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WHERE TECHNOLOGY AND SOCIAL INNOVATION BRIDGE THE GAP

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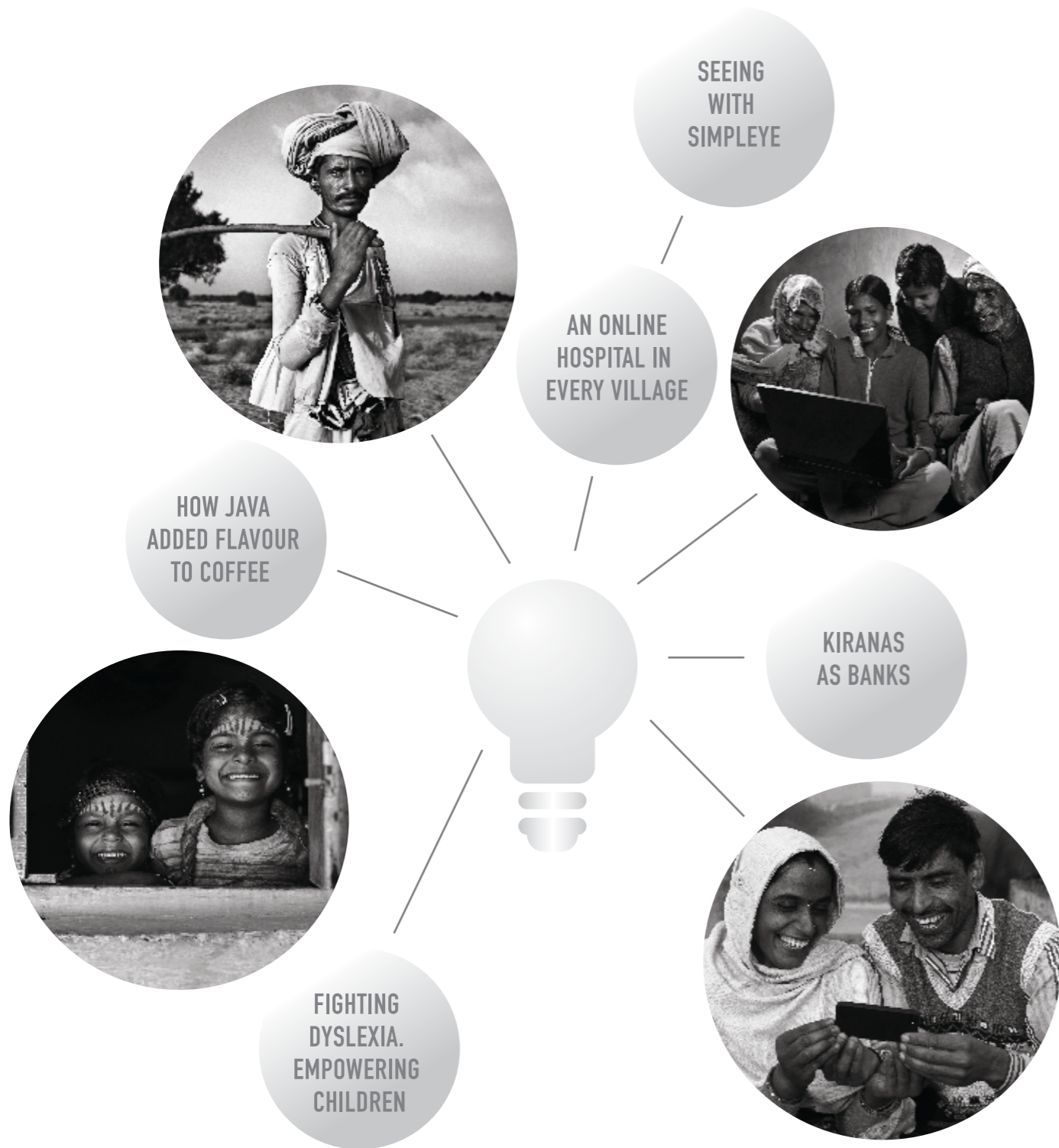
WHERE TECHNOLOGY AND SOCIAL INNOVATION BRIDGE THE GAP

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NASSCOM® Social Innovation Forum

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FOREWORD

The pervasive nature of technology and its efficacy in deepening impact and expanding the reach of social development initiatives has been much talked about. Over the years, the application of Technology for Good has both widened and become more nuanced. While more and more people are joining this movement to bring change, its use by the government and corporate sector has become more strategic and focused. From digitizing land records to monitoring mid-day meal schemes through IVRS and mobile technology, from driving skill building through computer centres to delivering e learning through networked classrooms, the use of Information and Communication Technology (ICT) has come a long way. In the last decade, ICT applications have provided valuable solutions to diverse challenges of social development – to build more effective interventions, processes and tools making the phrase “tech for good” common place.

NASSCOM Social Innovation Forum (NSIF) is NASSCOM Foundation’s effort to celebrate this change and this spirit of innovation and also to nurture it. The forum has acted as a foundation for non-profits, corporates, individuals and many aspiring entrepreneurs by empowering them and helping them to scale and augment impact.

NSIF attempts to bridge the gap between the IT industry and social start-ups by acting as a trusted vehicle to direct funding and support to the most deserving and high potential projects that aim to impact the underprivileged. NSIF helps the industry channelize CSR capital, accentuating social impact and catalysing change. This year, with support from pioneering organizations like Mphasis and Genpact, NSIF has initiated a focused ‘support to scale’ program that aims to invest in enhancing capacities of institutions and change makers to scale and deepen their impact.

This publication is an effort to showcase some of the impactful innovations that have the immense promise for an inclusive India. The intent is to not just celebrate but to also learn and be inspired to bring change. By including the views of persons who have been actively involved in helping this ecosystem to grow, we have shown the strong voice of support and conviction that we all have for these brilliant social innovators.

I hope this publication, drawing upon years of learning and experience from NSIF, will act as a catalyst to spur innovation and will set the context for a future where technology is the driving force for social good.

Dr Ganesh Natarajan
Chairman
NASSCOM Foundation



SOCIAL INNOVATION FORCE FOR GOOD

NASSCOM Foundation is a unique organization. To our knowledge, no other Chamber of Commerce in the world has promoted such an organization. It can be argued that we had a self-serving agenda. After all, if the Digital Divide gets reduced and more Indians have access to computers and the internet, the industry would benefit by having a larger talent pool and more customers. But I think our aspirations went beyond the trite and the selfish. We felt strongly that digital technology could, should and would help millions to lead a more productive life.

Then, we went one step further. We felt that it is important to celebrate certain individuals and organizations who saw digital technology not as an end in itself, but as a liberating and empowering force in society at large-----and who went about implementing their ideas with panache and aplomb, adhering to the highest standards of excellence. They may have different motivations: some are driven by profit considerations; others by considerations that propel them to help fellow-citizens without expecting any direct reward; and some see the need for an efficient, citizen-friendly government. It is in order to celebrate the outstanding and world class achievements of such individuals and organizations that we set up the NASSCOM Social Innovation Forum (previously the NASSCOM Social Innovation Honours). Over the years, these awards have attained the status of a Gold Standard. The individuals, the companies, the NGOs and the Government departments and agencies who have won these awards have emerged as a unique network with a life of their own. NSIF Awardee Alumni all over India are today a potent force taking the power of digital liberation to unexpected nooks and unexplored crannies. Whether they implement simple programs or they harness all the complexities of digital technology, it makes no difference, because one thing they have in common is that they touch ordinary people and help them along the lines of empowerment, prosperity and self-fulfilment. In this regard NSIF Awardees are true heroes and heroines.

To use a Sanskrit expression, NASSCOM Foundation has achieved “Janma-Saafalya” - we have justified our existence if only by recognizing, praising, celebrating and encouraging the NSIF Awardees. From this, we derive a measure of satisfaction which goes well beyond the self-serving. So here’s raising a toast to the NSIF awardees! May their tribe increase, flourish, prosper and go from strength to strength!

Jaithirth Rao
Former Chairman, NASSCOM
Former Chairman, NASSCOM Foundation

EXECUTIVE SUMMARY

There is so much being written and discussed about Social Innovation and Social Entrepreneurship that these have come to be regarded as vanguards to change the world. But changing the world is easier said than done, especially in a country like India which faces gaps in the delivery of social welfare programs because of its vast distances, diversity and few scalable models. And yet, what is heartening is that every year, young entrepreneurs come forward with innovative ideas and technology based solutions which will help make a change at the grassroots level.

Every year, NASSCOM Social Innovation Forum (NSIF) receives thousands of applications for the awards. Each entry is outstanding, making the selection process even tougher than the previous year. This year, we decided to share some of these most interesting ideas which we have witnessed over the years, by compiling them into a book that would highlight their ingenious thinking and impact.

Ideas which Impact: Where Technology And Social Innovation Bridge The Gap is more than a compendium of case studies that showcase the exemplary efforts of young entrepreneurs to solve real life problems. Rather, it showcases the inspiration, creation, and integration of new concepts and practices that have the potential to set global benchmarks.

