotonous tasks efficiently and reliably, which humans are ill-suited to. AI has brought about automation in many different fields. AI is the most discussed topic across all industries throughout the world.

The roots and the intellectual concept of AI originated from Greek mythology. During World War II, Alan Turing, a British scientist who had vivid knowledge about computers, worked to decode Enigma. Enigma was a code used by the German army to send information and messages secretly. After that, the concept of AI started and that concept of AI was described in Dartmouth Conference where Herbert Simon and Allen Newell stated that AI can transform the world. The ultimate creation and collaboration

AI can be defined as the science and engineering of making intelligent machines – especially intelligent computer programmes. This definition was given by John McCarthy, the father of AI.

of AI and robotics can be established when there would be the recreation of human thought process through robots. The real challenge of collaborating AI with robotics is to decode how natural intelligence works. Modern society uses





robots for a lot of purposes in different fields. For example, Sophia robot is a humanoid robot. Likewise on the other hand, medical field also uses robots which can perform surgery. Robots are used for dispensing of medications in pharmacies as well as for security purposes.

The ultimate creation and collaboration of AI and robotics can be established when there would be the recreation of human thought process through robots. The real challenge of collaborating AI with robotics is to decode how natural intelligence works.

AI uses a large number of tools that has gained popularity in the field of pharmacy. The tools of AI use high impact software and technologies that can meet up with the current needs of the pharmaceutical industry.

Watson is a supercomputer, which was designed by IBM. This supercomputer was designed in collaboration with sophisticated analytical tools as well as various software of AI which are capable enough in assisting oncologists. Watson helps oncologist to take better decisions regarding the treatment of cancer. TUG robots were mainly designed for the carrying and delivering of loads. These robots autonomously travel in hospitals in order to carry, load and unload medications, meals, specimens etc. UCSF Medical Centre has designed robotic technology to prepare, deliver and track the medications. As per their report, the data has been quite satisfactory which says that about 3,50,000 medication



doses were accurately prepared. Medicine and Engineering Designing Intelligence (MEDI) is a pain management robot, which was developed by a professor at University of Calgary in Alberta. Magnetolectric nanorobots are efficient nanodevices for successful drug delivery. Movement of these nanorobots is controlled by magnetic field and release of their cargos is controlled and target-specific.

Insilico Medicine first launched its AI project in which the company claims to use solutions of neural network. The company in this project claims to generate deep neural networks and then sell those with its solutions to different biotechnological and pharmaceutical companies.

With the emergence of AI, healthcare providers are now able to prescribe customized medicine to patients based on their genetic makeup. Another app named SkinVision Detect cancer app help the users to online assess the deadly

disease. This app is clinically proven and is also CE certified. It can detect more than 1,000 skin lesions.

Automation in certain stages of clinical trials has made the drug discovery process smoother. Clinical trial is the most expensive affair and there is a high amount of risk involved and failure in clinical trials can result in loss of large amount of capita. AI has a high potential to change every stage of clinical trials ranging from finding a trial to adherence of medication. In the future, we could expect more robots doing research and coming up with new inventions. Robots would soon invade the drug discovery process completely and make work more efficient.

Though AI is still not being applied much in the field of herbal medicine, certain studies are performed which shows successful impact of AI on herbal drug delivery. Traditional Chinese Medicine (TCM) is growing in its importance day-by-day throughout the world due to its effective clinical treatment.

AI is a highly debatable topic. Few scientists have optimistic approach whereas others have pessimistic approach towards AI. The technology is moving at a breakneck speed and it has affected our lives in many ways. In another few years, AI would be a reality. The future of AI is hazy but surely, it's going to impact every sphere of our life.

[Authors' Introductions: Srija Sur is an Assistant Professor at the School of Medical Sciences under Adamas University in Kolkata. Srija has completed her Masters in the specialization of Pharmaceutics.

Joyeeta Bhattacharya is working as an Assistant Professor at the School of Medical Sciences under Adamas University in Kolkata. Joyeeta has completed her Masters in the specialization of Pharmacology.]

Storytelling Unlimited: Connecting Our Collective Consciousness

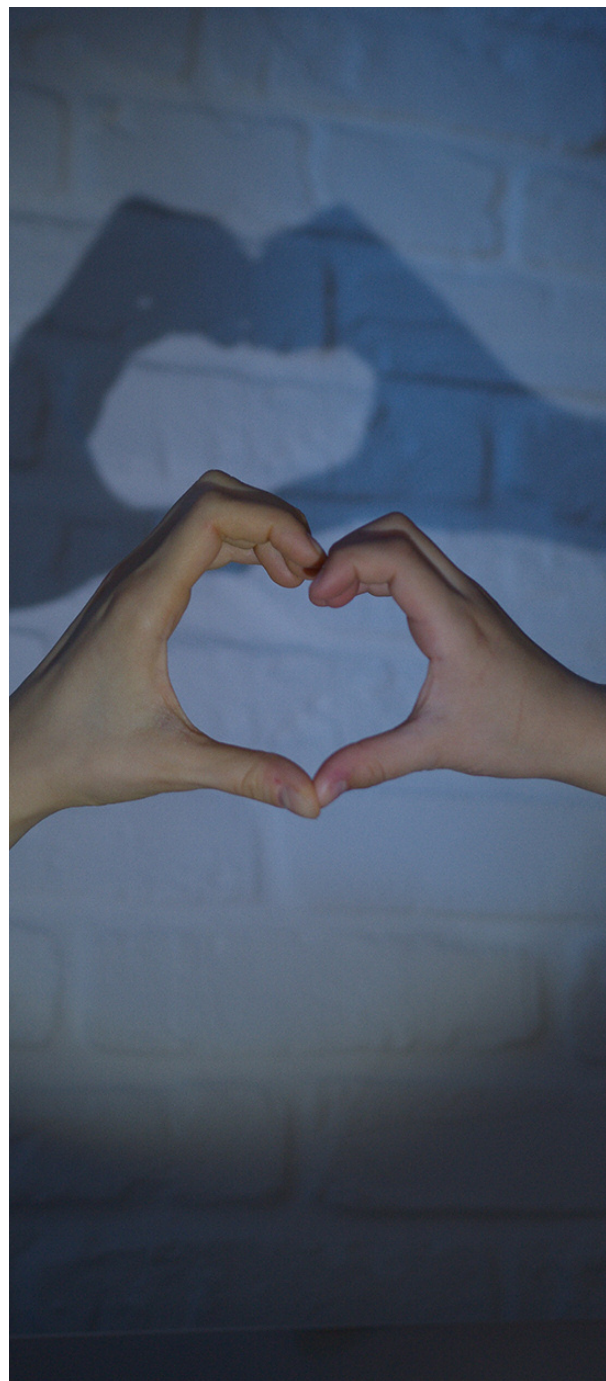


*Corporate professional
turned academic
Subhrajit Dutta
deliberates on the
importance of storytelling
in communication.*

#curiosity #continuity
#connectedexistence

What is a story? Merriam-Webster defines it as “an account of incidents or events.” Story is a “narrative, either true or fictitious, in prose or verse, designed to interest, amuse, or instruct the hearer or reader” (dictionary.com.).

Before getting more into storytelling, let us try and understand how humans think for whom the stories are intended? I would like to recall an article published in The Harvard Business Gazette that suggests that human thoughts “generally can be divided into two modes, the visual and the verbal. When you think about your next vacation and imagine sitting under a palm tree and sipping a cold drink, you’re probably thinking visually. If you’re thinking about what you’ll say when you make a presentation at work, you’re likely thinking in words and sentences, creating inner speech.” The article cites a study that “found that even when they were prompted to use verbal thinking, people created visual images to accompany





their inner speech, suggesting that visual thinking is deeply ingrained in the brain." The reasons behind this phenomenon might have a connection with our evolutionary process. "For a long time, we understood our world visually, so maybe language is an add-on."

To simplify, we often think in terms of pictures. Through words, we wish our readers to see the same thing that we see. Through visual thinking, we get into the realm of our creative world.

While composing a compelling story, both are important. The more images that we can create through our words, the more effective our techniques of storytelling are.

Why storytelling?

convinceandconvert.com reports some interesting facts about the effectiveness of a story.

Stories: 22 times more memorable than facts and figures alone.

Our neural activity increases 5X when listening to a story. Storytelling lights up the sensory cortex in

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**Stories help us “influence, teach, and inspire others.”
Stories build the bridges for people to connect the dots among “history, experiences, opportunities and ideas.”**

the brain, allowing the listener to feel, hear, taste, and even smell the story. Peter Guber in “The Four Truths of the Storyteller” published in Harvard Business Review speaks of the power of storytelling. “In the mid-1980s at

PolyGram, I produced a television series called Oceanquest...One of the planned segments critical to the success of the series was to explore the forbidden waters of Havana harbour, where galleons and pirate ships had carried treasure since the 16th century. They did not have the permission of Fidel Castro's government yet. The crew was looking for the formal approval to film in the harbor. Then Castro arrived. And a story was told to persuade Castro.

“The ice broken, I began telling the story of Havana harbour and its centuries at the heart of world commerce, diplomacy, intrigue, and war. The central motivation for early explorers of the New World had been the quest for treasure. As the focal point of Spain's trading empire and the strategic “key to the Gulf of Mexico,” Havana had been integral to this quest, its port the shipping center through which the gold of the Americas flowed on its





way to the Spanish royal court. Pirates, privateers, spies, and rival imperial forces – including Britain's Royal Navy – had plied its waters, seeking booty, probing for military and economic secrets, and vying for influence. I explained how we would use the latest technology to bring Cuba's history to television viewers worldwide." The result? "Castro spent four hours visiting with our film crew, and he gave us permission to film anywhere in the harbor we wanted." That's the power of impactful storytelling.

Stories indeed offer learning for every group of learners. Vanessa Boris in her blog "What Makes Storytelling So Effective For Learning?" published on harvardbusiness.org quotes Paul Smith from "Leader as Storyteller: 10 Reasons It Makes a Better Business Connection". "In any group, roughly 40 per cent will be predominantly visual learners who learn best from videos, diagrams, or illustrations.

Another 40 per cent will be auditory, learning best through lectures and discussions. The remaining 20 percent are kinesthetic learners, who learn best by doing, experiencing, or feeling. Storytelling has aspects that work for all three types. Visual learners appreciate the mental pictures storytelling evokes. Auditory learners focus on the words and the storyteller's voice. Kinesthetic learners remember the emotional connections and feelings from the story." In the same blog, Boris quotes Kendall Haven, author of *Story Proof* and *Story Smart*, who considers storytelling as a serious business for business. Haven wrote, "Your goal in every communication is to influence your target audience (change their current attitudes, belief, knowledge, and behaviour). Information alone rarely changes any of these. Research confirms that well-designed stories are the most effective vehicle for exerting influence."

Stories help us “influence, teach, and inspire others.” Stories build the bridges for people to connect the dots among “history, experiences, opportunities and ideas.” Stories offer a conceptual framework so that the brain can “organize and manage information”. “Chunks” of inter-related information in the form of a story come handy to aid human memory capacity. That’s why huge accumulation of relational, religious, social and other information could be nicely organized in mythological stories and epics in a very engaging manner. How can a business house leverage a story? From forming a bond with the customers to creation of trust, to influencing opinions, to offering clarity of an action by an enterprise, stories indeed convert a business to an emotive, living and talking organism. Ohio State University researchers found that “listeners are transported by a narrative”, they tend to perceive the speaker in a more positive way, and even embrace their opinions and world-views” (“Knowing how to write your own script is key to a successful career” on cnbc.com). Successful brands know how to use stories to clarify their messages and they know that brand storytelling is a very powerful marketing tool. Stories break clutter and increase attention span to consume content of the brand. How will it be done? With the current tools, through advertising, television commercials, social media posts and so on. Instant storytelling has become a powerful marketing tool. Inshorts, Tiny tales, Micro Tales, Terribly Tiny Tales and seven to 10 seconds advertisements are the newest methods to tell news, express emotions, manifest brand stories, show brand elements and engage with the audience. Less than two decades earlier, the span of an average television commercial (TVC) was in 90/60/30 seconds. As we know, it’s indeed easy to

When you think about your next vacation and imagine sitting under a palm tree and sipping a cold drink, you’re probably thinking visually. If you’re thinking about what you’ll say when you make a presentation at work, you’re likely thinking in words and sentences, creating inner speech.

write more, but difficult to express our complete thoughts briefly. In the era when consumers for our content live under the constant fear of missing out (FOMO), few are keen to pursue a brand content for long.

Let’s dive into the virtual paradigm. I am assuming (not launched yet), Metaverse by Facebook will be in line with this. It will be a different world, where human existence will be unitary blurring borders, nationality and language. Access issues and digital divide may remain, but for the first time in human history, we shall interact and stay together with each other real time as soon as we wear the requisite gear and get into the parallel virtual universe. As the platform is virtual, millions of brand stories can be woven real time.

