Surmounting digital world challenges in the march towards utopia

Rao Tatavarti

Tremendous advances in the digital technologies have not only ushered in many facilities resulting in better lifestyles and health to the people around the world, but also, have brought in associated challenges detrimental to the society at large. This article discusses the recent advances in science and technology in general, cognitive sciences in particular - to highlight the persuasive power of the narrative on the human psyche. Further, showcasing how the power of narrative is being used by governments and big corporations for surveillance, intelligence gathering and business purposes, the article highlights the narrative power of the Indian philosophies and fables, from time immemorial - in building and framing our Indian psyche and ethos, and in realizing a better society. Keeping in mind the unique opportunity the nation enjoys today, in terms of the demographic dividend, the article suggests and argues that we should harness the demographic dividend by utilizing the technological advances for inculcating moral and ethical values propounded in our Indian philosophies and fables. Using the above arguments, the article concludes that necessary mechanisms *can and should* be built to realize a better and perhaps, a utopian society for tomorrow.

Life in the Digital World

Not very long ago, the commonly held belief was that land, labor, and capital were the key drivers of an economy - with intellectual pursuits and scientific knowledge having no role in improving human lives and nation building.

Today, tremendous advances in digital technologies, especially in the fields of Photonics, Biomedical Technology, Information and Communications Technologies (ICT), have enabled people across the world to:

- enjoy better and faster means of communications and can stay connected even with persons far away in remote places thousands of miles away. In fact, one can stay connected even with astronauts in the outer space, or in the deepest trenches of the oceans.
- travel to far flung places anywhere in the world, including outer space and the deepest ocean, by means of sophisticated and faster modes of transportation.
- lead more luxurious lifestyles.
- access and utilize better health care and medical facilities.
- stay connected with the world over, by just clicking on their digital devices.
- live longer with increased life spans.
- access wide ranging information on any subject, past or present, instantaneously.
- visualize and listen to happenings anywhere in the world in real time, sitting in living rooms.
- order for almost anything, from anywhere in the world and get them delivered to chosen locations with remarkable speeds.
- teach and learn any art or subject online.

Challenges for Digital Utopia

Not surprisingly, the recent technological revolutions underpinning human advances, improvements in health systems and the overall lifestyles of people across the world have now completely overturned the earlier beliefs. So much so, that today, digital technologies are unquestionably accepted as the harbingers for better and healthier lives, secure and prosperous nations.

This paradigm shift in the public perception often misleads the layman to believe that the advances in science and technology pertaining to the digital world are the steppingstones on the path to utopia - an ideal society in which laws, government, and social conditions are solely operating for the benefit and well-being of all its citizens[1]. Technological utopianism is often associated with other discourses presenting technologies as agents of social and cultural change [2-3].

The logic of digital utopianism often imagines that the digital technologies can be the panacea for all the problems of the society, and that they are the means for attaining eternal peace, happiness, and prosperity, as the technological utopianism naively views only the positive impacts of technology.

Digital utopian critics, therefore, rightfully claim that techno-utopianism's identification of social progress with scientific progress, is a form of positivism and scientism, and often point out that technological utopia is misguided optimism, as science, technology and society cannot be seen as independent, as should be construed as interdependent, and that the philosophical reflections on scientific activity and technological doing are essential in understanding the effects on a society[4].

Against this backdrop, this article attempts to carry forward the utopian exuberance of the digital world vision, by projecting it on a perceived model of socio-technological innovation that hopefully can translate into a more pragmatic reality in the march towards digital utopia.

Impact of Digital Transformation on the Digital Generation

Digital Transformation is the adoption of digital technology to transform manual processes with digital processes or replacing older digital technology with newer digital technology. Digital solutions generally enable efficiency via automation. Today, as we live in an interconnected world, empowered by invisible networks of instant communications and various modes of transportation, facilitating communications and movements with incredible precision and speeds; digital transformation has affected our lives in all the fields covering education, economy, business and commerce, defense, communications, transportation, health, and medicine. Digital transformations have had significant impacts on the common public.

Digital transformations have immensely affected young people's lives in more significant ways. The young, specifically the digital generation - a generation of people born in the digital era that has grown up with access to digital information and the abilities to navigate the new communication technologies - have had a tremendous impact of information and communication technology on their ideology, organization, mobilization, and their societal structures which underpin their way of living [5-6].