The past few years have seen Social, Mobile, Analytics and Cloud (SMAC) technologies playing a big role in achieving greater social impact by building scalability into developmental models. This has not only helped to tackle large scale national problems, but has also encouraged social entrepreneurship and fostered the innovation space. Over the past seven years, NSIF has adopted a solution-minded approach in bridging the sharpest entrepreneurial minds with these technologies. NSIF's focus helps plug the gaps in key development indices, by aiming all tech led innovations at the Base of the Pyramid population (BoP). The ones most impacted by government support and most underserved in the consumeristic models.

This book showcases some of the most impactful cases of the last few years. NSIF identified the impact opportunities in five distinct focus areas:

1. Healthcare: For a country that is being recognised for its technological prowess, healthcare facilities are dismal for most of its population. A staggering 70% still live in rural areas and have no or limited access to hospitals and clinics. Opportunities are being identified to reach the unreached by linking doctors to patients and causing a mobile and online driven e-infrastructure to bridge the brick and mortar gaps.

2. Education: The Indian education system is far from inspiring with its focus on traditional instructional methods and emphasis on rote learning. In addition, lack of proper infrastructure and human resources makes it even more difficult for quality education to make inroads into India's remote areas. Solutions in the form of e-learning platforms, web-based software and tools are impacting India's weak primary education realities with e-learning solutions.

3. Inclusion of Persons with Disabilities: With over 60 million persons living with some form of disability, India has one of the largest disabled populations globally. To the majority of this population, crucial assistive technologies and devices remain largely inaccessible and costly. In recent times the development of braille smartphones, Kinect based applications for autism and software solutions that render websites accessible are now making daily activities accessible to all at an affordable price.

4. Financial Inclusion: The banking industry has shown tremendous growth in volume and services during the last decade. Yet almost 61 % of India is still left out. Social entrepreneurs are innovating new ways of delivering banking services through 'no frills' accounts' to vast sections of disadvantaged and low income groups who currently fear that they do not deserve to have a bank account because of their low income.

5. Livelihoods and social issues: Many other issues plague the socio-economic landscape of India. Lack of employment opportunities for rural youth, timely information services for farmers, safety of women and children and many more. Through novel use of ICT, entrepreneurs are increasingly addressing these issues – delivering farmer services through mobile, safety apps for women, networked tracking of missing children and delivery of many citizen services.

To understand how each of these innovations have made impact, NSIF delved deeper into each focus area. Within each focus area, all the innovations were examined, their growth over the years was analysed. Jury's comments on all these innovations were also kept in mind while shortlisting based on predefined parameters such as agility, scalability, effectiveness and technological ingenuity. By careful analysis, these were then shortlisted to include eight deep dive case studies, five special cases and 34 projects, that is showcased here.

To gain insight into the innovation, NSIF conducted further primary research which involved interviewing the innovators to gain a first-hand perspective. The objective was to understand the inspiration and evolution of the innovation, the challenges faced, and its impact on the society for which it was created. This information was further ratified by testimonies from beneficiaries as well as recommendations from experts who have had to opportunity to know these projects.

To ratify the efficacy of the innovation, a secondary research process was conducted to understand the innovation in the category context. The information was then compiled together and written as a story with an engaging human interest.

Every case exemplifies the problem the innovation attempted to solve, the role of technology in enhancing the impact and the future vision. Each case also features beneficiary stories, innovator's inspiration and challenges faced and an expert's opinion to give a holistic perspective of the case.

India is witnessing an emergence of young entrepreneurs who are willing to trade lucrative careers to become entrepreneurs to create social impact, and are creating scalable models that are agnostic to geographies or cultures, making them global benchmarks. NSIF will continue to support these new age entrepreneurs and create new spaces to catalyse and support social innovation.

To add more insights to the compilation, the team reached out to Industry leaders, impact investors and ecosystem supporter to ask their visions and thoughts on what can help to move the needle in 'Technology for Good' and social enterprise to scale impact. These thoughts and views shared by experts hold a wealth of inspiration and advice for innovators who have braved to follow this path, and future directions for positive actions to grow this sector.

INTRODUCTION

In any nation, depending on human hands means that there are gaps in the delivery of a large social welfare programs, from intention to execution. India with its vast distances, diversity and few scalable models is no exception to human errors. It is in the gap between human hands and innovative tech interventions that NASSCOM Social Innovation Forum (NSIF) has a really effective participatory role to play as an all India e-enabler.

Its solution-minded approach in bringing the sharpest entrepreneurial minds to tackle a national problem has a multi-pronged focus. At one level, it encourages the use of tech at the right places, where it can have a real impact in improving a service, a process or programme. At another level, it fosters the innovation space by concretely rewarding and supporting social innovators who are addressing this gap with brilliance. This immediate and long term approach creates a climate of positive responsiveness and addressing challenges with skill, speed and reducing costs.

This moves the needle from instrumental business focus on profit and markets, to problem solving with a wider economic or social gain for India at large. It also facilitates tapping into the demographic dividend, India's skilled youth, catching them early and infusing confidence and credibility to their tech solutions, wherever the results are evident. Disseminating this widely, across both the business leadership and governance spaces, has turned NSIF into a bridge where those who know tech can talk to those who know social issues. Since this is an on-going effort in Tech for Good, it allows a sharing of best practices quickly and effectively, across institutional spaces, which otherwise may or may not be speaking to each other.

NSIF's focus helps plug the gaps in key development indices, by aiming all tech led innovations at the Base of the Pyramid population (BoP) those most impacted by government support and most underserved in the consumeristic models. It becomes path breaking work in any polity and economy, when the poorest get access to tech based solutions which respond to their needs and gaps, with an unprecedented efficiency.

Instituted by NASSCOM Foundation as NASSCOM Social Innovation Honours in 2008, NSIF has metamorphosed into a 'technology for good' platform that has already attracted more than 1,000 innovative projects from NGOs, corporate, social enterprises, government bodies, PSUs, students and individuals.

Here is a back of the envelope checklist of the kinds of problems tackled, the solutions to most of which is not usually associated with tech. Access to clean drinking water for several hundred thousand, saving the girl-child, giving access to financial services to the excluded, empowering women and children alike, and bridging market gaps for farmers are some of the award winning projects in NASSCOM Foundation's network. The forum provides a launch pad to many not for profits, corporates, individuals and many aspiring entrepreneurs by empowering them and helping them to scale and augment impact

The key focus areas are:

1. Healthcare: Affordable, adequate and quality healthcare is not available to 72% of India that lives in villages and rural settings. The sector lacks resources, efficiency and cohesion. Technology led, stellar citizen led innovations that combat some of these challenges are a part of the NSIF network - from affordable telemedicine devices that link doctors to patients and mobile driven e-infrastructure to bridge the brick and mortar gaps.

2. Education: Impacting India's weak primary education realities with e-learning solutions. Solutions span from end to end academic management systems to context specific e learning platforms and cloud based solutions to better engage both students and teachers, making education accessible and interesting to the masses.

3. Inclusion of Persons with Disability: India is home to over 60 million Persons with Disabilities, but the market for assistive technologies still remains nascent. Innovative solutions are assisting movement, inclusion and research, bringing dignity and a spirit of creative assistance to the often ignored segments of society – taking us close to the long term goal of building an inclusive society.

4. Financial Inclusion: 61 % of India being left out of banking systems. E-enablers are moving fast on making this accessible, convenient and effective for all with mobile based banking solutions, online crowd funding platforms and kiosk models, with the hope of fostering rural entrepreneurship and the economy at the Bottom of the Pyramid.

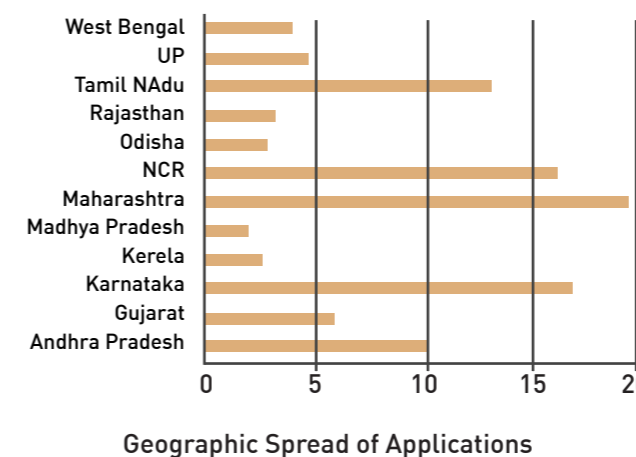
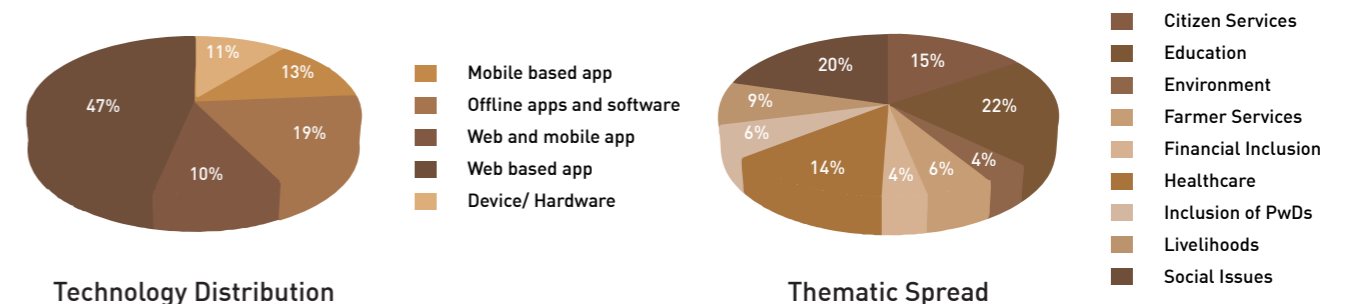
A common feature you will find is sharp thinking and creation of tech tools, which emerge from a sound understanding of a wide spread issue first. Many of them are scalable across diverse states and geographies and have brought change. Most of all, they are premised on keeping the human at the very centre and E-nabling reduction of human error simultaneously.