Think of Kanika (a fictitious name), who is a painter by profession. With this immersive virtual technology, she can create hundreds of her virtual paintings and can hold virtual art exhibitions. The

audience from across the world can join her virtual display by simply logging in her universe by wearing gear. Market for her artwork, from locals, can go global in a moment.

Creative expressions are no longer subject to geographic boundaries and paucity of space. Innovation and uniqueness are the two most important currencies. The world is waiting for original content. Are you ready to offer?

[Author's Introduction: Subhrajit Dutta (Subhro) has 16 plus years of experience in internal and external communications, strategic marketing and digital and social media. Subhro had been engaged with

top companies like Accenture, Ogilvy, Haldia Petrochemicals, DuPont and Mahindra & Mahindra. He is a first-rate communications trainer and has conducted workshops for reputed banks and corporate brands. He has also taught communications and digital marketing in Nepal, Bangladesh and India in a number of leading institutions and universities. He has been awarded the Public Relations Professional of the Year (2020) by Public Relations Society of India (PRSI), Kolkata Chapter. Subhro is currently associated with Adamas University as an Associate Professor and HoD – Communication Management at the School of Media and Communication.]



Online Education Does Take a Toll on Students



***Experienced pharmacy professional
Arnab Chakraborty
throws light on how to
beat examination stress.***

While digital technology has been an important part of our lives in the past one decade, it has

suddenly become the fulcrum around which our lives have started revolving, thanks to the Covid-19 lockdown for two consecutive years. One such area where digital technology has made a huge impact has been the education sector. With all educational institutions being physically inaccessible due to the Covid-19 lockdown, all activities have gone online – starting from classes to examinations. While on one hand, the use of technology has ensured that the

With all educational institutions being physically inaccessible due to the Covid-19 lockdown, all activities have gone online – starting from classes to examinations.

educational process has not been stalled, many other issues emerged, which we were not prepared for. It started taking toll on the physical and mental health of students.

Student and Stress

Continuous sitting and listening to online classes cause physical and psychological stress to the teenagers. The online mode of examination also cause anxiety. Tight online study schedules for so many hours and then preparing for school/ college examinations and competitive entrance examinations have been so demanding that very less time is available for rest and recreation. Thus, stress ulcer, indigestion, neck and back pain, irritability, insomnia, anorexia can be seen in almost every teenage student.

As the saying goes “All work and no play makes Jack a dull boy”, it is essential for not only students but also for teachers and parents to carry out some fun activities, which would provide students a recreation after their hectic schedule.

“For him, who has conquered the mind, the mind is the best of friends; but for one who failed to do so, his mind will remain his greatest enemy” as quoted from Chapter 6 verse 6, Bhagavat Gita Following the aforementioned tips, students can help themselves to overcome stress:

7 Hours of Sleep

At the end of every day's feverish class schedule, it is very crucial for them to give the refreshing physical as well as psychological repose. A minimum of seven to eight hours of long and undisturbed sleep actuate students' mind and boost them so that they can start studying with a fresh mind.

Dealing with Stress after Test

Students need to refresh themselves after a hectic exam schedule. They need to indulge in some of the physical exercises, which would help them overcome the stress caused by examination as well as study.

Engage in Physical Activities

Students should engage themselves in physical activities, which are both interesting and beneficial for their physical and mental health. Outdoor games, exercise, yoga, gym could be the substitute for their recreation.

Role of Social Media Platforms

Internet and social media are the platforms for both entertainment and educational purposes. Having chats with friends on social media platforms help students to remove the stress. Social media and websites further help students to gain knowledge about different technologies and things happening around the globe. Moreover, there are

बन्धुरात्मात्मनस्तस्य येनात्मैवात्मना जितः ।
अनात्मनस्तु शत्रुत्वे वर्तेतात्मैव शत्रुवत् ॥ ६ ॥

many websites, which allow individuals to share photos, audios, and video clippings among friends.

Taking Part in Group Events and Extracurricular Activities

Parents should motivate the students to involve actively in various humanitarian services like cooking for the jobless poor people, supply of oxygen and medicines for sick patients. After their exams and routine class schedule, students can take part in various cultural activities like debate sessions. They can also participate in football and cricket.

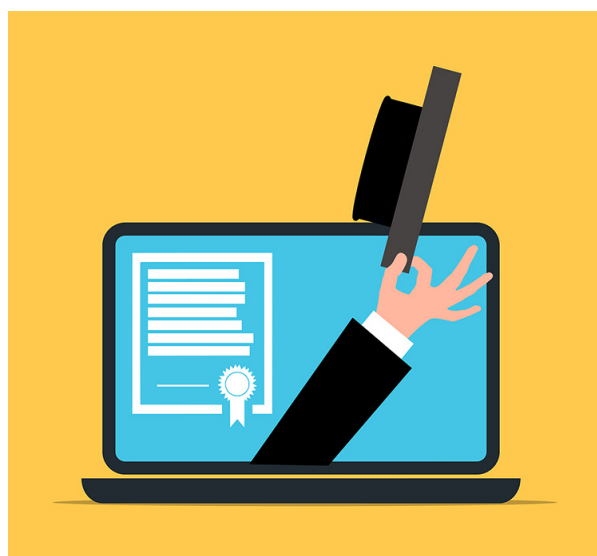
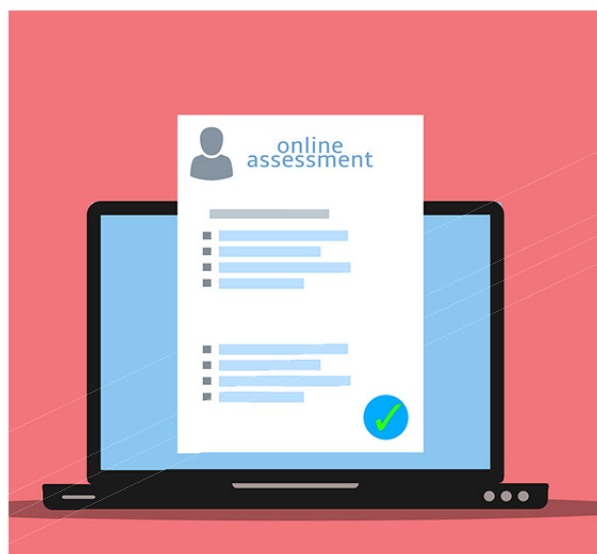
Amplifying their Creative Side

Be it painting, singing, creating machine models from discarded materials – engaging in any kind of creative activity can amplify their creativity as well as divert their mind from the daily stressful academic routine.

Watching Favourite Motion Pictures/ Web Series

After the exams, everyone wants to be free from study-related stress for a while. What other option can be better than watching their favourite web series and movies at home? But one has to be cautious as certain types of films also have adverse impact on the psychology of teenagers.

Internet and social media are the platforms for both entertainment and educational purposes. Having chats with friends on social media platforms help students to remove the stress.



Avoiding Comparison of Examination Answer Papers with Others

Neither there is any standard answer for a particular question nor should one compare results with others. It will be judged based on what was answered during the examination. Every question can be interpreted from different points of view and what they have written on the sheet might be to the point. So, it is somehow better to relax and concentrate on the ensuing exams. Now a days the Covid-19 pandemic has changed the way students are joining in classes and appearing for examinations online from home.



We recently met Ayan, a 20-year-old student, who completed his first-year diploma examinations last year, about how he felt in the lead up to the assessments.

Ayan is an intelligent student and is preparing for lateral entry examination to ensure he would get options for career in the pharmacy field.

Ayan told us that he likes to listen to music while studying but knows that it can sometimes be a distraction. "I'm not able to concentrate on online mode of class but sometimes I turn my phone off and put it in the other room." Ayan said that helps him to concentrate further.

Another girl named Piyali said that she is lucky that she does not usually get stressed and depressed in the lead up to her examinations but does sometimes feel a little nervous on the day of the examination. To overcome the feeling, she ensures sleep for at least eight hours and revision before examination.

Some useful tips to nullify stress levels during the examination days are:

- Change posture after each 15 or 20 minutes to avoid any stress pain.
- Make sure that one drinks plenty of water regularly and sleep well on the day before the examination.
- Avoid oil, junk food spice in one's diet. Add some carbohydrates in the diet.
- If one is finding it difficult to sleep or feeling anxious for the next day examination, it is essential to wash face with cool water.
- Build some strategic plan regarding your examination. Sort out the important questions.
- Try some of these positive affirmations:
 1. I'm going to excel in this examination.
 2. I'm getting better at taking examinations.
 3. I enjoy studying.
- Take regular breaks and schedule fun things to do.
- Take mock tests at home before the examination. Subject teachers may help

कर्मण्येवाधिकारस्ते मा फलेषु कदाचन

मा कर्मफलहेतुर्भुर मा ते संगोस्त्वकार्मिण

regarding this.

- Avoid any kind of CNS stimulant like coffee, or any tobacco items.
 - Do your best and leave the rest
- This important principle is the key of stress management. Lord Krishna in Bhagavad Gita (Chapter 2, verse 47) says as follows: It means "You have a right to perform your prescribed duty, but you are not entitled to the fruits of action".

[Author's Introduction: Arnab Chakraborty is currently a visiting faculty member with Adamas University in Kolkata. He has extensive experience in the pharmaceutical industry. He is also a life Member of Indian Pharmacy Graduate Association and the Indian Pharmacological Society.]

Parenting: Kick off the Genie in Child's Mind and Become Super Parents of Super Kids



Educationist Amal Sankar Mukherjee spells out some effective steps to manage children's mental health during the pandemic.

This is indeed an unprecedented time for all of us, especially for children who are facing an enormous disruption to their lives. Children are likely to be experiencing worry, anxiety and

fears that are very similar to those experienced by adults, such as the fear of dying, the fear of their relatives dying or the fear of what it means to receive medical treatment. If schools have closed as part of necessary measures, then children may no longer have that sense of structure and stimulation that is provided by that environment, and now they have less opportunities to be with their friends and get that social support that is essential for good mental well-being.

Being at home can place some children at increased risk of or increased exposure



Mental health and psychosocial support services should be in place, and child protection services need to adapt to ensure that the care is still available for the children of families, who need it.

to child protection incidents or make them witness to interpersonal violence if their home is not a safe place. This is very concerning.

Although all children are perceptive to change, young children may find the changes that have taken place difficult to understand, and both young and older children may express irritability and anger. Children may find that they want to be closer to their parents, make more demands on them, and, in turn, some



parents or caregivers may be under undue pressure themselves. Simple strategies that can address this can include giving young people the love and attention that they need to resolve their fears, and being honest with children, explaining what is happening in a way that they can understand, even if they are young. Children are very perceptive and will model how to respond from their careers.

Mental health and psychosocial support services should be in place, and child protection services need to adapt to ensure that the care is still available for the children of families, who need it.

Fear, uncertainty, and being holed up at homes more to slow the spread of Covid-19 can make it tough for families to keep a sense of calm. But it's important to help children feel safe, keep healthy routines, manage their emotions and behaviour, and build resilience.

Children rely on their parents for safety – both physical and emotional. Reassure your children that you are there for them and that your family will get through this together.

Answer questions about the pandemic simply & honestly. Talk with children about any news they hear. It is fine to say people are getting sick, but remind them that following safety steps like hand washing, wearing cloth face coverings and staying home more will help your family stay healthy.

Recognize your child's feelings. Calmly say, for example, "I can see that you are upset because you can't have a sleepover with your friends right now." Guiding questions can help older children and teens work through issues. ("I know it is disappointing not to be able to do some of the things you did before the pandemic. What are some other ways you can have fun with your friends?")

Keep in touch with loved ones. Children may also worry about a grandparent,

Although all children are perceptive to change, young children may find the changes that have taken place difficult to understand, and both young and older children may express irritability and anger.

who is living alone or a relative or friend with an increased risk of getting Covid-19. When safe, physically distanced visits aren't possible, video chats can help ease their anxiety.

Model how to manage feelings. Talk through how you are managing your feelings. ("I am worried about Grandma since I can't go visit her. I will put a reminder on my phone to call her in the morning and the afternoon until it is safe to see her.")

Tell your child before you leave the house for work or essential errands. In a calm and reassuring voice, tell them where you are going, how long you will be gone, when you will return, and that you are taking steps to stay safe.

Looking forward. Tell them that scientists are working hard to figure out how to help people who get sick, how to prevent it, and that things will get better. Offer extra hugs and say "I love you" more often.

During the pandemic, it is more important than ever to maintain bedtime and other routines. They create a sense of order to the day that offers reassurance in a very uncertain time. All children, including teens, benefit from routines that are

predictable yet flexible enough to meet individual needs.