For young people, today social media serves as an avenue for civic participation. It affects their norms, values, attitudes, and behaviours regarding democracy, power, politics, policymaking, social and political participation, both online and offline, and the organisation of economic, social, and private life [6].

Science, Technology, and Society

Today, we all are more conversant with field of Information and Communication Technologies (ICT) comprising of internet, virtual reality and robotics and the many fascinating pathways for progress which they promise. Recent developments have ushered in new fields like Artificial Intelligence (AI), Machine Learning (ML) and Deep Learning (DL) into the realm of public knowledge and our everyday lives.

In simple words, Artificial Intelligence (AI) involves machines that perform tasks, characteristic of human intelligence - like planning, object recognition, sound recognition, understanding language, learning and finally problem solving, while Machine Learning (ML) is a way of achieving Artificial Intelligence. Deep Learning, although different from Machine Learning can simply be stated to be one of the many approaches to Machine Learning primarily inspired by the structure and functioning of the human brain, wherein huge amounts of data are processed and analyzed to arrive at intelligent solutions using what are called as predictive analytics.

It is against this backdrop, of huge advances made in AI, ML and DL that we look forward for solving the many of the pressing societal problems by *allowing* and *training* machines to arrive at the best judgements objectively by resorting to Deep Learning technologies. This may significantly result in (i) the elimination of bias so common in conventional designs by engineers, and (ii) phenomenal multiplication of the speed of delivery of desired outcomes. It is hoped by many scientists and researchers, that using appropriate AI, ML and DL tools may result in eliminating and adjusting the associated imbalances in the society, so that national progress is unimpaired.

Smart algorithms, Natural Language Processing (NLP), Machine learning, and Big Data technologies are used to create analytics and insights. NLP is designed to be inherently language agnostic, or genomic with text mining. In simple terms NLP can be construed as an area of artificial intelligence research that attempts to reproduce the human interpretation of language. With the advent of the World Wide Web, XML, and the World Wide Web Consortium's (W3C) Resource Description Framework (RDF), the realization of a fully communicating artificial intelligence, earlier considered a science fiction fantasy, is fast becoming a pervasive reality [7].

People often wonder, how their personal computer, phone or tablet has the uncanny ability to show case information suiting his or her tastes and perceived behavior. They would be surprised to realize that Deep Learning is now responsible for conversation-carrying *chatbots*, Amazon

Alexa, Facebook, Google Assistant, Instagram, Microsoft Cortana, Twitter, You Tube and more in our daily interactions with computers. It is imperative to realize that on social media and across search engines like Google, Bing, Chrome, Microsoft Edge, *etc.*, the algorithms based on Deep Learning are the ones that *churn out content and suggestions based on perceived individual preferences, biases, and tastes*.

Few people are aware of the significant developments in the fields of Linguistic Genomics and Deep Learning, which makes it possible to learn about, not only the *content and preferences* of people using internet, but also, make accurate inferences regarding the *intent* of the users. This kind of information is now routinely being used by various governments, corporations, and intelligence agencies and for surveillance and intelligence gathering. Not surprisingly, it is Deep Learning and Linguistic Genomics that is now helping companies and corporations customize their advertising to individual tastes.

It is of paramount importance, therefore, to understand that however essential science and technology are considered; the assumption that the tools of science and technology would always be deployed with altruistic intentions in a society, is at best *naïve,* and at worst, extremely perilous. One need not dig deep into the checkered history of humankind, to realize that unbridled ego, self-centered ideas and ambitions, greed for wealth, power, and pelf, have caused immeasurable and widespread devastation in our world.

Prudent pragmatism therefore suggests that the myriad complexities of societal structures demand that the public discourse, narrative, and consensus as essential ingredients to ensure responsible deployment of tools of science and technology in a society.