What this makes clear is that ICTs are not add-ons, but must form a core part of creative national problem solving, in a way that positively impacts reach and engagement to intended beneficiaries across social sectors. It is in this spirit that NASSCOM Social Innovation Forum marches forward and is committed to see this evolve and grow into a nationwide movement.

Over the past seven years, many innovative solutions have been a part of the NSIF network. The interest in the platform has grown each year bringing to the fore many interesting trends – thematic dispersion, geographic spread and use of technology. Given below is an analysis of the NSIF network of innovations.

Though education remained the focus of a majority of the innovations, many were focused on social issues such as safety of women, empowering rural communities etc. Usage of ICT to modernize health services is also emerging as a key area of focus. New innovations are also coming up in the areas of financial inclusion and accessibility.

Web based apps – online tools and Software as a Service (SaaS) remains the most popular technology. This space has also been integrated with a mobile front end in many cases, leading to hybrid models. Pure mobile based applications remain at 13% of the network.



The number and quality of innovations from Tier 2 and 3 cities has gone up. We have witnessed an increase in the number of applications from cities such as Raipur, Bellary and Mangalore. Karnataka and Maharashtra continue to be frontrunners in technology innovation.

RETHINK INNOVATION



As part of the Grand Jury of this year's NASSCOM Social Innovation Forum (NSIF), we witnessed that more than 70% of innovation has the potential to solve local issues, larger social issues and impact society in a very real sense. Genpact has a strong belief in the power of social innovation to transform the world for the better, which is why we have extended our support to NSIF for six straight years, 2015 being the seventh. We believe that the time is ripe for bigger ideas to come to fruition and I can't think of a better forum to give these ideas the platform they truly deserve.

Genpact believes that for any innovation to create material impact, it must be replicable, scalable and sustainable. It should impact 5 million and not 5000 people. You see this happening every day in Silicon Valley where 10 people use \$10,000 to impact 10 million people. So the question is, how do you take inspiration from something like that to make an impact in our context? The answer lies in having a razor sharp focus on a few areas and then going in deep into them. In the context of social responsibility, for Genpact those areas are skill & education, environment and inclusion. We will continue to support the NASSCOM Foundation to ensure these three focus areas are rightly addressed.

Anything that an Indian company needs to do to go that last mile is where a lot of social innovation might happen - that's true for education, that's true for financial inclusion, that's true for health and that's true for anything.

Amit Aggarwal, Senior VP, Genpact

Tomorrow's India will need more skilled professionals than ever before. We along with NASSCOM Foundation are looking to drive skill development aggressively and this is where smart aptitude analytics for relevant training becomes invaluable. Base education vs. skilled education is a massive area to create social impact in the here and now. Another area of social change where NSIF will play a key role is data. We are all in agreement that from a social standpoint, data is going to become very important. Right from providing better health care to subsidised gas rates requires innovative data collection. This is where NSIF holds the utmost relevance.

The world over, it is tougher for smaller businesses to get the kind of help that they typically need for scaling - capital, infrastructure, market access and so on. That is where incubation hubs come in. Whether it is the government or large corporations or associations like NASSCOM, it will have to be bodies that have more power that create those incubation hubs and then ensure that they are able to provide all of those things so that smaller companies can flourish.

Amit Aggarwal, Senior VP, Genpact

'Tech For Good' is not just a concept restricted to the realm of start-ups. Big, profitable corporations and for-profit business models not only have the resources to create a platform or a solution, but also have the power to scale up and replicate these socially. The combination of a social angle and profit angle is interesting and has great potential to bring forth social innovation and drive positive change.

I do hope that large organizations see these as opportunities for partnerships to help these organisations, especially start-ups to drive bigger impact. Let us invest ourselves fully into something we truly believe in and are passionate about. This is the key to driving social impact and change.

Mohit Thukral

Senior Vice President , Banking , Financial Services, Insurance & Healthcare, Genpact

DIGITAL UNDIVIDE

An Amalgamation Inherent to Social Impact



The sheer power of technology for social impact is astounding; it has enabled socially responsible organizations and informed citizens to take initiative in India's development landscape and be vital catalysts of change. It has empowered these organizations and individuals to address voids and gaps in several critical development areas such as education, healthcare and financial inclusion and inclusion of persons with disability. Mphasis supports NASSCOM Social Innovation Forum (NSIF), India's leading Tech for Good platform, and lauds their efforts in using technology for social impact. The valuable insights that emerge give rise to a plethora of socio-tech solutions and open up enormous possibilities for everyone to be a part of the mainstream.

In the realm of technology driven community development, Mphasis is specifically focusing on three areas: promoting education via technology-led large scale learning platforms for the under-served; digital education for supplementing financial inclusion aimed at financial literacy; and technology-based solutions for the disadvantaged in the mainstream economy. We aim to achieve these objectives with a CSR strategy oriented towards an open CSR platform. What this means is that this platform will provide for a wider set of stakeholders, namely, non-profit organizations, companies, individuals, research institutes, technology incubators and the like. It will also mobilize a wide range of activities within the focus areas of project grants, investment in research and innovative enterprises, investment in technology development, ideation, advisory, and knowledge and information support. A combination of technology and CSR resources will bring this platform to life to aid and widen the impact of the activities undertaken. This is where we see a clear alignment of NSIF and our focus areas. We are looking at NSIF to identify innovative technology solutions which Mphasis can then drive through CSR. Mphasis has recently signed an MOU with Lokalex to deliver learning in a remote village of Mysore district using technology which will enable a local entrepreneur to run and sustain it. This is the hour of the tech social entrepreneur who has the right mix of passion and knowledge of resources at hand to bridge the accessibility divide, create inclusion and equity for people at the margins. We intend to create a strong body of work in this space of tech based social innovation and social enterprise

I would like to address the relevance of extremely promising field of Digitalization in the achievement of greater social impact. Digital technologies have the potential to lay the foundation for remote healthcare, adaptive learning and mobile agricultural extension services, in addition to increasing productivity, time and cost savings, generating income, enhancing livelihoods, expanding customer base and bridging the information gap. Urbanization has created its own challenges and has also created a divide. The promising field of Digital Technology can help alleviate many issues that urban migration is causing and at the same time extend world class services to rural areas. Social Enterprises have a vibrant opportunity to tap on to such technologies and build a sustainable business.

NGO sector can benefit tremendously and can enhance their efficacy by becoming more efficient at executing advocacy campaigns, raising funds for their causes and predicting trends. Today, some of the biggest philanthropy organisations like The Bill and Melinda Gates Foundation, Save the Children and Akshaypatra are heavily relying on the use of Big Data to further venture into new areas of focus, ensuring rigour in their services to beneficiaries and enabling efficient allocation of resources. The future of our nation is dependent on the replication and scaling up of these models for focused and higher social impact.

Ganesh Ayyar
CEO, Mphasis Ltd., An HP Company

HEALTHCARE

India's healthcare challenges are well known. Among other things, our health system is a patchwork of public and private providers that do not operate as a network; certain geographies are media dark, rendering it difficult to reach the populations with critical health information; poor information systems make performance management in public and private facilities a challenge; and feedback loops on the health status are not timely enough for decision-making. Through our work with the Bill & Melinda Gates Foundation, I have seen that innovative Information Communication Technology (ICT) solutions can support improved public health provision and outcomes in many ways.

First, we see inordinate potential in the digitization of a variety of managerial processes that support the delivery of primary health care services in the public sector. These include the management of human resources, hospital management, patient registration and records management, as well as supply chain management. These processes have traditionally been managed on paper, limiting standardization and full integration. Simple ICT solutions can enhance these core management processes, leading to faster and most effective delivery of services.

Second ICT can help simplify government processes for private health providers to play a more effective role in primary health service provision. ICT can enable a more holistic approach to patient care, by allowing patient data to be shared between service providers, public and private. Ultimately, these tools should improve both customer experience and, most importantly, critical health outcomes.