Structure the day. With the usual routines thrown off, establish new daily schedules. Break up schoolwork when possible. Older children and teens can help with schedules, but they should follow a general order, such as wake-up routines, getting dressed, breakfast, and some active play in the morning, followed by quiet play and snacks to transition into schoolwork, lunch, chores, exercise, some online social time with friends, and then homework in the afternoon, family time and reading before bed.

Children often have more trouble with bedtime during any stressful period. Try to keep normal nighttime routines such as Book, Brush, Bed for younger children. Put a family picture by their bed for "extra love" until morning. Bedtimes can shift some for older children and teens, but it is a good idea to keep it in a reasonable range so that the sleep-wake cycle isn't thrown off. Too little sleep makes it more challenging to learn and deal with emotions. Remember to fore bedtime. Everyone is more anxious and worried during the pandemic. Younger children may not have the words to describe their





feelings. They're more likely to act out their stress, anxiety, or fear through their behaviour (which can, in turn, upset parents, particularly if they are already

Use time-outs. This discipline tool works best by warning children they will get a time-out if they don't stop. Remind them what they did wrong in as few words and with as little emotion as possible.

stressed). Older children and teens may be extra irritable as they miss out on normal events they looked forward to and activities they enjoy with their friends.

Some ways you can help your children manage their emotions and behaviour:

Redirect bad behavior. Sometimes children misbehave because they are bored or don't know any better. Find something else for them to do.

Creative play. Suggest your children to draw pictures of ways your family is staying safe. Make a collage and hang it up to remind everyone. Or, build an indoor fort or castle to keep the germs at bay, bringing in favourite stuffed animals or toys.

Direct your attention. To reinforce good behaviours and discourage others is a powerful tool. Notice good behaviour and point it out, praising success and

good tries. Explaining clear expectations, particularly with older children, can help with this.

Use rewards and privileges to reinforce good behaviours (completing school assignments, chores, getting along with siblings, etc.) that wouldn't normally be given during less stressful times.

Know when not to respond. As long as your child isn't doing something dangerous and gets attention for good behaviour, ignoring bad behaviour can be an effective way of stopping it.

Use time-outs. This discipline tool works best by warning children they will get a time-out if they don't stop. Remind them what they did wrong in as few words and with as little emotion as possible. Then, remove them from the situation for a pre-set length of time (one minute per year of age is a good guide). Even with everyone home together 24/7,

Talk with children about any frightening news they hear. It is fine to say people are getting sick, but remind them that following safety steps like hand washing, wearing cloth face coverings and staying home more will help your family stay healthy.

set aside some special time with each child. Ideas can include cooking or reading together, for example, or playing a favourite





game. You choose the time and let your child choose the activity. Just 10 or 20 minutes of your undivided attention, even if only once every few days, will mean a lot to your child. Keep cell phones off or on silent so you don't get distracted. Risks of physical or 'corporal' punishment include injury and isn't effective. Physical punishment can increase aggression in children over time, fails to teach them to behave or practice self-control, and can even interfere with normal brain development. Corporal punishment may take away a child's sense of safety and security at home, which are especially needed now.

Take a breath. In addition to reaching out to others for help, the AAP recommends parents just a few seconds to ask themselves: Does the problem represent an immediate danger?; How will I feel about this problem tomorrow?; Is this situation permanent?

In many cases, the answers will deflate the panic and the impulse to lash out physically or verbally at children. Parents need to be supported in managing their stressors so that they can be models for their children. Helping children to find ways to express themselves through creative activities, and providing structure in the day – if that is possible – through establishing routines, particularly if they are not going to school anymore, can be beneficial.

[Author's Introduction: Amal Sankar Mukherjee is a teacher and educator for the past 24 years. He is also a distinguished author in the field of teacher education and is a Life Member of 'Scholars Academic and Scientific Society'. He is the winner of 'International Scientist Award 2021'. He is presently teaching as an Assistant Professor at the School of Education under Adamas University in Kolkata. He has penned 7 books until now.]

Anabolic Steroids: Friend or Foe?

Academic and researcher Dr. Raja Chakraborty deliberates on how the usage of steroids has become a major health concern.



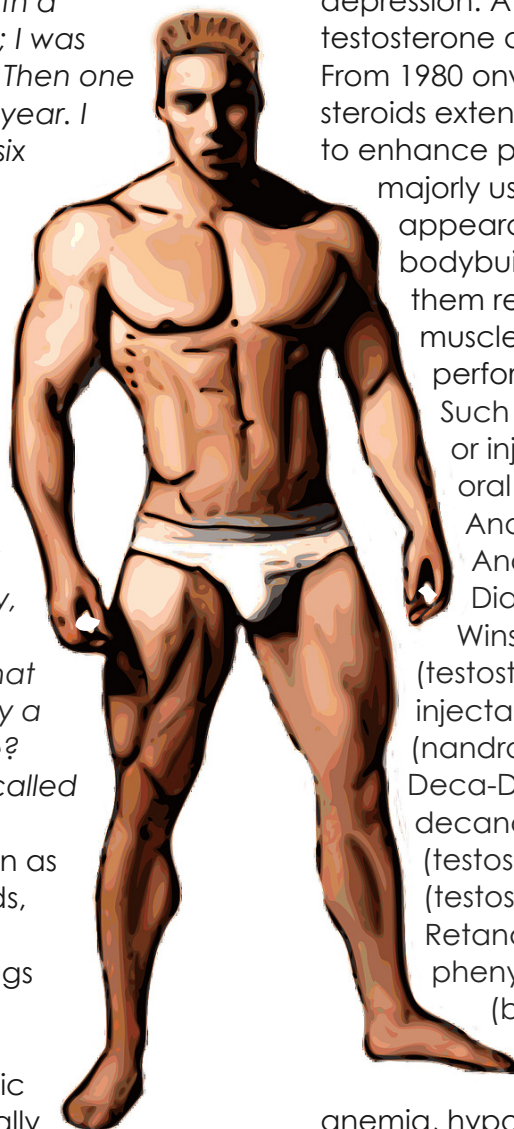
“I started my college with a bodyweight of 45 kgs; I was not even noticeable. Then one magic changed my life in a year. I gained 40 kgs weight in just six months with a well-framed muscular body. Suddenly everyone wants me as a friend. Since then, I have been surrounded by guys in one side and girls on other. What more does a college student want!”

Wow..... Sounds Good!!!

Now, I am 50-year-old, and I lost my health, wealth, family, and happiness.

Now the question here is, what was that magic? Was it really a magic or the curse of my life? Let's see, what was that so-called magic....

Anabolic steroids, also known as anabolic-androgenic steroids, are Appearance and Performance Enhancing Drugs (APEDs), which mimic testosterone, a male sex hormone. APEDs are anabolic androgenic steroids structurally



similar to testosterone. They are used as performance-enhancing drugs as they stimulate increased muscle size and strength, promote male secondary sex characteristics, and decrease fat. Increased level of testosterone stimulates protein synthesis resulting in improvements in body mass, muscle size and strength. The use of testosterone started from early 1935 and was medically used to treat depression. A Russian weightlifter first used testosterone during the 1954 Olympic. From 1980 onwards, the use of anabolic steroids extended to the general people to enhance performance in athletes but majorly used to improve physical appearance. Some athletes, bodybuilders and weightlifters use them regularly to build up their muscles and improve their performances.

Such steroids are used as tablets or injections. Commonly used oral anabolic steroids are Anadrol (oxymetholone), Anavar (oxandrolone), Dianabol (methandienone), Winstrol (stanozolol), Restandol (testosterone undecanoate) and injectable steroids Durabolin (nandrolone phenpropionate), Deca-Durabolin (nandrolone decanoate), Depo-Testosterone (testosterone cypionate), Agovirin (testosterone propionate), Retandrol (testosterone phenylpropionate) and Equipoise (boldenone undecylenate).

These steroids are also used medically to treat anemia, hypogonadism, breast cancer,

It is clear that anabolic steroids can help now but are dangerous eventually. Sexual abnormality of a man can destroy the dream of a happy family. Educating teenagers – specially the budding athletes and body builders – about anabolic steroids and their effects is a pressing necessity.

osteoporosis, malnutrition and human immunodeficiency virus (HIV) wasting syndrome. They are also used for the treatment of delayed puberty and muscle loss and to treat low levels of testosterone in men. Generally, in misuse of anabolic steroids, people take them 10 to 100 times of what is prescribed to treat medical conditions.

The common pattern of misuse of the drugs are:

Cycling: Uses of manifold doses for a

certain duration, stopping for a while, and then continuing again.

Stacking: Combining two or more different steroids and mixing injectable and/ or oral types.

Pyramiding: Increasing the dose gradually, attaining a peak amount, and then slowly reducing to zero.

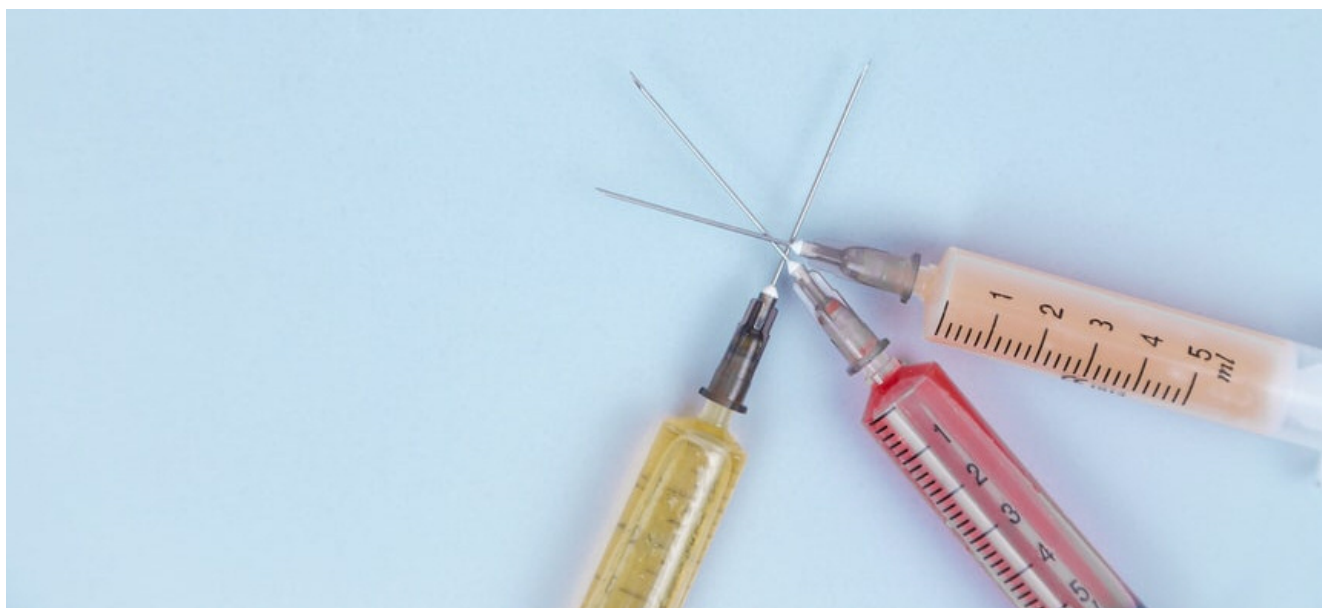
Plateauing: Alternating, overlapping, substituting with a different steroid to prevent developing the tolerance.

No scientific evidence is available stating that any of these ways decrease the damaging medical consequences of these drugs.

Now the question comes. Having a wide range of severe side effects, why people tend to move towards this wrong direction.

“Since it worked excellent last time, you took more than that you planned, and you always desire for more. I’m definitely hooked.”

Boys and men having dysmorphic disorder take anabolic steroids to see themselves physically big or strong enough. Even some people think that it helps them to become fit and healthy. The users reported that the use of anabolic steroids built up their confidence



The word 'doping' is used for the usage of medications, drugs, treatments to the athletes intending to increase or improve their performance. World Anti-Doping Agency (WADA) was constituted by International Olympic committee in the 21st century and first World Anti-Doping Code was implemented in the year 2004.

and fulfilled their dreams to achieve their ideal bodies.

Your mate your role model in the gym with 110 kgs body weight with zero fat. Is that your goal?

Users observed that increase in muscle mass may promote strength, which directly improve performance in certain

sports. Users also reported that the use of anabolic steroids can recover their muscle faster from intense strain and injury.