The Power of Narrative

The human brain is considered the most complex, sophisticated, and powerful information-processing device known. Today the breakthroughs in Brain and Cognitive Sciences reveal that it is the n*arrative* which can be persuasive and powerful. A narrative can entertain, inform, and

persuade — *but most importantly, it can forge deep, meaningful, and lasting connection* [8]. Most of us realize that when we listen to a narrative, whatever our age, we get vicariously transported to another time and space. Most of us have also experienced that depending on the narrative that we read, watch, or listen to, our palms start to sweat, eyes blink fast, and heart flutters or skips a beat. A growing body of brain science and cognitive psychology brought additional insights, into what is behind these experiences, and it was discovered - based on functional MRI scans – that many different areas of the brain light up when someone is listening to a narrative. *Lo and behold*, now all the professions have a compelling interest in how the brain works. Educators, curriculum designers, engineers, scientists, judges, public health and safety officials, architects and graphic designers, and especially big business, mega corporations, and governments - all want to know more about how the brain processes information. Brain research and its resulting applications have now become an integral part of how corporations and organizations function and succeed. It is against this backdrop of the power of narrative and the feasibility of deploying the same for narrow minded and self-centred motives, that sufficient checks and balances need to be put in place in the digital world [9-10].

Power of Narrative Enshrined in Indian Philosophy

Digressing from the present narrative on the recent advances in Brain and Cognitive Sciences brought about by research conducted primarily in western world. If one were to indulge in *divergent thinking* and *ponder,* it would be pleasantly surprising to note that that the importance of the power of narrative was well recognized by the venerable sages of India, from time immemorial. Indian ancestors had the wisdom to guide, disseminate and help people imbibe the great virtues, ethics, and morals. Indian psyche and culture are eternally punctuated and peppered with the philosophy garnered from the Vedic period (1500 BC – 600 BC), the Epic period (600 BC – 200 AD), and the Sutra period (From 200 AD).

The Vedas, Upanishads and the eighteen Puranas in Sanskrit and in the Indo-Aryan languages, are perhaps the oldest recorded languages of the world. The four Vedas comprise the Rig, Sama, Yajur, and the Atharva Vedas and are considered the oldest extant literature. The Vedas

collectively refer to a corpus of ancient Indo-Aryan religious literature that is considered by adherents of Hinduism to be revealed knowledge.

The two famous works that are synonymous to epic literature of India, are Ramayana and Mahabharata. These two classical epics of India written in ancient Sanskrit, present the most common ideals of human civilization and where the value of truth, the importance of self-sacrifice, *etc.* that make good human beings are explained in much detail. The Indian epics are full of moral teachings and sacred discourses that are relevant eternally for a utopian society.

Although the world is aware of the role the great epics (Ramayana and Mahabharata*),* the Upanishads and the Puranas play in guiding our everyday lives to lead a righteous, moral, and meaningful life with good values, a lesser number of people are aware of the role played by *Panchatantra* and so many other fables, in helping Indians lead a good and meaningful life.

To the uninformed, *Panchatantra*, is perhaps one of the oldest collections of Indian Fables still surviving. *Panchatantra* (`*Five Treatises'*), is an ancient Indian collection of interrelated animal fables in Sanskrit verse and prose, written by the great Hindu Scholar Pandit Vishnu Sharma, around 200 BC [11-13]. It is *NitiShastra* - an essence of maxims on proper conduct. The book is written in the form of simple stories and each story has a moral and philosophical theme which has stood the test of time in modern age of atomic fear and madness. It guides us to attain success in life by understanding human nature.

Demographic Dividend and the Digital World

A 2019 United Nations report [14] on young population of the world, points out that about 16% of the global population (*i.e.,* 1.2 billion people) are youth, aged 15 to 24 years. India's youth comprise more than 50% of its population (*i.e.,* 695 million) forming the unique and often bandied about demographic dividend, which is hoped to leapfrog our nation to greater heights of development [15]. Juxtaposing these statistics with UNICEF's State of World's Children report [16] elucidates that one in three digital technology users is younger than 18 years, and 71% of 15–24-

year-olds are online, making them the most connected age group worldwide. Out of this young population, almost 75% are known to be deeply associated with the digital world, spending most of their wakeful hours in the digital world. It is therefore not surprising, that digital technologies have profoundly changed the youth, children, as well as the infants of today. Digital information and communication technologies like the Internet, World Wide Web, and the means to access it, such as computers, iPads, iPhones, tablets, and smartphones, along with social media platforms and messaging apps, have become inseparable and integral to the lives of infants, children, and the adolescents around the world [17].

