Book Reviews

N Chandrasekaran, N, &, Purushothaman, R. (2019). *Bridgital Nation-Solving Technology's People Problem*. Penguin Random House Year. 344pp. Rs. 639.

Background: The major challenges that India faces are of 'lack of jobs' and 'access to services'- to healthcare, education, legal system, to name a few- which the books terms as, *India's Twin Challenges*. Through this book, the authors N Chandrasekaran and Roopa Purushothaman offer the idea of 'Bridgital' to help create jobs and also improve access to services using technology.

Introduction: Technology is a driving change around us- a change that keeps reinventing itself, and we do not know where it will halt. The digital world has not only changed the way we work, learn, communicate, contact, do business but also the way we live. And the more acquiring of technology has become affordable, the more the tendency for organizations and governments alike to adopt technology for technology's sake. This approach has to be abandoned (changed); no more technology for technology sake but technology for need of technology and the use of technology in context.

All technology led transitions get with it the feeling of insecurity and uncertainty, a fear of the unknown and the unforeseen wherein loss of job is a major fear. There could be a future with (only) automation and a future without automation; but a future where both co-exist and also complement each other is often not thought of (therefore the insecurity that is experienced). Bridgital Nation suggests this future. The book Bridgital Nation provides a new approach to technology; it is about re-imagining automation. It sees technology not as not a replacement for human but as an aid for human.

The authors identify the challenges India currently faces in various areas ranging from healthcare to creation of job and from education to entrepreneurship. The authors analyse problems and also provides suggestions for moving forward with the urgency India requires. It says that neither human nor technology alone can solve the problems that

India faces; but a mutually beneficially relationship is what India should focus on. The book, through anecdotes, illustrates this.

What is Bridgital?

Bridgital address the challenge of access by intelligently and creatively re-imagining tasks and process that make a job and using technology to enhance and support the workers involved in the tasks. It has three elements: Bridgital Processes, Bridgital Technology, and Bridgital Workers.

Bridgital Processes: Introduces a process to address the problem of access and thus a lot of work which was in the purview of the formal sector would shift to the formal sector. In other words the traditional approach is abandoned to re-think who would do what in the service delivery value chain.

Bridgital Technology: Devises delivery models using technology to save time of skilled workers.

Bridgital Workers: This refers to engaging digitally literate and technology-augmented workers in newer tasks (often of higher value). These tasks could be those which were performed by highly skilled people (like doctors) or tasks that involve working like an intermediary.

Focus Healthcare: The book begins with a driver in Silchar (Assam), Nikhil Burman, who has no medical training, but who ultimately provides Indian healthcare services for the poor. He empathizes with the plight of a poor patient in an unknown and unfamiliar city, for instance, a patient from rural area seeking medical help in a metropolitan city. Nikhil provides all kinds medical services to the poor patients right from obtaining doctors' appointments, arranging for their lodgings at affordable costs, transportation, medicines and all the help that any patient would require in an unknown city.

Thus Nikhil works like a middleman (an intermediary) between the patient and doctor and charges a modest sum for his services. Providing guidance to these patients ultimately becomes a full-time occupation

for Nikhil. But all he does could have been achieved in a much better, faster and cheaper manner if Nikhil was aided by changed processes using technology.

The authors suggest that the health care sector could use the existing resources more efficiently and identify and tap the potential of digitally enabled systems to create new resources. They suggest that roles could be re-imagined, a new cadre of health administrators could be given role of administrative tasks, EMRs could be used, and as in the above case informal roles like Nikhil could be brought in the formal fold. Their contribution to the healthcare delivery be acknowledged and documented, their capacity increased by establishing proper protocols and providing training, and also their income and job security improved by affiliation with a formal institution.

Bridgital suggests the use of technological advances around India's most affordable resource, its human capital to multiply its capabilities and change how they work. Therefore, Bridgital is essentially about marrying people with technology. Those who are employed in Bridgital roles will gain vital skills in working and interacting with new-age technologies. These workers with these transferable technology skills will increase productivity across sectors. This will create a bridge (therefore the term Bridgital) for one to move from the informal to the formal sector*, and from the unskilled to the skilled.

India healthcare system needs to be fixed from 'bottom up' and this could be by using the human capital it already has rather than wait for new doctors to emerge to fill the demand supply gap. This is how the access challenge could be addressed.

Focus Education: The access challenge has been addressed to a large extent by the education sector. In the past, someone living in a rural area (village or small city) had to travel long distances to the metro to the nearest 'test center'. The metropolitan city nearby or often the state capital served as testing centers for entrance exams. The candidate had to bear the cost of travel and boarding in the city. This was because the task of testing was highly centralized and dependent on the physical presence of the testers. Technology has replaced this. TCS iON, which is a strategic business unit of TCS, *re-imagined the*

process of conducting assessment. Examinations centers which are connected to a digital platform have emerged in small cities and towns and therefore aspirants do not have to travel distances. This solved the problem of lack of access. Also more than 20,000 jobs were created or jobs were made more productive, like that of test center managers, invigilators and evaluators. This also addressed the problem of lack of jobs. Thus Bridgital Nation provides a new approach to technology. It is about re-imagining automation. *It sees technology not as not a replacement for human but as an aid for human. It believes in* redefining certain roles and creating a new set of technology-enabled semi-qualified workers and thus creating jobs.