Anabolic steroids are commonly taken as injection in muscle or in the form of tablets. However, it is important to note that taking anabolic steroids is a drug habit and can cause dangerous consequences in the future.

the regular use of anabolic steroids can lead to both psychological and physical changes in men and women and may lead to dangerous medical consequences. The physical effects in men include erectile dysfunction, reduced sperm count, shrunken testicles, infertility, breast development, increased risk of prostate cancer, baldness, stomach pain etc. In women, it can cause swelling of the clitoris, facial and body hair growth, loss of breast, increased sex drive, deepened voice, problem in periods, severe acne, hair loss and the likes. Long term effects like high blood pressure, enlarged heart, heart attack, stroke, high cholesterol, liver disease and tumour, kidney dysfunction or failure, increased risk of blood clots are the common side effect of taking anabolic steroids. In





teens, the high concentration of steroids signals the body to stop the bone growth too early and causes stunted growth and stunted height.

Boys and men having dysmorphic disorder take anabolic steroids to see themselves physically big or strong enough. Even some people think that it helps them to become fit and healthy.

"You are not sure, how steroid will spoil your body in long run. But you are living for today. You always struggle to be bigger, stronger – It's a disease."

The effect of steroids is remarkable in cardiovascular system and are associated with high blood pressure, decreased function of heart vessels, heart attack, stroke, artery damage even in younger age less than 30 years.

Decreased level of high-density lipoprotein and increased level of low-density lipoprotein in excessive steroid use increase the risk of atherosclerosis, a situation caused by deposition of fat substances inside the arteries.

Steroids retard the normal synthesis of hormones in human body, which results in decreased sperm production and decreased function of testes. When steroids are used with insulin-like growth factors, the risk of testicular cancer

increased. The misuse of steroids can develop a rare condition of liver, where blood fill in the cysts from liver and called as peliosis hepatis. Anabolic steroids can also damage liver causing jaundice and yellowing of skin.

A variety of psychological and behavioural, emotional effects also can be observed in misuse of anabolic steroids like aggressive behaviour, paranoia, manic behavior, mood swing, delusion and hallucinations. Due to addiction, its it is difficult to stop using the anabolic steroids despite of experiencing distasteful physical side effects and withdrawal symptoms like insomnia, anorexia, feeling of anxiety, decrease in sex drive, tiredness, muscle, and joint pain. These problems can be experienced when someone suddenly stop taking steroids. One cannot neglect the chances of spreading hepatitis B, hepatitis C, HIV

The effect of steroids is remarkable in cardiovascular system and are associated with high blood pressure, decreased function of heart vessels, heart attack, stroke, artery damage even in younger age less than 30 years.

transmission while sharing the needles during the use of injectable anabolic steroids.

The word 'doping' is used for the usage of





medications, drugs, treatments to the athletes intending to increase or improve their performance. World Anti-Doping Agency (WADA) was constituted by International Olympic committee in the 21st century and first World Anti-Doping Code was implemented in the year 2004. India endorsed the International Convention Against Doping in Sport

The regular use of anabolic steroids can lead to both psychological and physical changes in men and women and may lead to dangerous medical consequences.

(ICADS) in 2007 and the Ministry of Youth Affairs and Sports set up a society named as National Anti-Doping Agency of India (NADA) on November 24, 2005. NADA has been set up with the target to implement doping rules and guidelines in India. NADA also involves in creating awareness with regards to doping. The International Olympic Committee (IOC), National Basketball Association, National Collegiate Athletic Association (NCAA), National Hockey League (NHL) and National Football League (NFL) already banned the use of steroids by observing the potential side effects and prevent the steroid used to give unfair advantage. It is clear that anabolic steroids can help now but are dangerous eventually. Sexual abnormality of a man can destroy the dream of a happy family. Educating teenagers – specially the budding athletes and body builders – about anabolic steroids and their effects is a pressing necessity. *“Health is Wealth”*.

The use of anabolic steroids is not a wise decision!

[Author's Introduction: The author is currently an Associate Professor with the Department of Pharmaceutical Technology under the School of Medical Sciences at the Kolkata-based Adamas University.]



Technology has Revolutionized Radio: Jimmy Tangree

Jimmy Tangree, the Head of 91.9 Friends FM, is the face of FM radio in Eastern India. His iconic show 'Direct Dilse with Jimmy' has won millions of hearts in Kolkata and became the hallmark of his career. His musical career in DJ-ing started in 1986. Hailing from Kolkata, Jimmy became the Station Head of Red FM in 2002. His Red FM stint was popularized to an extent where he was declared the unofficial ambassador of the pan India radio station. In this exclusive conversation, **Jimmy Tangree** talks to **Swayambrita Basu** about this take on the impact of technology on the radio industry and whether

digitalisation has taken away the romanticism of radio.

Question: You have been a radio professional for more than two decades. So, how do you think technology has impacted the listeners' reaction? How do the listeners respond today as compared to when you initially started?

Jimmy Tangree: When I initially started, everything was manually done. We had to play CDs and cassettes, and operate everything manually. But today, radio is highly computerized, sophisticated and software-driven. RJs do not decide the music anymore. Rather, the music is formatted based on what the station is all

about. So, today radio broadcasting is super high-tech. It is not just about playing a CD anymore as there are seamless transitions between songs. These technological developments have brought about a tightness and crispness in the sound as there are no delays or breaks in terms of music.

Question: How has technology helped the radio industry evolve and increase its popularity?

Jimmy Tangree:

Currently, we tend to use our digital strengths in

But today, radio is highly computerized, sophisticated and software-driven. RJs do not decide the music anymore. Rather, the music is formatted based on what the station is all about.



pushing radio more. Previously, audience engagement was only limited to letters and phone calls. But today, audience engagement is a two-way communication as people can interact with the RJs through various digital methods. So, in this digital domain, the quality of sound and audience participation has gone to the next level.

Question: Is technology the only reason for the

radio industry's sustainability?

Jimmy Tangree:

Technology is not the only reason for the radio industry's sustainability. Radio is about how the RJ interacts, which will always be sacrosanct irrespective of any technological development. Technology helps in the qualitative improvement of the radio industry. But ultimately, the music played and the RJ's engagement will always

Radio is one of the oldest forms of media in existence that sustain in terms of followers.

With the evolution of the digital domain, radio has immensely grown and connected better than ever.

gives the audience an access and a chance of interaction and communication with the RJs. So, technology has helped radio to grow, bring the listeners closer to radio and increase the listenership base of radio stations.

Question: Does the digitalization of radio endanger the traditional radio stations?

Jimmy Tangree:

Digitalization of radio does not endanger the traditional radio stations. Radio is all about the voice and music, which will always remain constant. People have always wanted to hear a

great conversation with quality content and great music regardless of the time period. Technology does make it sound better and interact faster, but it will never endanger a traditional radio station. It will enhance the quality and reach of radio.

Question: Radio is one of the oldest forms of traditional media. However technological developments led to the convergence of traditional and digital media. So how has this transition been for the radio media?

Jimmy Tangree: Radio is

be the main inspiration and the base of the radio industry.

Question: Technology without a doubt helped the radio industry evolve and increase its popularity. However, do you think it has also made the radio industry less people oriented?

Jimmy Tangree: No, technology did not make the radio industry less people-oriented but it helped to reach out to more people. Today's digital communication methods like social media has made it easier to reach out to more listeners because it





one of the oldest forms of media in existence that sustain in terms of followers. With the evolution of the digital domain, radio has immensely grown and connected better than ever. The convergence of digital and traditional media has made communication more vibrant.

Question: How has technology changed the audience's relationship with radio by making them feel more connected to the presenters?

Jimmy Tangree: Technology has made listeners closer to the RJs as they are able to interact more with them, not only

Technological developments has given an access to extensive research material, which was not possible in the pre-internet era. This has improved the content quality and brought radio closer to the people.

through email or letters but also through various social media platforms. Listeners no longer must tune-in to the station to connect with the RJ. The digital domain has given them a 24X7 access.

Question: Today, webcams are used to stream the radio programmes online along with their broadcast. So, will it be correct to say that radio is not, anymore, an audio-based medium but it has transformed into an audio-visual medium because of technology?

Jimmy Tangree: Even after visual interaction with the RJ, radio will always remain an audio-base medium, because ultimately, it's the voice of the RJ and music that matters. So, visuals and digital communications are add-ons. They enhance the quality of radio as they broaden the horizon of radio but essentially it will remain an audio medium.

Question: Did technological development in the radio industry impact its content type?

Jimmy Tangree: Technological developments has given an access to extensive research material, which was not possible in the pre-internet era. This has improved the content quality and brought radio closer to the people. Information and connectivity have become more accessible and compact. Therefore, technology has revolutionized radio and allowed it to grow to a large extent.

Question: Have technological advancements in radio made the industry more commercially driven rather than mission driven as it initially was? Has it taken away the romanticism of radio?

Jimmy Tangree: Technology has helped radio to grow and enhance its reachability, but the romantic attitude of radio is still present despite the technological advancements. It helps radio to connect better and engage faster, but radio will always remain immensely mission-driven.

Pandemic Brought Back the Focus on Humans

Academic administrator and communications professional Subhajit Chakraborty writes about how the pandemic has brought out a different facet of humanity.



The combination of technology and a humane approach is helping in the revival of human civilization, which has been battered by the Covid-19 pandemic. The two successive outbreaks of Covid-19 followed by

prolonged lockdowns took the entire world by a surprise and dented the socio-economic foundation of the human civilization. However, despite the colossal loss sustained by the human race, there are countless takeaways from the way the whole world changed gears to battle Covid-19.

The way the world has staged a fightback against the dreaded pandemic aided by technology, proves that transformation is within the grasp of everybody. Humanity is innately receptive to new ways of living and working in the months or years ahead. We have once again seen how the boundaries of the human race's collective knowledge can be stretched





whenever the human race is in a crisis. The Covid-19 pandemic has provided a new impetus to technology-driven companies such as those dealing in Fintech, Edtech and Healthtech, which are witnessing increased funding activities

Much has been said and written about the disruption to education systems worldwide. But this pandemic has also taught us a few valuable lessons, and perhaps an opportunity to re-imagine how education should be, in future.

and the same is likely to continue in the coming years. India over the last year has become the world's third-largest start-up ecosystem. There is a global demand for Indian talents in areas such as cloud computing, customer trouble-shooting, data analytics, work place transformation, supply chain automation, 5G modernisation and cyber security capabilities.

A conducive eco-system for faster growth in the digital sector was a pre-pandemic initiative of the government, with schemes like Digital India, Make in India, Start-up India, Skill India and Innovation Fund. But ensuring universal, affordable and fast broadband internet access all through the country is a critical area that the government is still grappling with. But more than the business aspect, India Inc. in the post-pandemic era is also aiming at prioritising the mental wellbeing of employees. Social e-commerce

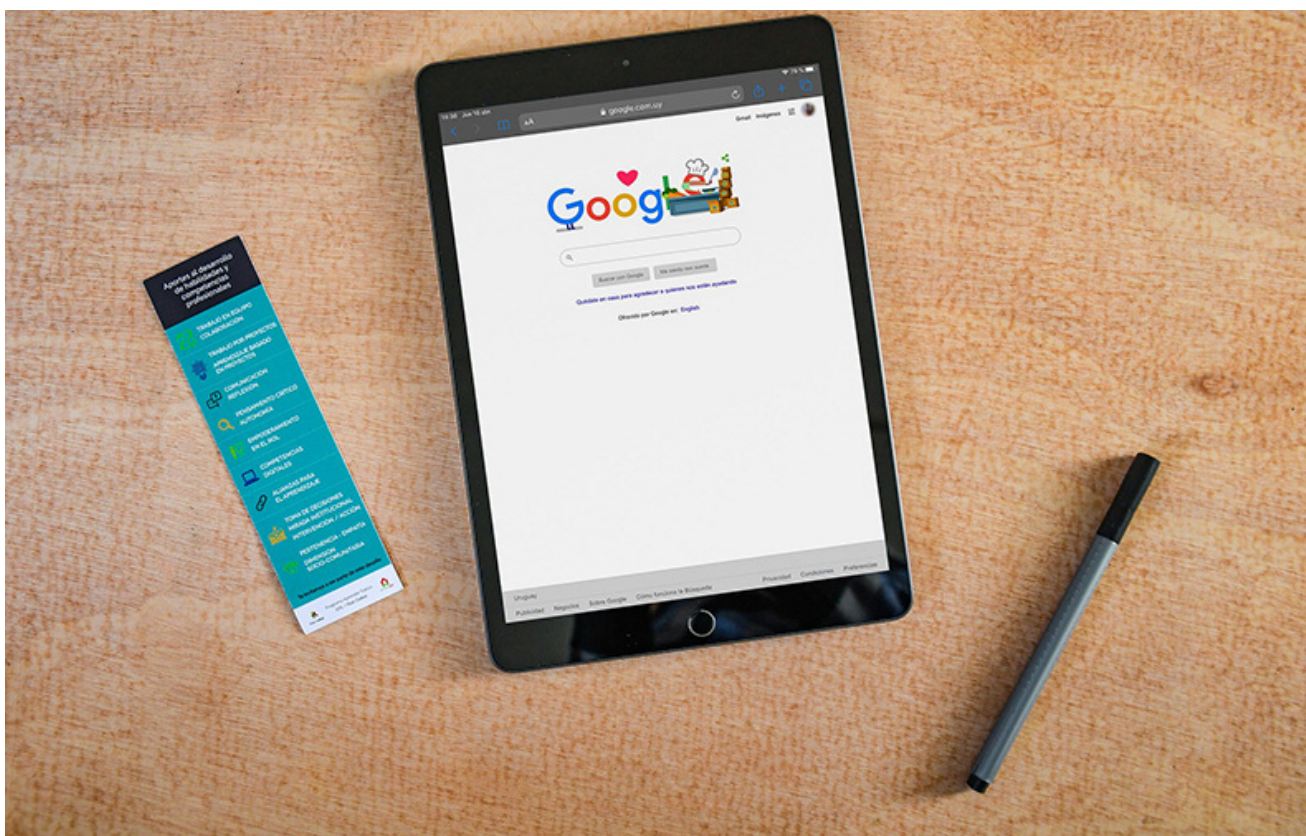
platform Meesho announced a companywide break from November 4, 2021 to November 14, 2021 for its employees to completely switch off from work. The company has a Reset & Recharge policy that aims at prioritising employee well-being and mental health support, and is the first-of-its-kind move from an Indian start-up. Others like Genpact NatWest Group and ZestMoney, are increasingly focussing on mental health initiatives.