A common experience most of us are subjected to these days, is that people (more often the youth) are more withdrawn, indifferent, and at times insolent. Even family members and friends sitting next to each other, are generally seen twiddling their thumbs engrossed in their smart phones. Studies have shown that there are clear problems and issues linked to becoming digital slaves and failing to develop adequate social networking by transforming into self-centred individuals having undesirable traits:

- lack of emotional connection
- propensity to be hurtful
- decreased face-to-face communication skills
- inauthentic expression of feelings
- diminished understanding and thoughtfulness
- disinterested and disconnected face-to-face interactions
- laziness
- skewed self-image
- reduced family closeness
- constant distractions

For the digital generation, therefore, the digital world has left an indelible mark and significantly transformed their daily lives, education and learning, the way they make and maintain friendships, how they spend their leisure time, and their engagement with wider society. The undesirable traits which are often reflected in youth of today, have a pernicious influence on the society at large as the youth of today comprise an overwhelming majority of the Indian population.

Solution to overcome challenges – march towards Utopia

For a nation like India, where youth are clearly projected to be the demographic dividend for nation's development, it certainly pays rich dividends - if we can effectively persuade the young to develop core values and abilities to solve the problems threatening to tear the fabric of an ideal civil society.

Recent studies have demonstrated on how the young people of today can become caring family members, innovative workers, ethical leaders, and engaged citizens in an increasingly complex society, by inculcating the core moral and ethical values and abilities of *adaptability*, *creativity, curiosity, compassion (empathy), enthusiasm, integrity, positivity, resilience, resourcefulness, self-awareness, and sociability*. Interestingly, these are the very core values, morals and ethos that are taught by the great Indian Vedas, Epics, Puranas, and Fables like the Panchatantra.

Studies have shown on how families, schools, and communities can play critical roles in raising and educating tomorrow's citizens by nurturing, imbibing, and inculcating the core values and ethos needed by youth to navigate their lives in meaningful ways in their chosen endeavours to become good, caring human beings and engaged citizens of the community [18].

Against this backdrop it is argued that utilizing the advances in digital technologies and employing the power of the narrative, systematic mechanisms *can and should* be built to nurture, imbibe, and inculcate the moral values and ethos - *as reflected in the Indian philosophies and fables* - into the sensitive minds of the youth.

The idea to manipulate the content for the young consumer to help constantly reify the moral and ethical constructs of the youth, may be contradictory to the common beliefs[19]. But it is argued that, however contrarian it may sound, it is nevertheless worth pursuing, as irrefutable evidence exists on how ideas - *originally thought to be unrealistic, unreachable and a utopian fantasy* - can become a reality in our lifetime (Bregman, in Utopia for Realists[20]). In fact, we do

have a very good example of how the digital world can be reified to imbibe the age old ethical and cultural values encapsulated in our age-old *Upanishads*, if one were to view the 2012 Tele serial *Upanishad Ganga*, created and conceptualized by Swami Tejomayananda of Chinmaya Mission with a vision to take the message of *Upanishads* to the masses[21].

On a concluding note, despite the challenges brought about by digital technologies of today, it is imperative that we safeguard, nurture, and goad the younger generations through the digital technologies themselves to become good human beings by inculcating the core moral values and ethos as enshrined in our Indian philosophies and fables. This a necessity for enabling tomorrow's dream of a utopian society.

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Prof. Dr. Rao Tatavarti is an alumnus of Andhra University, IIT Madras and Dalhousie University, Canada. Dr. Tatavarti was formerly a Senior Scientist and Program Director in DRDO, and Director and Senior Professor at VIT University, India. He is currently the Distinguished Professor and Director of GVP-SIRC & GVP College of Engineering, Visakhapatnam; and is also the founder and Chairman of CASTLE Advanced Technologies and Systems (CATS) – high end technology firms specializing in photonic systems for civilian and defense applications. He can be contacted at *rtatavarti@gmail.com*.

Brief about Author

Prof. Dr. Rao Tatavarti is currently the Distinguished Professor and Director of GVP-SIRC & GVP College of Engineering, Visakhapatnam; and is also the founder and Chairman of CASTLE Advanced Technologies and Systems (CATS) – high end technology firms specializing in photonic systems for civilian and defense applications.

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