Third, ICT can help support the provision of high quality and consistent information on health practices. Recent developments such as mhealth tools exploit India's high mobile phone penetration to provide flexible, scalable and easy-to-use access to life-saving information, which can improve the interpersonal communications skills of the provider, or directly inform the end-user, thus improving basic practices and saving lives.

Finally, innovations have also emerged to overcome challenges in treatment adherence and disease control. We have seen that innovations based on simple techniques like 'missed call' alerts have the potential to revolutionize treatment adherence and bring the disease under control.

The ICT environment in healthcare in India is bound to mature further with the Government's overall focus on Digital India and setting up of the National eHealth Agency (NeHA). The success stories of the health entrepreneurs shared in this book, make us hopeful and upbeat about the future. Ultimately, ICT is an enabler that can help to give every person in India the chance to live a healthy and productive life.

Girindre Beeharry

Country Director

Bill & Melinda Gates Foundation

1 THE CLOUD DOCTORS

ReMeDi by Neurosynaptic Communications Pvt. Ltd.

Like all boys his age, Rizvan had big dreams. Unfortunately, his health had other plans. Diagnosed with tuberculosis, the pathetic healthcare facilities in his village Taiyabpur, Bihar not only robbed him of his strength, but also his resources. The nearest hospital was in Patna, a long, arduous and expensive journey which cost at least Rs.2000 per trip. Rizvan couldn't decide what was more painful – the discomfort of his condition or the financial trauma his father was going through.

This is the story of a staggering 70% of India's population that lives in rural areas. Patients are forced to travel, sometimes walk, anywhere from 6 to 28 kms to access the nearest basic healthcare facility. What worsens their situation is that these primary health clinics or district medical centres lack basic diagnostic or treatment facilities or even qualified doctors. As a result, patients are left with nearby alternative medicines or local quacks as their only options.

It was stories like Rizvan's that motivated Sameer Sawarkar and Rajeev Kumar to give up their senior positions at an MNC and set up Neurosynaptic Communications in 2002. Rural patients did not need sympathy. They needed a solution. Neurosynaptic's mission was to enable access to quality and affordable healthcare to villagers through technology. It aimed to bridge the divide by connecting masses in rural and remote areas with urban doctors.

First and most critical was identifying the tools for accurate diagnosis. Together with leading authorities in healthcare, they narrowed it down to basic parameters like temperature, blood pressure, respiratory health, ECG and pulse. Next was doctor-patient interaction, so video conferencing was built in. But how do you run this when most villages lacked even basic infrastructure such as electricity and connectivity. With these constraints in mind, Neurosynaptic created ReMeDi® - a patented remote healthcare solution that allowed doctor-patient video conferencing at 32 Kbps bandwidth and consumed less than 2 watts power.

Launched amidst much excitement in 2005 in Thirupattur, Tamil Nadu, the first installation of ReMeDi® saw 100 patients in the first week. This dropped drastically in the second week because while patients could access a qualified doctor, they still needed to travel to the nearest town for the medicines, which made them revert to their old methods of healthcare. Sameer realised they had failed to understand the ecosystem requirements for healthcare delivery, and after much experimentation with business, finance, partners and implementation models, the first scalable model was launched in 2008.



We started with a simple question – can technology bring about access of quality and affordable healthcare to the Rural India? And created a solution: An amazingly simplified ReMeDi® technology that is making a huge difference to masses! It has been an immensely satisfying journey that continues to demand scaling newer heights and challenges every day.

Sameer Sawarkar
Co-Founder & CEO,
Neurosynaptic Communications Pvt. Ltd.

ReMeDi™

ENABLING QUALITY AND AFFORDABLE HEALTHCARE. ANYTIME. ANYWHERE.

Today, ReMeDi® (Remote Medical Diagnostics) is a comprehensive e-health solution that facilitates remote screening, primary diagnostics and triaging, and connects the entire healthcare system from health workers to diagnostics to pharmacies to labs to doctors to hospitals. It provides a comprehensive, affordable treatment and an end-to-end solution to the healthcare needs.

The delivery model typically consists of a health centre in the village equipped with ReMeDi® Software and Medical Device connected with trained doctors located in an urban area.



ReMeDi® Healthcare Ecosystem

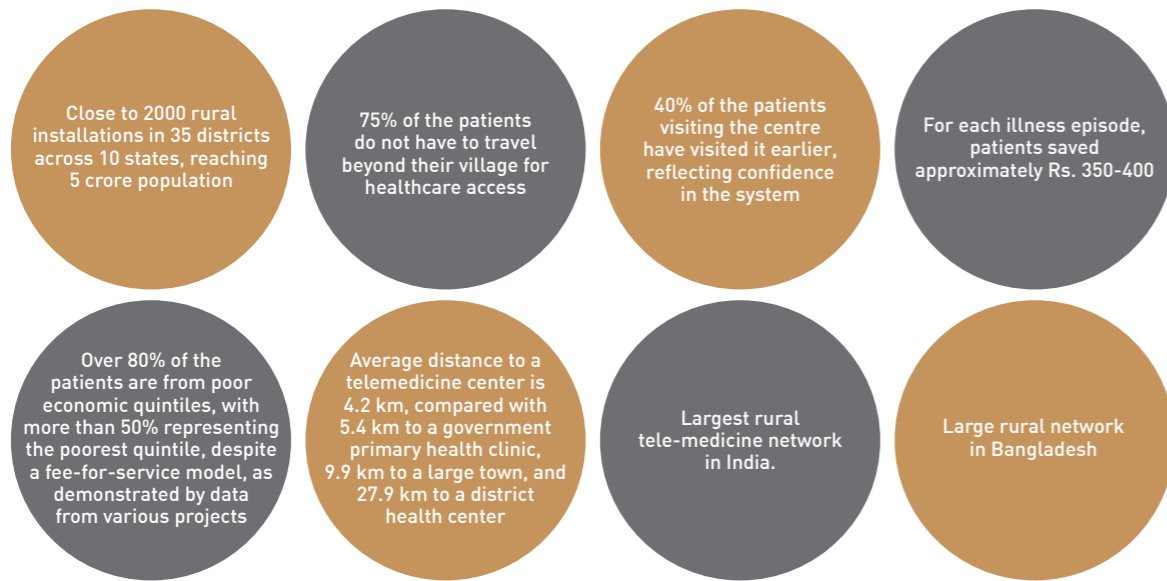
Using the Hub and Spoke Model, ReMeDi® enables real-time AV consultation between rural patients and urban Doctors based at the Central Medical Facility (CMF). ReMeDi® can measure basic physiological parameters like patient's electrocardiogram, temperature, blood pressure and oxygen saturation, as well as transmit heart and lung sounds in real-time through electronic stethoscope probe and provide vital information about the patient to a remote doctor for preliminary diagnosis. Patients' Electronic Medical Records are also maintained for each tele-consultation and are available for future visits, anywhere in the ReMeDi® healthcare network.

Villagers who previously had to travel long distances to get care from qualified doctors can now consult with city doctors and specialists within 5 kms of their villages, and in certain areas even from their doorstep, all for less than Rs. 50-60. This saves their money and time, but most importantly, their lives, as they can receive timely care especially in critical cases.

I always wanted to get myself involved in some regular work, apart from being a homemaker. When my husband told me about the Sky Health Centre Project, I was really excited as I could see the scope of my active involvement. Everyone is really fascinated to see me handling computer and other equipment and facilitating the consultations effectively.
Khushboo Singh, Franchisee, Sahdai Buzurg Village