From well-being days to 24x7 counselling helplines, access to self-improvement/ meditation/ mental-wellbeing apps, unlimited sick leave policies and regular reach-outs by top management, India Inc. is going all out to help employees deal with the challenges of mental health.

InMobi has introduced 21 days of no-questions-asked leaves, which employees can avail of anytime during the year.

The Covid-19 pandemic has provided a new impetus to technology-driven companies such as those dealing in Fintech, Edtech and Healthtech, which are witnessing increased funding activities and the same is likely to continue in the coming years.

Microsoft India renamed its sick leave as sick and mental health leave. ZestMoney recently announced a no-questions-asked, unlimited sick leave policy for all employees. At NatWest Group, flexibility, enhanced focus on leave utilisation, and



One great outcome of the pandemic has been the way it empowered a wider cadre of teachers, who quickly had to re-invent their roles from that of transferring information to enabling learning.

Further noting that there are 15 million WhatsApp Business users as the app continues to evolve, it is one of the many potent tools for the rural marketer and opens up new vistas.

Rural markets are becoming more and more promising, and with the right investment in education, infrastructure, women empowerment, financial schemes and technology, they are bound to be more pivotal to the growth of Indian economy.

The larger challenges that marketers face with the evolving rural

consumer are the complexities of hyper localisation with languages, dialects, beliefs and traditions, as well as adapting to the uncertainties caused by the pandemic.

Vernacular content on digital media platforms has been on increase as brands are realizing that they must ensure communication comprehensible through local language using local idioms, anecdotes, and cultural and social symbols.

An unexpected but wonderful outcome of the pandemic has been, how people are resorting

24x7 Employee Assistance Programs (EAP) are some of the ongoing initiatives. The rapid digitization in last couple of years has also put focus on the rural consumer. With new opportunities and challenges, strategies are changing. It is pertinent to re-visit rural marketing post pandemic. Rural India is no longer shying away from the convenience of technology. To cite an example, WhatsApp that reportedly has 309 million Indian users – the bulk from tier 2 and 3 cities.



to Indian traditions. The long lockdowns have in a way, been a leveller. The ominous scenario of being under captivity, literally, for an indefinite time, provided an opportunity to rekindle the lost relationships within families. Families eating together and enjoying dinner table conversations are back. Ramayana and Mahabharata were back on Doordarshan and gained huge viewership. This, despite the presence of strong OTT platforms. The lesson – classics are classics, and we all love to relive our good old days,

despite modernity. We have also re-learned the importance of body's resistance and the mind's resilience. Post pandemic, many in urban India are trying to get out of the syndrome of obsessive consumerism and are turning towards Indian lifestyles of minimalism; making more thoughtful purchasing decisions and consciously putting in efforts to both "preserve" and "conserve". Yoga and meditative practices (earlier rejected as being slow, monotonous and ineffective) have proven

Along with challenges, the pandemic created a catalytic point that forced enhanced adoption of technology.



to be particularly useful in allaying anxiety and fight social isolation. Trends towards Indian ancient lifestyle of vegetarianism, fertilizer free food, yoga, usage of herbs-based medicine is gaining prominence and will be there. In terms of diets and eating habits, the world is switching over to healthier alternatives with food industry witnessing gradual adaptation. People have become more conscious of their lifestyle choices and opting for sustainable plant-based alternatives.



Recently, a new start-up named “The Ramayana School”, founded by Shantanu Gupta, has gained global prominence during the Coronavirus pandemic. It is an online platform focusing on learning life skills has already had 2,500 participants from over 22 countries attending its workshops designed around stories based on characters from the Ramayana. With an interesting tagline – “Learn morals before math and character before coding”, the platform is using the B2B (business to business) route and the B2C (business to consumers) route to reach out to more learners. The concept of the live online workshop on leadership lessons from Ramayana (for children of age 7-14 years) and Global Ramayana Olympiads has connected them with thousands of families (NRI's and foreign nationals) from over 15 countries across the globe. Their attempt to chart out a viable alternative model of polity and leadership based on Ramayana has been appreciated and has gained them invitations from ICCR (Thailand Chapter), JNU and other prestigious institutions. Much has been said and written about the disruption to education systems worldwide. But this pandemic has also taught us a few valuable lessons, and perhaps an opportunity to re-imagine how education should be, in future. The stark digital divide amongst the urban and rural population must be addressed, along with the requisite infrastructure and connectivity. Access to technology and the internet is an immediacy and not a luxury. The curricula need to cultivate critical, creative, and flexible thinking, resilience, and empathy in students. Developing a symbiotic relationship with our environment has taken on a new urgency. One great outcome of the pandemic has been the way it empowered a wider cadre of teachers, who quickly had to re-invent their roles from that of transferring information to

enabling learning. The shift to distance learning has afforded many opportunities to teach differently, encouraging self-learning, providing opportunities to learn from diverse resources, and allowing customized learning for diverse needs through high-tech and low-tech sources. The Covid-19 crisis was a global humanitarian crisis. It shifted the world's focus on humans, which resulted in making the world more humane. We have witnessed heroic response across geographies – from governments, corporates, societies and individuals, who all have taken dramatic steps to turn the tide.

Along with challenges, the pandemic created a catalytic point that forced enhanced adoption of technology. This helped in better implementation of government schemes, promotion of a friendlier work atmosphere, heightened consciousness of well-being, recalibration of our education system and many more. Let us hope that as we embark on our journey beyond Covid-19, income and job creation with digitalisation and innovation can bring about a new age of prosperity for a large number of people.

[Author's Introduction: Subhajit Chakraborty is presently working at the Office of the Vice Chancellor, Adamas University. Prior to this, he has had over 20 years of experience in corporate communication and public relations, with expertise in organizing and implementing communication campaigns and promotions, strategy formulation on visibility, brand building, analysing market trends and competitors' activities. He has contributed to key strategic initiatives from conceptualization to implementation in real time environments, primarily in the field of marketing strategies, marketing communications, and public relations activities – both external and internal.]

Leveraging the Digital Resources: A Treatise on LGBTQIA+ Community and Social Sensitization

*Teacher-cum-journalist
Dr. Sunayan
Bhattacharjee writes
about using the digital
media to push for
LGBTQIA+ rights.*



touch us. Silly indeed! On second thoughts, aren't human beings normally inclined to avoid conflicts? Probably, they are and that is exactly where the fundamental problems erupts. The dreaded inertia of thoughts compels most of us to accept the faulty social constructs. One such faulty construct is heteronormativity and the resultant denial of gender fluidity. To think about it, Victorian Morality has been primarily responsible for this rather lopsided construct. Consequently, discussions

We stay confined within our respective petty comfort zones thinking that no trouble will ever



around the acronym LGBTQIA+ is still considered avoidable by the larger section of the society.

Our current discourse will challenge this reluctance to discuss issues concerning the LGBTQIA+ community and will try to weave an alternative narrative with the help of the ongoing digital revolution. However, it is always better to put first things first. What exactly does one mean by LGBTQIA+? To put it very simply, the acronym stands for lesbian, gay, bisexual, transgender, queer,

It is a given that a society adopts new thought processes through its students. A myth-breaking course on who all constitute the LGBTQIA+ community and how their presence adds to the variety of the society can work wonders.



intersex, asexual and other groups, who don't conform to the gender binary. This community clearly don't satisfy heteronormativity and hence is a clear distortion for a bigger section of the society. The now partially revoked Section 377 of the Indian Penal Code (IPC), which went as far as banning all kinds of homosexuality, is a burning testimony to the larger consensus in the Indian society. While an

Indian example has been taken to drive the point home, the fact remains that a majority of the countries barring a few welcome exceptions still consider homosexuality to be a moral and social offence if not a legal offence. While there is the emergence of a global consciousness on the protection of LGBTQIA+ rights, the fight is still at its nascent stage. The organization of a few gay parades or the

In a hyperconnected world, privacy has become a thing of the past. Every action that we perform is somehow put before the public scanner. In such a scenario, life of members belonging to the LGBTQIA+ community has also become public knowledge.

pandemic has practically digitized the entire world, multiple ways could be envisaged to leverage the online medium so that the community members can have a better and more socially acceptable life in the near future. Let us look at some such ways:

Creation of a Dedicated Course on the LGBTQIA+ Community for Undergraduate and Postgraduate Students:

It is a given that a society adopts new thought processes through its students. A myth-breaking course on who all constitute the

LGBTQIA+ community and how their presence adds to the variety of the society can work wonders. The most important element of any such course is to make the students understand that there is nothing called unnatural or diseased in the larger gender and sexuality discourse. Also, the predominantly digital course should take the services of people belonging to the community to break the myths. The undergraduate and postgraduate students need to be oriented to the social dynamics and

conduction of a few seminars wouldn't go a long way in removing the misconceptions about gender and sexual fluidity. What is extremely urgent at this point in time to spread awareness and validate the presence of the community are massive campaigns that can enlighten people and make them empathetic to the LGBTQIA+ cause. This article would make an dedicated attempt at using the digital resources to strengthen the cause of the community. At a time when the global





this course would be a significant value addition in that direction.

Conduction of Online Awareness Campaigns for People of All Age Groups:

Most of the social hatred for the LGBTQIA+ community stems from sheer ignorance. This ignorance can be fought only with

What exactly does one mean by LGBTQIA+? To put it very simply, the acronym stands for lesbian, gay, bisexual, transgender, queer, intersex, asexual and other groups, who don't conform to the gender binary.

the help of strategized online awareness campaigns for people belonging to all the age groups. These campaigns should liberally use audio-visual resources, podcasts, artworks, literature and references from religious texts. In a country like India, homosexuality has been talked about and celebrated since the time of Vātsyāyana's Kama Sutra. This needs to be reminded to a good number of the citizens.

Creation of Community through Social Networking: In a world connected by digital dots, the formation of community has become easier than what it was probably a couple of decades back. Therefore, people belonging to the LGBTQIA+ community can easily form their own communities and push for their causes in a more organized way. As we are in the 21st year of the new millennium, there are countless forums that have

been created with the sole purpose of forming bonds between the members of the community from across the world.

Creating Art and Literature: The spread of the ubiquitous smartphone has ensured that the creation of audio-visual materials and other forms of compelling artworks has become a relatively easy task. Today, anybody with an Apple iPhone can create a professional short film centering on LGBTQIA+ community and their rights. The dissemination of such artworks has also become easier thanks to the same smartphone. Graphical and animated content that vouch for the community's rights are also widely used.