Healthcare at AIIMS: The All India Institute of Medical Sciences (AIIMS) caters to nine thousand patients everyday in its forty eight OPDs. The demand (patients) supply (doctors) gap is bridged as a result of a project entitled 'Transformation, executed by TCS, which streamlined patient movement in the hospital reducing the waiting time from six to two hours (a reduction in 66.66%). This was achieved through small changes and adjustments and redefining roles and also creating new class of workers whose major role was to co-ordinate between doctors and patients.

Project DiNC: This example of AIIMS was replicated in Kolar (in Karnataka). Replicating the example of AIIMS which was housed in one building to the Kolar, which was spread across a district, was a challenge; but it was successfully achieved. This was called the Digital Nerve Center (DiNC) model which worked in two ways: first by redefining some roles and second by creating a class of Bridgital workers. Earlier, specialist doctors like oncologist surgeons divided their time between clinical and non-clinical work. A part of their time was spent in treating patients and a large part was spent in handling non-routine tasks like filing paper work, developing checklists, writing notes for the operation theatre and also explaining the modalities of diagnostic tests to patients. All this non-clinical work was now shifted to others thus creating jobs. It was noted that by just shifting one task that of 'writing notes for the operation theatre', doctors saved time to treat

patients; which translated to nearly 4,000 extra doctor hours every year. Therefore a small change could have far reaching impact.

The TCS team which undertook the (DiNC) project, basically re-imagined the process of India's largest public hospital and created a national network that linked cancer hospitals.

Project ASHA: This project enrolls women health workers who visit house to house asking questions, offering guidance and taking notes and keeping these details on the tablet. They are given the task of immunizing every child in the locality, and of sending every expectant mother to the doctor. They were given training to screen people for non-communicable diseases like diabetes, heart disease and cancer. The data were recorded and maintained on tablets and clinical medical history of each patient was maintained. Whenever a patient interacted with a doctor their central health record was updated. These records were available on an app called the Clinicograph, which provided doctors a comprehensive view of a patient's medical history. The Clinicograph arranged a patient's health data in chronological order, the most recent being kept at the top, and it was accessible anytime anywhere. It benefitted the patients as they did not to maintain medical records in paper files at home nor did they need to travel long distances for medical advice. At an instant all details of a patient could be gathered. The ASHA project created new roles and jobs titled DiNC Coordinator, Non-communicable Diseases Coordinator', Mother and Childcare Coordinator, Patient Care Coordinator, Speciality Care Coordinator' to name a few. Each had a well-defined role. For instance, a Patient Care Coordinator liasoned between various doctors, hospitals departments, and staff so that patients moved smoothly and quickly through the hospital. In their absence these tasks were handled by doctors. DiNC Project also had a videoconferencing facility which connected Sri Narasimharaja (SNR) hospital's doctors (SNR is a district hospital) with patients at distant health centers.

The Deliverables: The ASHAs equipped with tablets regularly visit homes, record symptoms, give advice and create patient records and store them in the cloud. The nerve centre acts also as a local health call centre which is used both for outreach and to answer to regular and

routine queries. It also connects people to doctors and also deals with simple requests like setting up hospital appointments. Thus in a short span of time, the primary health centres in Kolar have been transformed, meaningful jobs for semi-skilled people have been created, precious doctor time has been saved, and health care services have become easier and more convenient to navigate for the people.

ASHA project also by redefining certain roles and creating a new set of technology-enabled semi-qualified workers (class of Bridgital workers) created jobs. And by using technology creatively could address the issue of 'access'. The model from healthcare which were successfully implemented can be replicated in other sectors too like judiciary or logistics or agriculture.

Bridgital Healthcare: At present India has seven lakh practicing doctors and still it is a doctor scarce country. It is estimated that it would require 1.5 million doctors by 2030 when it would still be short by half a million. A Bridgital transformation could however help to free an equivalent of 3,70,000 doctors. Also Bridgital transformation could also help to create a million jobs and make an additional million productive. With gain in productivity, these Bridgital workers would also experience a 15-20 percent increase in wages. A win-win situation for all.

Conclusion: Bridgital Nation suggests that India should solve its problem of 'jobs' and 'access' by using its existing resources (human capital), supported by the power of technology. It provides a new approach to technology. It suggests a future where technology and human both co-exist and complement each other.

Note*: It is to be noted that India has a high-productivity informal sector and a low-productivity informal sector; but missing in the 'middle' is an 'intermediate-productivity and mid-skill sector. India needs a bridge between the two-a bridge by which lower qualified workers can acquire the digital skills required to participate in India technology led growth story. And this was done efficiently by Nikhil.

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