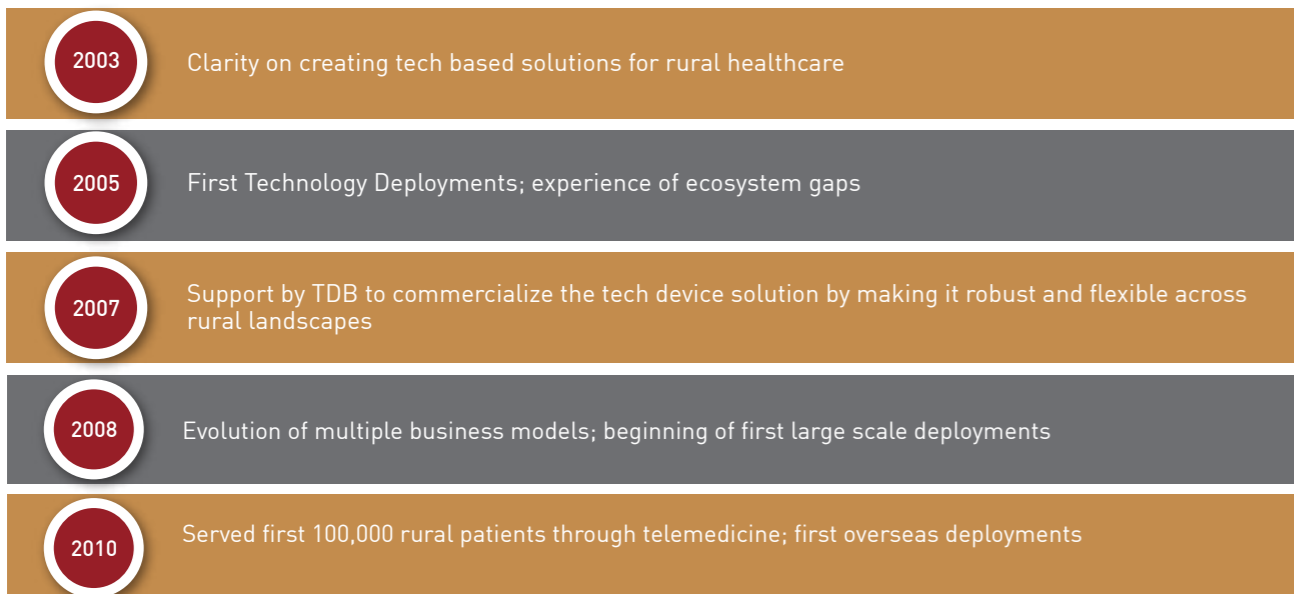
BASIC TECHNOLOGY. SUPERIOR SOLUTION

ReMeDi® takes advantage of the rapid spread of cell phones and internet access and utilises them to deliver cost-effective primary health services. It is a comprehensive web-based solution which uses browsers at the front end as well as for all providers of the system, and a private cloud-based server at the back end. It also uses various platforms such as android based tablets and wireless bluetooth based diagnostic devices. It supports commonly used Windows platforms. The technology has been developed jointly with IIT Madras and locally manufactured with globally accepted highest quality process and product certifications.



IMPACT of ReMeDi

KEY MILESTONES



Today E-solution reaches more than 5 % of rural India; aims to reach 25 % of rural India within the next three years

FUTURE FOCUS - A HEALTHY INDIA

- Significant scaling expected with partners in India and other developing countries in SE-Asia, Africa and Central & Latin America
- Statewide telemedicine networks envisaged in the next few years
- ReMeDi® envisioned to be an access point for 25% of the Indian population
- ReMeDi® working towards becoming the largest Tele-medicine developer in the world
- Partnerships with private hospitals in towns and cities as nodes for the village CMFs
- Working towards inclusion of telemedicine services in insurance coverage
- Active engagement in issues of accreditation for technology-based healthcare delivery based on standardised process guidelines

ReMeDi enables remote healthcare service with point of diagnostic capability which can be delivered through a wide variety of outreach points. Such innovations are critical to solving India's healthcare challenges across the vast country. They are a great example of 'leapfrogging' using the most modern technology to solve the most basic challenges.

-**Nandan Nilekani**, Chairman of UIDAI, Author of 'Imagining India', Philanthropist & Former Entrepreneur

What is very exciting is that Neurosynaptic has successfully addressed issues of scalability, affordability and implementation, which are key to translation of such technologies to mass impact. Even more exciting is the manner in which the entire broken ecosystem is beautifully 'integrated' by ReMeDi platform, making an end-to-end health and healthcare delivery possible.

-**Prof K VijayRaghavan**, Secretary, Department of Biotechnology, Government of India.

Neurosynaptic's ReMeDi has demonstrated a path forward as an appropriate solution that can address daunting challenges like shortage of skilled manpower, scarcity of infrastructure like bandwidth and electricity, and yet can deliver cost-effective results at a significant scale. A network of over a thousand Tele-medicine Clinics, and growing, itself is a standing testimonial to the acceptance of Neurosynaptic's Tele-Medicine Technology by both, patients and doctors."

-**Dr. Vijay Bhatkar**, Chairman IIT Delhi and Founder Director of CDAC

2 FUSION HEALTHCARE

Health Management Information System by Sughavazhu Healthcare

Veerakannan, a small farmer from Karambayam village in Tamil Nadu was in two minds. The palpitations and dizziness were getting worse, but the nearest treatment centre was in Pattukotai, 10 kms away. The trip not only cost him a princely sum, it also meant loss of a day's work. After a few visits, Veerakannan discontinued treatment. Fortunately, a SughaVazhu Rural Micro Health Centre (RMHC) opened in his village. By now, Veerakannan's blood pressure was at alarming levels. The clinic put him on medication and also prescribed a diet and exercise routine, which he followed. Today life, like his BP, is normal.

It is a known fact that the farther you move away from a city, the farther you move away from organised healthcare. On one hand, healthcare innovation is flourishing and on the other, a majority of the population has no access to this, or has to pay a premium even if they do. "The biggest gap in the market was to create a service delivery vehicle which would bring these innovations and technologies together and provide them to the last mile", affirms Zeena Johar, Founder & CEO, SughaVazhu Healthcare. What was required was a network across the country that would interface human resource and technology innovation to provide basic healthcare services to inaccessible populations.

The challenge was to find qualified and experienced doctors. No MBBS wants to practise in a rural region. Zeena even considered the nurse practitioner model of the west, but the Indian regulatory framework wouldn't allow it. That's when she came across the Ayush doctors. 18 states in the country allowed them to practice and they administered modern medicine and methodologies. "We decided to create human resources that were a fusion of Ayush doctors and the nurse practitioner methodologies", she adds. "We trained these doctors and used all the technology and our understanding of low cost infrastructure provisioning of healthcare and created a network".

That was in 2008. In 2009, SughaVazhu Healthcare, in partnership with IKP Centre for Technologies in Public Health (ICTPH), inaugurated their first clinic in Alakkudi in Thanjavur District. Currently, the network includes nine clinics that cater to a total population of 75,000 individuals within the selected catchments .



It's not just about communicating the clinical reality of the disease, but also realising the local context and understanding which leads to a lot of misconception and misinformation. Before you treat them, see the problem from their eyes.

Zeena Johar,
Founder & CEO,
SughaVazhu Healthcare

AN INTEGRATIVE INNOVATION

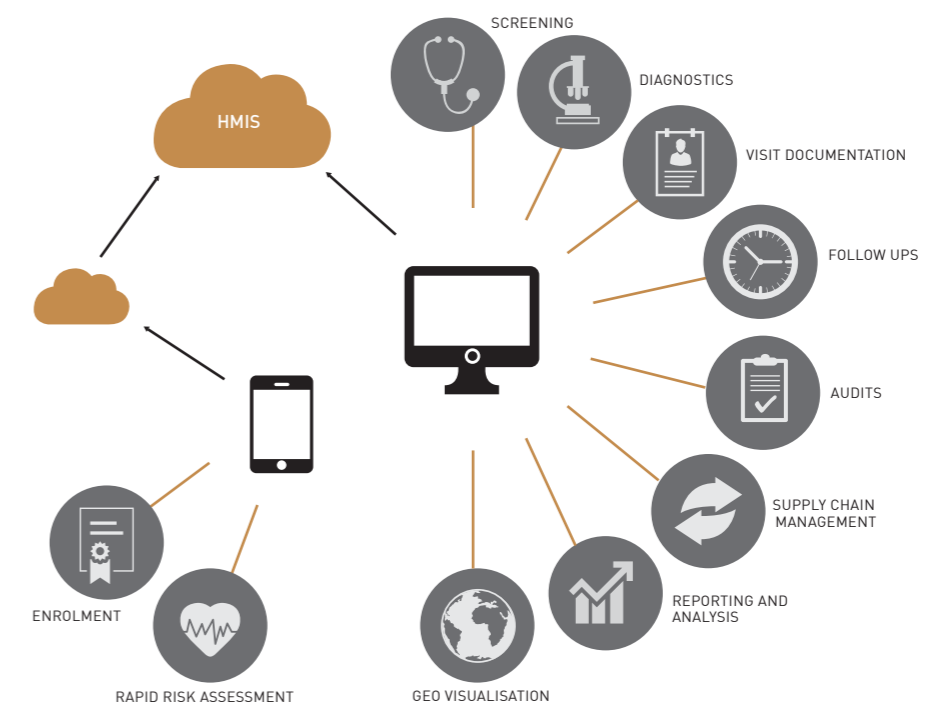
SughaVazhu's model of healthcare delivery is based on ICTPH's multifaceted, integrative solution of training the under-tapped section of alternate healthcare providers to harness evidence based care protocols and technological innovations. This helps them provide easy access to low cost and good quality primary health care services to the rural population in India.

The network is anchored by Rural Micro Health Centres (RMHC) and a central diagnostic facility that form the first point of reference for evidence based primary care. Additionally, the healthcare providers initiate community engagement activities to promote health awareness, undertake population risk profiling and offer affordable disease management alternatives. The RMHC is assisted by a village-based Health Extension Worker (HEW). The clinic houses a well-stocked pharmacy and provides the broadest possible range of healthcare services (including cervical cancer screening, vision screening and dispensation of glasses and management of chronic diseases) at a primary level. The centres are fully computerised and also use mobile technology to assist with patient-centric services.