Creating a Feeling of Inclusivity in the Society: We all are aware about the power of the social media. The fact that anyone sitting in the hinterlands of Chhattisgarh can also spread her/ his viewpoints across the globe gives it a sort

The organization of a few gay parades or the conduction of a few seminars wouldn't go a long way in removing the misconceptions about gender and sexual fluidity.

of vindication that nothing else can. In the given scenario, posts promoting the contributions of members belonging to the LGBTQIA+ community can





substantially bolster the community's positioning in the society. The resultant sense of pride can also lead to a sense of inclusivity that in turn can help bring the community to the mainstream. In a hyperconnected world, privacy has become a thing of the past. Every action that we perform is somehow put before the public scanner. In such a scenario, life of members belonging to the LGBTQIA+ community has also become public

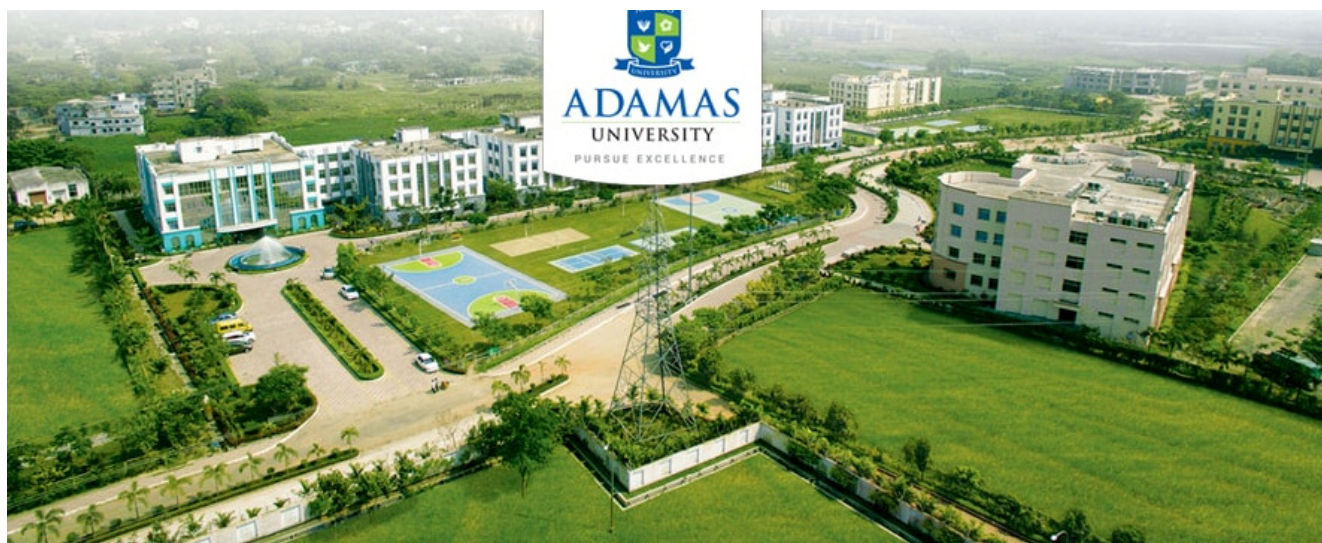
The spread of the ubiquitous smartphone has ensured that audio-visual materials and other forms of compelling artwork has become a relatively easy task..

knowledge. Now, it is required more than ever that they are taken into the mainstream without any tag. Digital resources can significantly help in doing that. The possibilities are endless. However, the eventual success would depend on how the human interface is done. The rest, as they say, would become history.

[Author's Introduction: Currently an Associate Professor with the Kolkata-based Adamas University, Dr. Sunayan Bhattacharjee has a Ph.D. in Film Studies from Pandit Deendayal Energy University in Gandhinagar and a MMC degree with specialization in Journalism from Symbiosis Institute of Media and Communication in Pune. A UGC-NET qualified scholar in Mass Communication and Journalism, Sunayan studied the surrealist works of renowned American filmmaker David Lynch for his Ph.D. thesis. Sunayan has a cumulative experience of more than a decade in the creative and academic domains. He was earlier an Assistant Professor at Pearl Academy in Delhi. He also has the distinction of having worked with leading organizations such as Reuters News, The Times of India and Ramoji Film City. Additionally, he has worked as an Associate Editor with The Cinemaholic and has edited edInbox, an educational news portal.]

Adamas University Round-Up June – September, 2021

The Adamas University Round-Up is aimed at providing a glimpse of all the works and initiatives done by all Schools and Departments of the University.



Adamas University has been given 'The Best University in India for Creating Social Impact in Education' by FWA and Education Post

Adamas University has become the prestigious winner of QS I gauge highest category of rating – Platinum – in Teaching & Learning, and Diamond in Academic Development category. It has become the first ever University in India to bag this rating in academic development and Platinum in Teaching and Learning in eastern India. Overall, it has bagged Gold rating. For a just five-year-old University, this achievement is unprecedented and was applauded by all students and faculty members.

The University received Education Excellence Award by Zee Ghanta. The University established Academic Advisory Board across all Schools through IQAC. The main purpose of the Board is to provide guidance to the University on

academic endeavours and industry interface/ corporate relations initiatives such as:

- Guidance on Academic quality parameter and measures to be adopted to evaluate and benchmark academic rigour.
- Develop best practices and innovation in education leading to new educational programmes and initiatives.
- Developing new international research and teaching initiatives and centres To build exchange partnerships with leading international academic institutions and the industry.
- Completion of Energy and Environment Quality Audit by third party Auditing Agency.

The Department of QA&A organized Academic Benchmarking series Lecture #

3 “Leadership Talk: The Globalization of Quality in Higher Education” by Prof. Mahsood Shah & Prof. (Dr.) Deependra Kumar Jha.

Jyoti Bansal, Director, QA&A was Invited to conduct a workshop on “QA & continuous quality improvement in higher education through the use of A&A” at B.B.K College, Nagaon, Assam. She was also the Invited Speaker for a session on “Internal Benchmarking through Assessment and Accreditation: A tool for quality improvement organized by The Assam Royal Global University, Guwahati, Assam.

The Office of QA & A successfully submitted application for UGC 12(b) recognition.

A total of 15 papers authored by the School of Engineering and Technology (SoET) faculty members were accepted in International journals/ conferences during the said period. Two project proposals were submitted by SoET as well.

The Faculty Seminar Series was initiated from August 2021 for the Faculty Members and Technical Assistants of the School to help them enhance personal

Adamas University
School of Engineering & Technology
Department of Mechanical Engineering
Presents

Expert Lecture on
Recent trends in Robotics & Automation

Date: 14th May 2021
Time: 17:00 hrs-18:30 hrs (IST)

Keynote Speaker
Dr. Shibendu Shekhar Roy
Professor, Department of Mechanical Engineering,
National Institute of Technology Durgapur
Former Scientist in CSIR-CMERI, Durgapur

Panelists:
Prof. (Dr) Ashwini Kumar Sharma (Ph.D, M.Tech., BE)
Head of Engineering & Technology

Coordinators:
Ms. Soodipa Chakraborty
Assistant Professor,
M.E. Division
Mr. Sourya Ghosh
Assistant Professor,
M.E. Division

development in different aspects. In the month of August 2021, a writing contest based on in-demand and trending industry topics exclusively for students of Polytechnic institutions under the name of Idea Contest was launched. There was also an online quiz contest for polytechnic students. On September 15, 2021, a bouquet of value-added courses was launched from every department of SOET to commemorate the birth anniversary of the greatest Indian engineer Bharat Ratna Mokshagundam Visvesvaraya. On August 18, 2021, a webinar titled “Engineering through Story Telling” was organized to devise and discuss new and innovative strategies for experiencing a successful engineering education career. A two-day workshop on Project-based learning, especially for the faculty members of Polytechnic institutions was organized in which many of the SOET faculty members participated as Session speakers. Another unique initiative was arranged on August 29, 2021, with the name Sharp Pitch which was a resume writing guided contest for Polytechnic and all the final year students. The

Department of Electrical Engineering, SOET
in Collaboration with The Institution of Engineers (India)
is organizing an International Webinar on

SUSTAINABILITY & ELECTRIC VEHICLES

Date: July 10, 2021
Time: 02:00 PM (IST)

Last Date of Registration: 08-07-2021, 8 PM.
Registration: FREE

Speaker
Andrzej Pacana, DSc
Associate Professor,
Vice-dean of The Faculty of Mechanical
Engineering and Aeronautics,
Rzeszów University of Technology, Poland

Panelists:
Dr. Deependra Kumar Jha
Vice Chancellor
ADAMAS University

Co-Panelist:
Dr. Ashwini Kumar Sharma
Dean, SOET
ADAMAS University

Co-Chairman:
Dr. Srimanti Roychowdhury
Associate Professor and HOD,
EE, SOET I
ADAMAS University

Coordinator:
Ms. Soodipa Chakraborty
Assistant Professor,
M.E. SOET I
ADAMAS University

Coordinator:
Mr. Nisarga Chand
Assistant Professor,
ECE, SOET I
ADAMAS University

Who should attend?
12th class, Diploma
and UG students.

e-Certificates will be
provided to participants.

department of Electrical Engineering (EE) (now Dept. of Electrical and Electronics Engineering) and EE students' chapter of The Institution of Engineers (India) organized a webinar on "Electrical Power: Network Utilization and Future Prospect." Also, an international webinar on "Sustainability & Electric Vehicles" was organized in collaboration with The Institution of Engineers (India). An expert talk on Energy Sustainability and Evolution of Smart Grids and Microgrids was organized. The department of Civil Engineering organized workshops on "Computational Techniques in Civil Engineering", a seminar on "Revolutions in Admixture Technology for High Performance Concrete" and a colloquium on "Industrial approaches for hazardous and solid waste management".

The Centre for Logistics and Supply Chain (CLSC) was opened at Adamas University headed by the Honourable Dean of SOET, Prof. (Dr.) Ashwini Kumar Sharma. The Institute of Scholars awarded the Young Researcher Award 2021 to Pabak Indu, Assistant Professor, Dept. of

Computer Science and Engineering, for his contribution to research. A book titled "Deep Learning Models for Medical Imaging" by Academic Press was co-authored by Swarnendu Ghosh, Assistant Professor, Dept. of Computer Science and Engineering. Prof. (Dr.) T. Senthil Vadivel, Head-of Department of Civil Engineering has been selected as peer reviewer in 2nd International Conference on Sustainable Construction Technologies and Advancements in Civil Engineering, procedia.org. He is also selected as Editor-in-Chief for iManager Journal on Civil Engineering 2021. Anupam Saha, Final Year CE, SOET, successfully completed Defence Virtual Cycling Challenge in 5 different Categories 10 km to 100 km. It is a great feat accomplished by him. The IETE Students' Forum at Dept. of ECE (now Dept. of Electrical and Electronics Engineering) has been awarded as the best students' forum among 9 IETE Students Forum in West Bengal and Bhubaneshwar (IETE East India) region. The Students Forum has presented its activities and best practices during the IETE ISF Convention held on 19-08-2021 and secured the 1st position. Neelash Saha, BCA student, SOET, was selected as reserve rank 1 for 2021 Asian University Chess Championship.

School of Basic and Applied Sciences (SOBAS) in Adamas University is determined to nurture young minds through research based, collaborative, experiential, and multi-disciplinary learning.

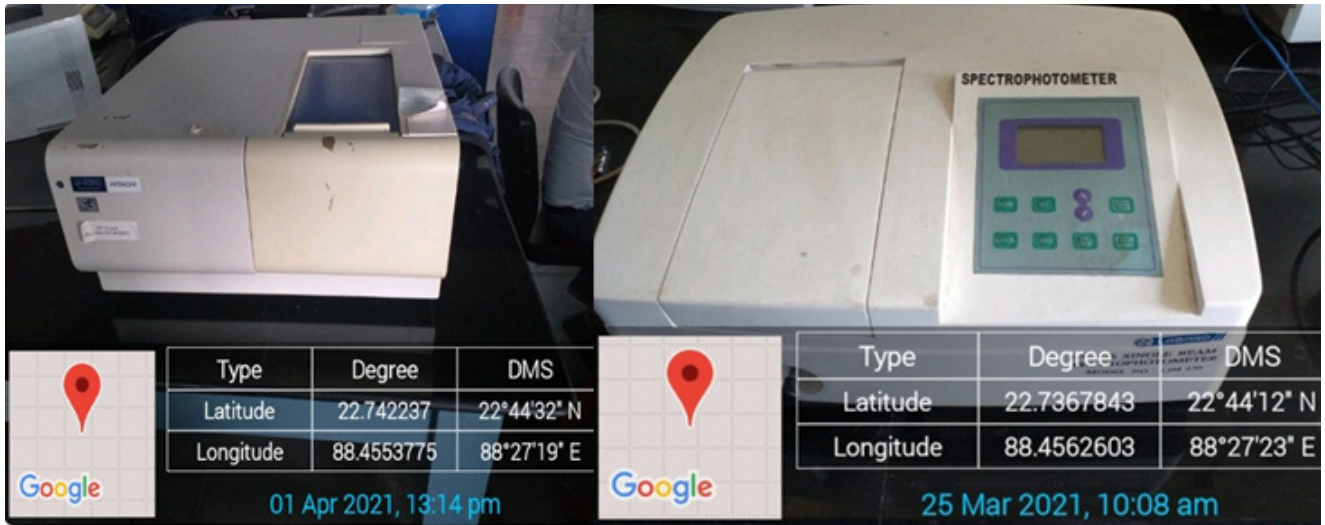
SOBAS has taken an initiative to establish Central Instrumentation Centre (CIC), an advanced instrumentation center to cater to the need of cutting edge research in domains of modern science and technology. Instruments like UV Vis single beam and double beam Spectrophotometers, Thin Film vacuum



Name reserved for
**ASIAN UNIVERSITY
CHESS CHAMPIONSHIP 2021**



Neelash Saha
Student of Adamas University



Instrument Name: UV-VIS double beam spectrophotometer
Make: Hitachi, Japan
Model Number: U-2910
Date of Purchase: 03-07-2017

Name of the instrument: UV Vis single beam Spectrophotometer
Make: LabardInstruchemPvt. Ltd.
Model No: Lim 330
Date of Purchase: 30.12.2016

coating Unit, Time correlated single Photon counting system, Temperature variable Fluorescence spectrophotometer etc. were procured. It has also established a High End Computation Lab where high performance desktops are there with pre-installed software like Matlab,

Mathematica 11.0, Python etc. to perform high end computation. In terms of research outcome there are numerous peer-reviewed journals (SCI/SCIE/SCOPUS), Conference Proceedings, Book Chapters, and book published by the faculty members. Some of the works are in frontline International

DISSERTATION TO PUBLICATION
 School of Basic and Applied Sciences

Topic: **Dissertation to Publication (D2P)**

- To start at undergraduate 3rd semester and post graduate 1st semester.
- Publication in Research Journal
- Attract students in research.
- To help students to get admitted in reputed Universities / Research Institutes.
- To increase the research output of SOBAS

Faculty Development Programme / Summer Training
 on **CLIMATE CHANGE**
 analysis using R and Cloud Computation

19-26 July 2021, 12:00 - 17:00 IST, 40 hours
 Department of Geography, School of Basic and Applied Sciences, Adamas University, Kolkata

RESOURCE PERSON

- P.K. Joshi**, Professor, Jawaharlal Nehru University
- Dr. Javed Akhter**, Former Project Scientist-C, Indian Institute of Tropical Meteorology (IITM), Pune, India
- Dr. Prasenjit Acharya**, Assistant Professor, Department of Geography, Vidyasagar University, India
- Dr. Surajit Ghosh**, Researcher, International Water Management Institute (IWMI)
- Dr. Pritam Chand**, Central Professor, Central University of Punjab

Important Dates:
 Submit Application Form with registration details **By July 14th 2021**
 Invitation Mail **By July 16th 2021**

Link for Registration: <https://forms.gle/iXYeszd6G2R9eYL8>

Application Fee
 Students : 4000R
 Research Scholars : 6000R
 Faculty Members : 8000R

Fee Payment:
 Name of the beneficiary: Adamas University
 Bank Account Number: 415620110000033
 Name of the Bank: Bank of India
 Branch: AIT Campus Branch
 IFSC: BKID0004156
 Branch Code : 4156
 Payable at: Kolkata
 Swift code for international transactions : BKIDINBBCSM

For more details, please feel free to connect with us at:
Dr. Kasturi Mukherjee,
 Head, Department of Geography
 Email: kasturi.mukherjee@adamasuniversity.ac.in
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 Email: rajib.sarkar@adamasuniversity.ac.in
 Phone: +917980312683
Dr. Anu Rai, Assistant Professor
 Email: anu.rai@adamasuniversity.ac.in
 Phone: +919674252647
Dr. Tahin Bhadra, Assistant Professor
 Email: tahin.bhadra@adamasuniversity.ac.in
 Phone: +918420664480



Department of Geography,
School of Basic and Applied Sciences,
Adamas University

invites you to participate in the story telling competition

অল্প সল্প ভূগোলের গল্প:
Stories of Places

Google form for registration:
<https://forms.gle/fWwNmQdm275ZQU8o9>
QR code for registration:

Rules for participation

1. Stories of personal visits of places, field trip experiences, or any virtual tour ideas can be portrayed
2. Use of photographs and maps of the places (at least five) to depict the story
3. Stories can be accompanied by a brief write-up, but word count should not exceed 1000
4. Stories can be submitted individually or as in team of two members
5. Use of Google earth is encouraged
6. Final story should be submitted only in PDF format (By converting the Word to PDF) by 30th of August, 2021
7. Jury will select the top three places
8. Name of the winners will be disclosed on 31st of August in an online meeting 15:00 IST

Contact: Dr. Tuhin Bhadra M: +918420064480 Ms. Manisha Baral M: +9119903707353

Journals like Nature Scientific Reports etc. A programme named 'Dissertation to Publication (D2P)' has been initiated, which is basically a research mentoring programme for students to motivate and inspire for doing high quality, and original dissertation work for publishing as a research article. Mentors/ supervisors help and encourage them to identify the research problem, followed by a detailed literature review and the final work. SOBAS has another very good practice in the name of Ask Your Teacher, where an open platform is provided to the students to discuss any kind of the problems of students related to academics with the faculty members beyond the classroom. Departments usually conduct this programme on the weekend over an online platform. At the end of the meet, a report is prepared by the concerned head and sent to Dean Office for record. The Department of Geography organized an unique programme named "Alpo Swalpo Bhugoler Galpo", a storytelling competition by the young students regarding a place. It was hugely appreciated by all. Apart from research and academics, SOBAS puts its best effort to make the

student's life easier for any official work. With this idea in mind 'SOBASCARE' initiative is being taken; which is a single window support system for students where they can share the issues, challenges related to their teaching, learning, health issues, boarding, lodging, psychological counselling, administrative issues, classes etc. This is functioning directly under the supervision of Dean and most of the queries are solved within five working days.

The Department of Microbiology hosted the first session of the Being Biologist Lecture Series. A lecture entitled "Clinical Research Management- Key Stakeholders" on the topic of Shaping Your Career in Life Sciences with emphasis on call for research opportunities was given by Dr. Mansi Sharma, Project Manager, BC Cancer, Vancouver, Canada. In collaboration with ONCOCARE, a division of Cadila Pharmaceuticals Ltd., the School of Life Science and Biotechnology organized the first talk of Expert talk series entitled "Role of Immunotherapy in Oncology: An expert's View on 31st August 2021 by Prof. (Dr.)



EXPERTS TALK SERIES

School of Life Science & Biotechnology, Adamas University
and
ONCOCARE, a division of Cadila Pharmaceuticals Ltd.,
Jointly organize webinar on

Role of Immunotherapy in Oncology: An expert's View

August 31, 2021
2:00 PM - 3:00 PM (India Time)
Venue: Zoom online platform

SPEAKER

Prof. (Dr.) Tuhin Kanti Dolai
Professor and HoD,
Hematology Department,
NRS Medical College and Hospital,
Kolkata.
Eminent Hemato-oncologist and
Bone Marrow Transplant specialist.

COMMITTEE

Dr. Tuhin Kanti Dolai
Assistant professor, Dept. of Biotechnology
Adamas University
Ph. No. 911990354

Dr. Abhijit Saha
Assistant professor & HoD,
Dept. of Biotechnology
Adamas University

Dr. Ananta Das
Assistant professor,
Dept. of Biotechnology
Adamas University

Dr. Samirita Ghosh
Assistant professor,
Dept. of Microbiology
Adamas University

Certificates will be provided
to all registered participants.

Objective:
Immunotherapy is treatment that uses a person's own immune system to fight cancer. Immunotherapy can boost or change how the immune system works so it can find and attack cancer cells. This webinar will be organized with an aim to comprehensive understandings on the cutting-edge technologies and modern immunotherapy in Oncology. Hence, all UG & PG students of life science discipline are encouraged to attend this webinar to enhance their knowledge base on this important field.

Please fill up the online registration form at:
https://docs.google.com/forms/d/1wGzoJ_pxVQYNU4YON8LYrcO1YBguT4WY7JfEKtG8/edit?ts=611b4720

Join Zoom Meeting
<https://us02web.zoom.us/j/82996165069?pwd=L1I4UFZMUWZUZHhTmxaUSub212QTO9>
Meeting ID: 829 9616 5069 Passcode: RITUCAD

BEING BIOLOGIST LECTURE SERIES

SHAPING YOUR CAREER IN LIFE SCIENCES

ORGANIZED BY
DEPARTMENT OF MICROBIOLOGY,
ADAMAS UNIVERSITY

DATE: JULY 06, 2021
TIME: 10:30 A.M. (IST)
MEETING LINK: <https://tinyurl.com/industrydialogue>



DR. MANSI SHARMA
PROJECT MANAGER
BC CANCER, VANCOUVER, CANADA

Target participants:
UG and PG students of
Microbiology, Biochemistry
& Biotechnology

Coordinator :
Dr. Suman Bhandary
Moderator :
Dr. Arijit Bhattacharya

ADAMAS UNIVERSITY

IN ASSOCIATION WITH


ADAMAS BIOTECHNOLOGY CLUB

Presents

CODE YOUR PATH

Topic of discussion :

WEB DEVELOPMENT
C PROGRAMMING
PYTHON



SPEAKER:
Mr. Saurabh Patel

1st Sept. WED, 2021
FROM:
3:30-5:00PM
ON:
Microsoft Teams

HE IS ONE OF THE YOUNGEST INNOVATOR AT MSME INNOVATION CELL AND ALSO A RESEARCH MEMBER AT MHRD INNOVATION CELL. HE IS ALSO PRAISED BY HONORABLE PRIME MINISTER AND DEFENSE MINISTER OF INDIA FOR HIS INNOVATIVE WORK IN THE FIELD OF DEFENSE SECTOR. HE HAS DONE SEVERAL PATENT AND WRITTEN SEVERAL RESEARCH PAPER AT A VERY YOUNG AGE. HE IS THE FOUNDER OF VAJRA INDIA TECHNOLOGIES. HIS MISSION IS TO MAKE INDIAN STUDENTS SKILLED IN THE FIELD OF TECHNOLOGIES.

Tuphan Kanti Dolai, Professor and HoD, Haematology Department. NRS Medical College and Hospital, Kolkata. Around 156 participants from the school participated in the programme where Dr. Dolai comprehended the cutting-edge technologies and modern

immunotherapy in Oncology. Adamas Biotechnology Club of SOLB organized a lecture session entitled "Code your Path" on September 1, 2021 by Saurabh Patel, one of the youngest innovators at the esteemed MSME Innovation Cell working as a research member at the prestigious MHRD Innovation Cell. The session covered student-friendly contemporary topics like Web development, C programming, and Python in front of an audience of around 70 students of the school. With collaboration with the MERCK Group, The School of Life Science and Biotechnology conducted a Digital Training Program on Cancer tools and Techniques, NGS platform, genome editing, etc. from September 10, 2021 to September 20, 2021. This will also be considered as a dissertation/ internship required for their UG/ PG curriculum. The course consisted of important lectures and video demonstrations of cutting-edge instruments and experiments.

The Department of Pharmaceutical Technology, School of Medical Sciences, Adamas University organized a webinar on the topic- Insight Into Pharmaceutical Technology: The Most Diverse Career Platform, a webinar on the topic – Changing Paradigm: Roadmap to Medical Lab Technology- The Diverse Career Platform, and a panel discussion on the topic – Career Prospects of Pharmacy Beyond the Books. A panel discussion on the topic - M. Pharm (Pharmaceutics): Prospects Revisited was also organized. An interesting a panel discussion for parents on Pep-Talk on Department of Pharmaceutical Technology was also organized. A panel discussion on the topic – Changing Paradigm: Roadmap to Medical Lab Technology-The Diversified Career Benchmark was organized where the panellists were Bidyut Dolui, Medical



Lab Technician, NRS Medical College; Biswajit Das, Medical Lab Technician, Government Hospital, Jagulia and Atish Dipankar De, Medical Lab Owner, Medi Link Diagnostics, Shyambazar. World Pharmacist's Day was celebrated on the theme- Pharmacy: Always Trusted for Your Health. The event was moderated by Dr. Bitasta Mandal, Assistant Professor. Dr. Subhash C Mandal, Vice President & Chairman, Regulatory Affairs Division, Indian Pharmaceutical Association was invited as the speaker for the occasion. The event included poster and pharma quiz competition for the students. The Faculty Department of Pharmaceutical Technology, School of Medical Sciences are actively involved in research. From July to September, 2021. two research articles have been published and seven research articles

have been accepted/ in-press in Scopus, SCI indexed peer review international journals along with 13.988 cumulative impact factor. Apart from this, Dr Partha Roy, Associate professor, DOPT, SOMS has received one extramural project grant from Royal Society of Chemistry Research for the project entitled "Biowaste Derived nanomaterials in cancer". Additionally, Dr. Roy has also signed a Memorandum of Agreement between University Technology Mara, Malaysia and Adamas University. 35 B.Pharm students (2017-2021 Batch) were placed (different domains of production, sales and marketing) in various reputed Pharmaceutical companies, namely Cipla, Alembic Pharmaceuticals, Swiss Garnier Genexiaa Sciences, IPCA, Macleods Pharmaceuticals, Suraksha Diagnostics. Almost 20 students have pursued higher



studies as their career choice. Amongst them, three students have qualified GPAT and NIPER examination for further M.Pharm studies.