The site for an RMHC is selected based on appropriate criteria such as accessibility, connectivity, private and public healthcare provider landscape. Each RMHC caters to a catchment population of 8000-10000 people which roughly translates into 2500 households. Prior to the launch of a clinic, the entire catchment population is geo-tagged, enrolled and issued bar coded ID cards to create seed databases for each clinic.

TECHNOLOGY THAT'S MILES AHEAD FOR THE LAST MILE

SughaVazhu's cloud-based proprietary Health Management Information System (HMIS) is one of the most significant innovations within the space of primary healthcare delivery. Other than capturing patient-physician interaction, the web-based, open source HMIS has fully functional units for supply chain management, monitoring and evaluation, clinical audit and integration with android based mobile platforms for data integrations. Modules such as human resources management, training management, clinical data analysis and community disease mapping aided by geo-visualization are under development. In partnership with IIT Delhi, SughaVazhu is working towards building real time intelligence in the system which will aid the physician in care delivery as defined by their standard protocols. The HMIS is also fully integrated with their community based mobile phone enabled risk assessment solution.



The Sughavazhu Ecosystem

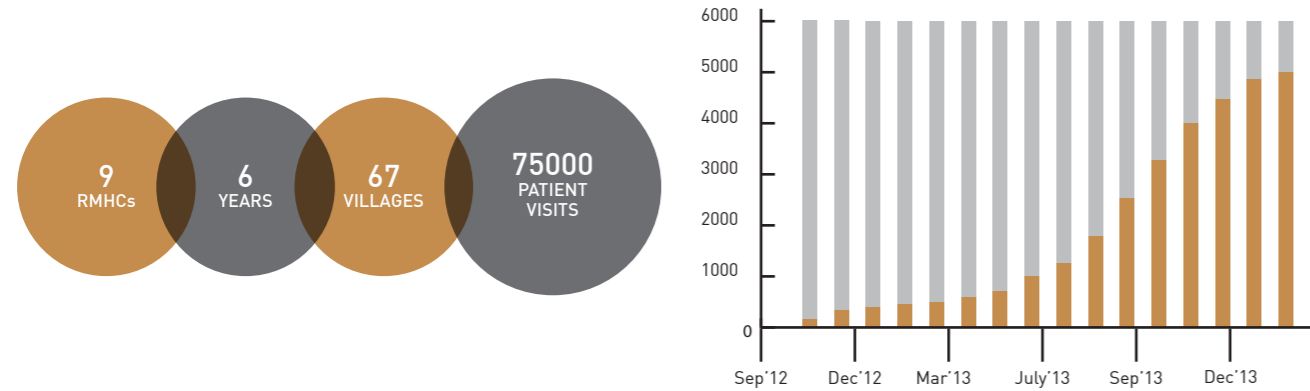
Since last year, I could not read about politics in the papers. Patukottai was too far away to check my eyes. Once SughaVazhvu opened nearby, they did my eye check-up and I got my spectacles. Now I can read well.
 -Subaiyyan, Patient, Karambayam village, Tamil Nadu

LEVERAGING THE POWER OF ICT

As a rural primary healthcare provider, demographic placement of SughaVazhvu's RMHC is of defining importance. A large catchment area servicing a population of a 10,000 rural Indian residents has been carefully demarcated through GPS profiling of existing government primary healthcare centres and other private medical providers, to ensure that the RMHCs are positioned appropriately. Every RMHC's catchment of 10,000 people, approximately 2,500 households is enrolled using android mobile phones. A partnership with ODK (Open Data Kit) and CommCare, Dimagi Foundation has allowed them to develop software solutions for mobile phones which assist in intelligence enabled data collection. This exercise is accomplished for a new site in a week's time, using six to eight local village residents trained for two days. As of today, SughaVazhvu Healthcare has over 65,000 people enrolled and geo-tagged through its entire catchment population.

The RMHCs are managed by a physician and a Health Extension Worker (HEW), both of whom are provided internet enabled laptops that allow real time data entry into the Health Management Information Systems (HMIS).

MEASURING IMPACT

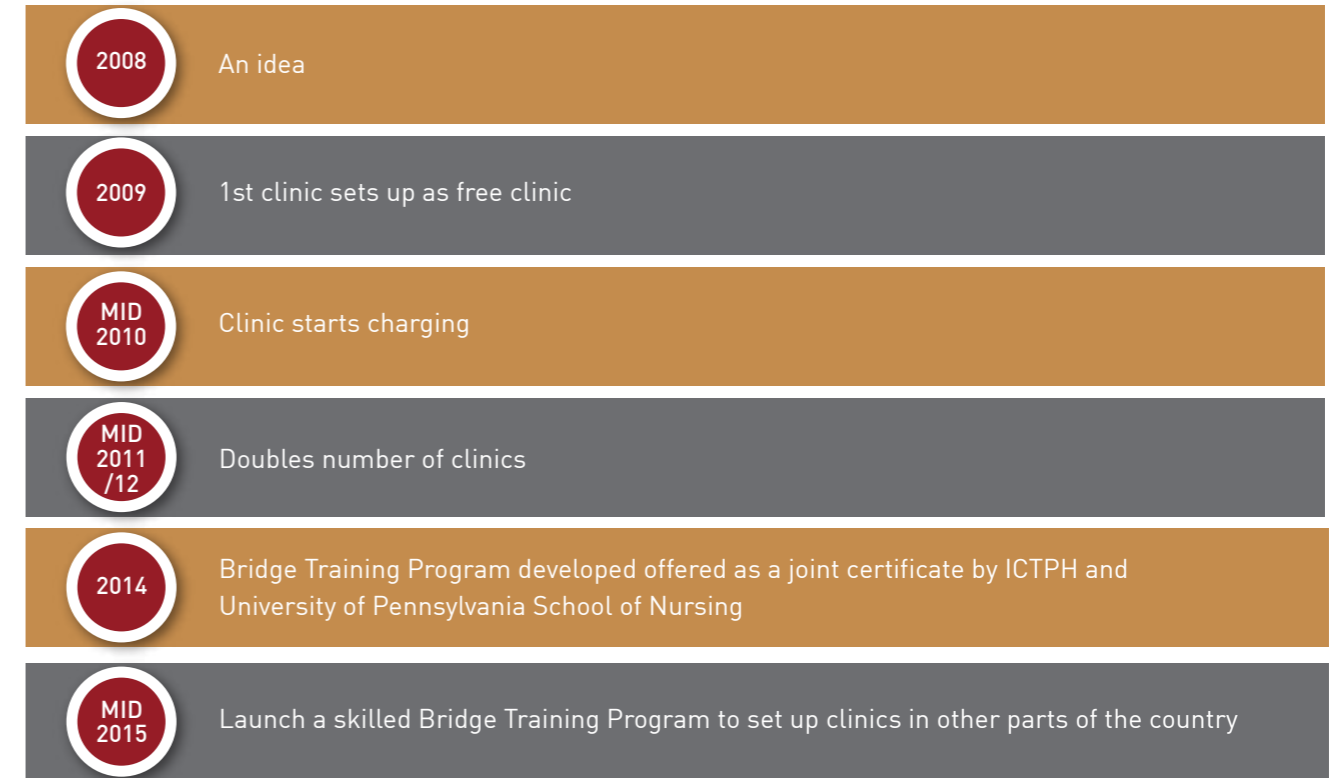


Number of Patient Visits Over the Years

Over the past 6 years, Sughavazhu has initiated 9 RMHCs in around 67 villages. With the setting up of new centres, the number of patients treated also grew at an accelerated pace, from mid-2012 to 2014. The total number of patient visits stands at 75,000 currently, all set to grow exponentially in the coming years.



KEY MILESTONES



The Indian health care system is at many cross-roads: how to solve the chronic HR scarcity problem; how to provide more efficient care through prevention rather than cure; how to reduce out of pocket spending; and how to adapt the system to the epidemiological transition. The SughaVazhu pilot proposes and tests solutions in all these areas. The experiment will shed useful data and lessons for the path ahead for India.

-Girindre Beehary, Country Director (India), Bill & Melinda Gates Foundation.

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 We are pleased to be the sponsor because it represents the first effort in a low-resource rural setting to develop a full-service primary care model, using a unique human-machine hybrid strategy. Such models hold the key to solving the healthcare access challenges of India and many parts of the developing world.

-Dr. Nachiket M Mor, Member of the Central Board of the Reserve Bank of India, Director, Board of IKP Trust

Bodhi Health Education

Android based integrated healthcare training for last mile health workers

The World Health Organisation has stipulated that a minimum doctor to patient ratio necessary for effective healthcare delivery is 1:1,000. However India struggles with a ratio of 1:1,700 patients. The World Health Organisation in 2013 estimated a shortage of 3.6 million health workers in India. Apart from this, uneven distribution in existing medical facilities, lack of medical infrastructure in rural areas and insufficient access to quality medical education further exacerbate the problem.

Bodhi Health Education is a social enterprise working to improve healthcare in India by providing quality medical education to health professionals and community health workers, who work at the bottom of the pyramid.

Bodhi Health Education leverages low cost mobile technology coupled with e-learning to create a scalable, high quality training solution for rural health workers. The e-learning content covers complex medical topics such as pre/post natal care, immunization, disease prevention and control, child nutrition and family planning. These are taught to semi-literate women in an interactive and engaging way using pictorial videos in regional languages. All content is developed by medical experts with the aid of illustrators. Being android based, the application can be accessed on tablets, mobile phones and/or on existing IT infrastructure in health centres with content being available in the offline mode. Additional features of the solution include certification and assessment of health workers as well as the ability to monitor their training from a central location using an open source Moodle Management System.

Within just two years of operation, Bodhi Health Education has made remarkable progress in the healthcare sector. Currently, the organisation is working with an eye care facility to mobilise and train vision assistants in rural areas. Bodhi is also working closely with the Haryana Government to provide refresher training to over 100 ASHA workers on pre and post natal care. Use of affordable technology provides last mile access to standardised training for health workers. This gives both public and private health institutions an assurance of the qualifications of their health workers. This is a critical factor in ensuring wide spread impact to those most in need while successfully penetrating the estimated \$1.8 billion market.



RURAL HEALTHCARE PROJECT

by Asvas Healthcare Pvt Ltd

The Asvas Primary Healthcare Clinics are used to deliver a seven-step scalable healthcare model: Screening, Referring, Mobilizing, Diagnosing, Treating, Second Referral and Management, using digital systems developed in-house. Asvas clinics serve as replicable and scalable primary healthcare models for rural India. A total of 6 clinics have been set up, so far, across Andhra Pradesh, Telangana and Karnataka helping up to 3000 patients per month.

AYZH MOBILE TRAINING PROGRAM

by Azyh

The solution works to address the taboos and on ground challenges around neonatal care and birthing by sending pre-recorded easy-to-understand voice messages through a mobile phone, containing essential information on neonatal practices to health workers on field. The solution is further aided by a birth kit filled with tools for the same. Aiming to catalyze behavioral change, this project has been implemented in over 16 states across India.

BLOOD LINE

by Juvenpas India Pvt Ltd.

Bloodline is a mobile and web-based service that enables smarter, more efficient interaction between those in need of blood, the healthcare facilities and blood donors. Using mobile internet, location based services and social networking, the cross platform mobile application allows personnel from registered blood banks/hospitals to broadcast a request for blood. The request will then be relayed to targeted relevant donors in the locality who can then approve the request and donate blood in a timely and effective manner. This smartphone application has reached over 100,000 users till date.

E HEALTHPOINT

by Health Point Services India Pvt Ltd

The organization provides an innovative multi-service delivery platform for low-income communities inclusive of tele-medical facilities, tele medical software, point-of-care diagnostics for more reliable diagnosis and water treatment, therefore providing communities with an affordable and scalable, all in one solution for their health needs. E-Healthpoint is currently operational in 5 districts across Punjab.

EDETECTION CONTACT TRACING

by Operation ASHA

As a part of the Operation Asha program, a software application has been created for the contact tracing and active case finding of suspected TB patients. The application, available in multiple languages, is fitted with GPS tracking, and allows health workers to effectively map TB hotspots and address the problem swiftly. Currently through its application, Operation Asha serves a population of 4.37 million people, spanning more than 16 cities in over 8 Indian states.

SEVAMOB

by Sevamob Ventures Public Limited

Sevamob is a cloud-based mobile technology solution that can be used by field doctors to provide primary healthcare and insurance to low-income consumers for a monthly subscription. The solution is made available through Android tablets that can be operated without network in remote locations. The solution is currently available in Uttar Pradesh.

V- COMPUTER AIDED DIAGNOSTIC SYSTEM FOR DETECTION OF HEART MURMUR

By Akash Alex Paret, Satyajeet Gawas, Suraj. K and Sriram

The Computer Aided Diagnostic System for Detection of Heart Murmur is centered around a micro controller and is capable of capturing, recording and playing heart sounds in real time and classifying them as normal or murmurs. This device has the potential to reduce the number of deaths of patients suffering from heart disease through early detection and diagnosis of the problem. Currently a prototype, there is great potential to scale this innovation across the country.

AIDE

By Libin Joseph, Tinku Chako, Sreeraj P.R, Ragesh K.X and Alex Brolin

AIDE, is a pendant like device that serves as a medical alert/alarm system, that when pushed is connected to a cloud system that alerts and connects the patient with the nearest hospital as well as automatically sends text notifications to up to two pre-determined emergency contacts. The innovation though in its prototype stage has immense potential with the current development and future with Internet of Things (IoT) and would serve an estimated market of over 1 billion people.



EDUCATION

Though India has witnessed improvements in the literacy rates over the past decade, it still remains the country with the largest number of uneducated adults – 287 million. A vast percentage of the children never complete school, with learning and retention being questionable in those who do.

Many factors further complicate and influence these figures. Social structures of class and gender determine who gets access to education while other factors such as a lack of funds, infrastructure, access to and the quality of content, monitoring and evaluation mechanisms and availability of trained teachers severely impedes the progress of the system.

The role of technology in education is not necessarily a new one, over the years we have seen a variety of technologies play a pivotal role in shaping how we learn. ICT has increasingly being utilized worldwide by institutions both for on campus delivery and the opening up of distance learning delivered through Television, Radio and through tapes and CDs. ICT facilitates lifelong learning at any age, anytime and anywhere.

The introduction of mobile phone and tablets, however, has been the real game changer in content creation and delivery. Due to their mobility and the ability to include interactive features and content they have outperformed all other technologies. With them has come a new era of software, hardware, platform, tools and capabilities.

We have witnessed ICT led learning manifest itself in four main ways: Mobile learning, E-Learning, Education Management Information Systems and Open Education Sources. The uptake of each has been context and need specific. ICT can contribute to universal access to education, equity in education, the delivery of quality learning and teaching, teachers' professional development and more efficient education management, governance and administration.

The case studies covered in this section are some of the innovative solutions to address a few of these vast challenges to education in India.

1 LET'S PLAY

Competency Based Experiential Learning Solution by Callystro Infotech Pvt. Ltd

Remember how as a child all you wanted to do was play? Studying was boring, no matter what your parents did to spice it up, even if it meant watching educational videos. Sabina Jain realised this when the company she worked for set up playgrounds with open access computers for school kids. While the videos were interesting, learner engagement was low due to the passivity. Lack of interaction meant that this was just a fancier version of textbooks. When the developers added a few games, they found the kids skipping the e-learning and jumping straight to these. This gave Sabina an idea: why not develop a learning curriculum which is built on the basic premise of games without compromising on the learning elements. The idea was to create a solution that was capable of holding the attention while increasing retention of concepts through repeated engagement by the child.

This very insight prompted the team of young software engineers to set up Callystro Infotech, a game-based learning company in Mangalore. Prior to this, Sabina Jain, Rajeev Gopalakrishnan, Sampath Shetty and Sampath Menon were involved in developing engaging educational content for children. With Callystro, they created a difference – game based learning on a holistic premise, through a gaming environment which also mapped the school curriculum.

The team launched CoBELS (Competency Based Experiential Learning Solution), a pedagogical tool that enhances learning through the child's own experiences and actions. CoBELS aims at improving logical and analytic thinking and developing the ability to apply knowledge. The activities are derived directly from the national curriculum such as NCERT and hence completely supplement the regular learning at school.

Sabina shares an interesting story. "It was the first day of our installation at a school run by Amar Jyoti Charitable Trust in Delhi. Learners of different grades were trying out our solution. Then came a group of learners who were hearing impaired. This was the first time we had differently abled learners using our solution. We quickly found a couple of games that would suit them. What we saw was super encouraging. All the hearing impaired learners started engaging, answering and taking turns to play the games. According to their faculty in-charge, this was the first time she has seen them so charged up and excited about learning something. The next day, one of the learners from the same hearing impaired group walked up to us and started prodding us. When we couldn't comprehend, he promptly walked up to the board and wrote "GAMES". It just reaffirmed our belief that game based learning can cut across learners of different capabilities and become a powerful tool for learning."



Game based learning when integrated well with the school curriculum and aligned with teacher needs can go on to become a powerful tool in changing the teaching learning process of today.

Sabina Jain
Director & Co-Founder,
Callystro Infotech Private Limited

CoBELS

THE MOST EFFECTIVE LEARNING SOLUTION FOR GRADES 3 TO 8, ALIGNED TO INDIA'S NCERT SYLLABUS

CoBELS is an innovative eLearning solution which aims at imparting an effective, engaging solution to school learners by mapping the curriculum into games and activities. It is packaged into an LMS (Learning Management System) that can be used by schools. The solution caters to both urban and rural sectors. It is multilingual and does not have any dependency on the reading abilities or computer literacy of the learners.

While ICT is known to be a great enabler in overcoming the limitations of the current education system, it has been unsuccessful in doing so. The main problem even today is that of low learning outcomes, low engagement in class and low participation of teachers. CoBELS blends the right pedagogical methods with ICT to create a solution that utilises the power of ICT, reduces teacher dependency and helps improve the learning outcomes of the child.