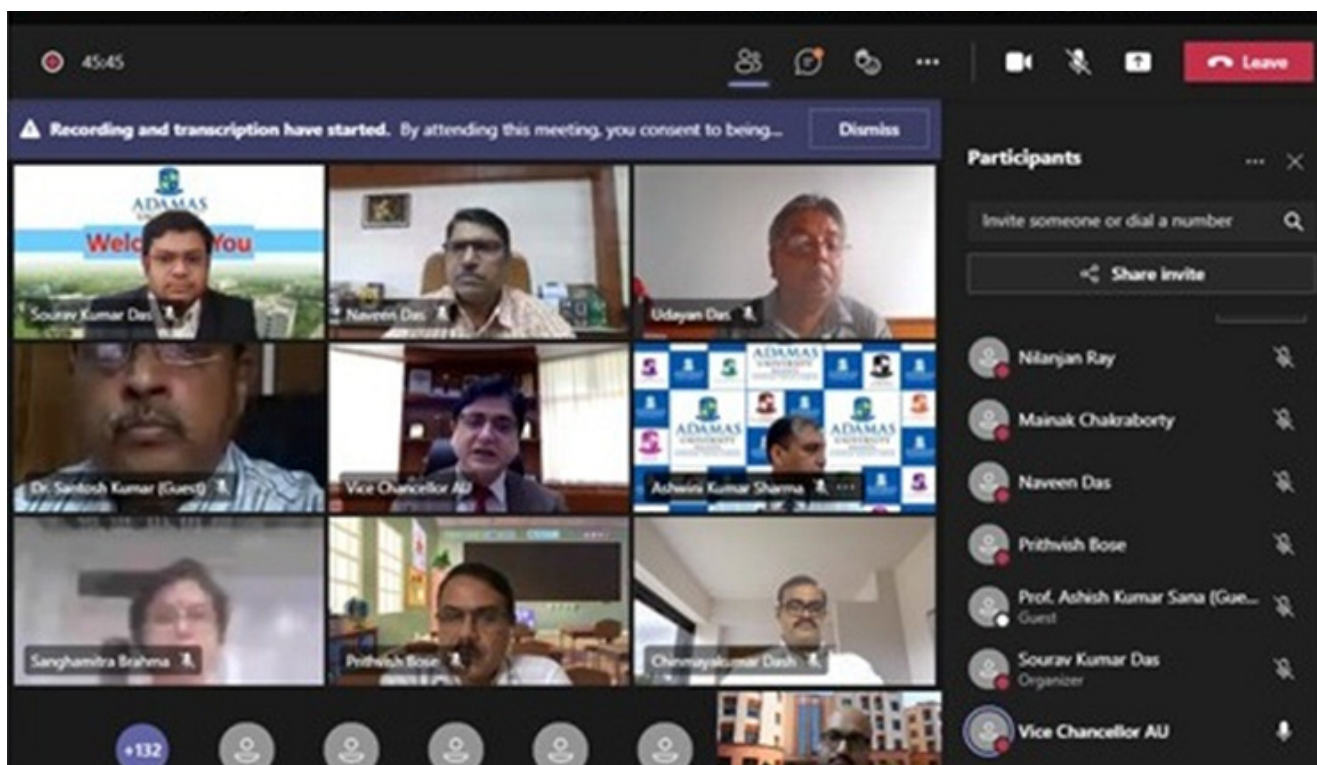
The Department of Management – School of Business & Economics (SOBE) has achieved a couple of milestones in the quarter July-Sept. 2021. Two new skills-based, job-oriented programmes namely, BBA (Business Analytics) in corporate collaboration with SAS (India), and BBA (Healthcare & Hospital Management) have been successfully in the session 2021-22.

Several events have been conducted as diverse as a workshop on 'Multivariate Statistical Techniques in Social Science and Business Research' or a national conference on 'Contemporary Business Practices in New Normal Landscape'. The programmes were primarily targeted at students, research scholars and faculty members of universities/ institutions pan-India. Students and faculty from other

schools of Adamas University also participated.

Dr. Nilanjan Ray, Associate Professor, Department of Management, has published scholarly articles and presented a paper in an international conference. Department of Commerce and Department of Management in association with Centre for Research in Business Analytics, Adamas University organized a National Conference On "Contemporary Business Practices in New Normal Landscape". A total of 92 research papers were received from reputed institutions' Faculty members, Research Scholars, PG students of West Bengal, UP, Orissa, Bihar, Tamil Nadu, Arunachal Pradesh and even abroad (Bangladesh).

Prof (Dr) Mahul Brahma, the Honourable Dean of School of Media and Communication (SOMC) won the "Author of the Year" Award at IBA 2021 and "Crisis Communications Leader of the Year"



SOMC-Bath Spa University Present
A WEBINAR

TOPIC
Ban on Kissing in Hindi Popular Cinema

WEDNESDAY 27th OCT 2021 6.00 PM (INDIA TIME)

PLEASE JOIN US ON ZOOM:
<https://zoom.us/j/96126932901?pwd=ckhkSkIaR0plIWDJLWmxsYjF0NTFzUT09>

SPEAKERS

- Inaugural Address**
Prof. (Dr.) Deependra Kumar Jha
Vice-Chancellor, Adamas University
- Welcome Address**
Prof. John Strachan
Pro-Vice-Chancellor (Research and Enterprise), Bath Spa University
- Moderator**
Prof. (Dr.) Mahul Brahma
Dean and Professor, School of Media and Communication (SOMC), Adamas University
- Dr. Suman Ghosh**
Subject Leader for Film and Media, Bath Spa University
- Soumya Suvra Das**
Head - Department of Entertainment Media (DoEM), SOMC, Adamas University

Award at IGA 2021. He also won Kriti Bangali Samman 2021 from BongKonekt. Rajat Bandopadhyay from SOMC was invited as a distinguished speaker to an industry roundtable conference hosted by The Brainalytics and Exotel, discussing the topic of 'Cloud Communication in the Indian Gaming Industry'. The event hosted 12 companies from IT tech and gaming sector and was viewed by 300 participants online. He also participated in a 48-hour game development competition called 'BYOG-Build Your Own Game' competition at Indian Game Developers Conference (IGDC 2021). Soumya Suvra Das of SOMC received one Best Message Award for his short film 'Mochhob' (2014). The same film was also selected for screening at four film festivals – two in India, one in Germany and one in Bangladesh. He also conducted a joint webinar on behalf of SOMC with Bath Spa University in UK on the topic 'Ban on Kissing in Hindi Popular Films'. Noveena Chakravorty of SOMC was invited as an esteemed judge at Sunbeam School at Sarnath.

The School of Education inked International Memorandum of Understanding with Far Eastern University,

Institute of Education, Manila, Philippines and the University Scholars Association of the Philippines, Manila, Philippines. The School gained professional affiliations with Lifetime Institutional Membership, Early Childhood Association of India (ECA), Association for Primary Education and Research (APER), Annual Institutional Membership & Student Chapter, Nikhil Bharat Shiksha Parisad, Govt. of India and International Organization of Educators and Researchers Inc., Batangas, Philippines

The School organized value-added sessions by renowned professionals on Emotional Intelligence, ways to deal with Substance Abuse, Stress and Peer Pressure Management, Bullying Issues, Anxiety & Depression, Mental Health & Hygiene and Parenting Styles. Student Development Programmes like Workshop on Psychosocial Support for Covid Pandemic Condition, Online Education and Mental Health and Sensitization Session on Sustainable Menstrual Hygiene for all the Girls Students of the University were also conducted. Various international webinars, seminars, conferences and events like a virtual International Students Conference,

ADAMAS UNIVERSITY, School of Education is organizing
A WEEK-LONG FACULTY DEVELOPMENT PROGRAMME
in collaboration with Institution's Innovation Council (IIC)

ON
INNOVATIVE PEDAGOGICAL APPROACH IN INTERDISCIPLINARY TEACHING AND LEARNING PROCESS
(21st May – 27th May, 2021)

INAUGURAL ADDRESS
Prof. (Dr.) Deependra Kumar Jha
Vice-Chancellor, Adamas University
Day 1 (21st May, 2021)
Time: 11:20 AM – 11:30 AM

Day 1 (21st May, 2021)	Day 2 (24th May, 2021)	Day 3 (25th May, 2021)	Day 4 (26th May, 2021)
Innovative Pedagogical Approaches in Languages	Innovative Pedagogical Approaches in Social Sciences	Innovative Pedagogical Approaches in Sciences	Innovative Pedagogical Approaches in Mathematics
SESSION 1 12:30 AM – 12:30 PM Dr. Pooja Choudhary Associate Professor, School of Education	SESSION 1 12:30 AM – 12:30 PM Prof. Dr. Suman Ghosh Subject Leader for Film and Media, Bath Spa University	SESSION 1 11:30 AM – 11:30 PM Dr. Sanku Nag Associate Professor, School of Education	SESSION 1 12:30 AM – 12:30 PM Dr. Naveen Bhatnagar Associate Professor, School of Education
SESSION 2 2:00 PM – 3:00 PM Dr. Naveen Bhatnagar Associate Professor, School of Education	SESSION 2 2:00 PM – 3:00 PM Dr. Naveen Bhatnagar Associate Professor, School of Education	SESSION 2 2:00 PM – 3:00 PM Dr. Naveen Bhatnagar Associate Professor, School of Education	SESSION 2 2:00 PM – 3:00 PM Dr. Naveen Bhatnagar Associate Professor, School of Education

Chief Patron: Prof. Sanku Nag, Chancellor, Adamas University
Patron: Prof. (Dr.) Deependra Kumar Jha, Vice-Chancellor, Adamas University
Organizing Committee: Dr. Parvitha Bhatnagar, Associate Professor, Head of the Department, School of Education; Dr. Pragya Mahapatra, Associate Professor, School of Education and Associate Director, Social Responsibility, Adamas University; Ms. Parvathi Parvathi, Assistant Professor, School of Education; Ms. Parvathi Mahapatra, Assistant Professor, School of Education; Ms. Anand Sankar Mahapatra, Assistant Professor, School of Education; Ms. Saugata Das, Assistant Professor, School of Education

Advisory Committee: Prof. (Dr.) Naveen Bhatnagar, Pro-Vice-Chancellor Academic, Adamas University, Professor and Dean, School of Business and Economics, Adamas University; Dr. Prithwick Bhow, Associate Professor – School of Business and Economics, Adamas University; Dr. Sagarbha Chatterjee, Associate Director-Incubator, Associate Professor – School of Life Science and Biotechnology, Adamas University

For further details, please contact: Mr. Anil Sankar Mukherjee @ 9330518837 or Ms. Shriniji Nag @ 9432628898



STUDY AT EASTERN INDIA'S TOP RANKED SCHOOL OF **PHARMACY**



Adamas University's School of Pharmaceutical Technology offers undergraduate and doctoral degree programs for students who have the potential to excel

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M. Pharm | D.Pharm**

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- Pursue a specialized, inter-disciplinary Business degree ideal for students who have varied academic interests
- Our degree programs prepare ambitious minds for diverse and dynamic careers in pharmacy and beyond

Placement done in
companies like



**Admissions Open for
2021-22 Batch**

Merit-based Scholarships Available

For Admission-related Enquiries

- 📞 Toll-free No: 1800 419 7423
- 📞 6292190233
- ✉️ admissions@adamasuniversity.ac.in

Adamas University rated by several organizations as the best private university in Eastern India was established with the goal to provide a solution to all educational needs under one roof. Adamas University has nine schools of study as well as a School of Professional Studies collaborating with more than 50 Universities spread across 18 countries.

School of Engineering & Technology | School of Basic & Applied Sciences | School of Life Science & Biotechnology |
School of Pharmaceutical Technology | School of Business & Economics | School of Liberal Arts & Culture Studies |
School of Law & Justice | School of Media & Communication | School of Education

Barasat - Barrackpore Road, Barbaria, P.O Jagannathpur, District - 24 Parganas (North), Kolkata - 700 126, West Bengal.



Barasat-Barrackpore Road, Barbaria, P.O Jagannathpur,
District-24 Parganas (North), Kolkata-700 126, West Bengal, India
www.adamasuniversity.ac.in