CoBELS targets school learners of ages 6-14 years studying in grades 3 to 8. The content is multi-graded and broken down to bite-sized modules according to the competency level of the child, so a child can start anywhere depending on his level. It focuses on strengthening concept building rather than just scoring marks. This helps kids understand better and removes performance pressure.



CoBELS Games

CoBELS is significantly different from other available eLearning content:

- Only solution that provides game based learning completely mapped to NCERT and other state specified curriculum
- Has 350 games which cover the entire curriculum for Maths and EVS
- Has recently added games for financial literacy in accordance to the scope defined by National Financial Literacy Assessment Test
- Handles multiple intelligence that may exist in a single classroom
- Modules offer flexibility which help learners create their own assignments
- Teachers can also create games
- Works across all platforms – cloud, offline and tabs
- Tracks performance – a parent dashboard helps track how much has been covered as well as scores earned especially in critical cases.

CoBELS is a very interesting way to reinforce conceptual learning. Engaging our hearing impaired students has become easier

- Shobha, Faculty in-charge, Digital Lab, Amar Jyoti School







Learning Through Games

TECH THAT MAKES LEARNING FUN




The entire solution is available offline or online on the cloud. It has been developed using Adobe flash technology for the core implementation of the solution. Apart from this, SmartFox servers are used for creating virtual multi player learning environments. Net (dotnet) technologies have been used to create the







MEASURING IMPACT

 12 schools, close to 2000 learners through schools and online portal	 4 learning centres of Parikrama Centre for Learning in Bangalore, Karnataka catering to 400 learners in each centre	 More than 1000 online users in the B2C segment	 Scaling up to 70 schools and more than 10000 online users
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The Story So Far

KEY MILESTONES

	Company Registered
	4 Founders bring in equity
	Concept development, prototype development, pilot testing

	Power of Ideas winner. Seed funding from CIIE and Dept. of Science and Technology
	Product development - Maths (Grades I-VIII), EVS (I-V), Financial literacy (VII - X), 350+ games, 3 portals (cobels.in, mapoosa.com, finlitgame.com), android apps
	Partnered with Parikrama Centre for Learning to launch product
	Signed on the first paid school partner
	Developed a comprehensive game on Financial Literacy conforming to the guidelines by National Financial Literacy Assessment Test, in collaboration with American India Foundation
	Installed Financial Literacy content in a school within Rashtrapati Bhawan premises as part of their Financial Literacy Week on account of the President's birthday

FUTURE FOCUS : LEARNING THROUGH GAMES

- Aim at taking game based learning to students as a formal method of learning to impact their learning outcomes
- Aim at huge adoption by students through different channels - schools/retail/online
- Venture into adult education through games based learning for Financial literacy, English and employability skills
- Focus on retail solutions to benefit more learners

Callystro, makes learning efficient and fun. The versatile offering is adequate for both school and home usage. The best learning games for 3-8 graders in India.

-Tanvi Rangwala, Director-ICT Initiatives, Centre for Innovation Incubation and Entrepreneurship, Indian Institute of Management, Ahmedabad

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 "The Callystro team members are able to understand the requirements of the client, budgetary constraints and deliver quality product within the time specified. We had an opportunity to challenge them to develop a product on game based learning where they incorporated our pedagogy of Digital Equalizer to deliver an innovative solution - Financial Literacy for govt schools."

-Sundar Krishnan, Director - Digital Equalizer, American India Foundation

2 ON CLOUD 9

Class Cloud by Zaya Learning Labs

Neil DSouza had everything a 26 yr old could ask for. A cushy job at CISCO in San Francisco, building access devices for 3G and 4G, and the chance to travel to villages around the world to pursue his passion for voluntary work. This is when he noticed that while most of the orphanages received devices as donations, lack of teachers or the software rendered them worthless. If he could tweak the tools he was building for the big cities and implement those here, the impact could be tremendous. Neil quit his job to set up Teach A Class (now Zaya) and started creating an educational program which would capitalise on the boom in free online content. But most of the schools even though connected, could not access any of the content due to extremely poor bandwidths, resulting in a wasted user experience and poor standards of learning.

A year later, after working with orphanages in Mongolia and Indonesia, Neil developed Class Cloud, a Cloud based mobile (2G/3G) Wireless toolkit with a Learning Platform (LP) that could run online as well as offline. Users could connect to these Class Cloud servers with their mobile phones, tablets, laptops and desktops. The LP could be updated locally even without internet connectivity and sync up to the cloud regularly on finding it.

Class Cloud provided access to the last mile of schools, orphanages and learning centres around the world. India however, was a different story; it only solved the access problem. To improve the educational quality, a learning or pedagogy model that integrated this tech into the classrooms was required. A blended learning approach was created which combined traditional learning, tech-enabled teaching and activity learning. A lab was set up in 2012 in Mumbai where underprivileged kids would come to learn Maths, Science and English. In 2013, it drew the attention of impact investors and funding was received for scalability. Today, the blended learning model is being implemented in schools across the country. It has been productised to a lab kit with a tablet, projector, curriculum and Class Cloud integrated to make it feasible for low cost schools. The kit is applicable for students of grades 3, 4 and 5, for Math and English and also includes a basic teacher training module.

Zaya primarily targets the affordable private school sector and has also partnered with many NGOs that operate in private or government schools as well as vocational training institutes. Most of the students and teaching assistants come from economically disadvantaged backgrounds.



The name Zaya was inspired by a 15 yr old girl in an orphanage in Mongolia. She stood out as she was brilliant in math. She would translate the content from English to Mongolian and make her own lessons which helped other children learn. Zaya means destiny and fate.

Neil DSouza
CEO,
Zaya Learning Labs

CLASS CLOUD

ENSURING QUALITY EDUCATION FOR STUDENTS

CREATING EMPOWERMENT FOR TEACHERS

Class Cloud is a teacher driven, student run platform. By engaging them thoroughly, teachers are empowered and involved in each and every stage of building and running a learning space.

Class Cloud is based on the following principles:

Affordability: The model is based on cloud technology. Specific content is pre-loaded on to a Zaya micro-cloud that is battery operated, wireless, mobile and most importantly, able to be accessed without an internet connection. The micro cloud is loaded into a portable backpack kit along with low cost, hand held tablets. This unique plug-n-play feature makes it an attractive solution to teachers and trainers who can setup a digital learning environment simply by connecting it to a power source in their classrooms without worrying about setup.

Customisation: The blended learning approach divides a student's time between 3 distinct forms of learning. 1) Systematic and structured teacher instruction 2) Self-paced and personalized learning 3) Small group concept investigations. The interactive, adaptive learning platform on the tablets automatically tracks student performance and directs students to the next learning stage. This customised learning approach gives teachers a clear snapshot of the student's progress which helps them guide them accordingly. This is the key differentiator between Class Cloud and other similar education platforms.

Improving: An algorithm that ensures that each student is learning in his or her educational "sweet spot" powers the Zaya LP. As it collects data, it learns more about the students and effectively predicts the learning maps that will be most effective for each. The facilitators can make appropriate adjustments to each child accordingly.

Zaya's end-to-end solution empowers teachers by catering to their strengths in classroom management and level the playing field for low-income learners by giving them access to high-quality content and the ability to learn at their own pace.



Making Learning Fun

LOW COST, HIGH END TECHNOLOGY

The education micro cloud (Class Cloud) extends Internet cloud architecture to create an edge device that can work online and well as offline to provide education content and learning modules. To achieve this new architecture, old software models from distributed computing (bit torrent) and new cloud services (Amazon) were blended. The hardware is an integrated wireless micro-server which is manufactured by Zaya's partners in Taiwan. The box is designed with constraints of low power consumption (ARM processors), integrated wireless chips (Atheros), large storage capacity and mobile wireless capabilities. A single integrated wireless device was chosen over individual superior products as the consumers being low tech-savvy teachers, would prefer fewer devices to manage. Atop the hardware sits a Learning Platform (LP) built using the latest web application stack which aggregates content from several content providers. The LP incorporates learning modules like Inquiry Based Learning from Stanford University and Adaptive Learning from Khan Academy to provide a complete learning solution to children and teachers in the classroom. The platform language is independent so it can be adopted across the world.

MEASURING IMPACT

Zaya's solutions are available in three countries – Indonesia, Mongolia and India. In India, the solution is used by 20 schools across Mumbai, Bangalore, Hyderabad and Gujarat. The total number of students impacted so far is above 3000 – set to increase with Neil's aim to reach at least a hundred schools by the end of 2015.

Initially the teacher used to write things on the board and we found it difficult to understand. Now we get to watch videos which explain the concept and then do a test. We also prefer practicing the concept on the tablet rather than doing it in the workbook. We get immediate feedback, which helps us improve.

- **Manas**, Grade 5, Nalla Sopara Campus, Mumbai

I feel empowered and feel I am a new person. Even my family and friends see the difference. First I was lazy but now I feel like dynamic actor. I am every day more confident and open to the environment and potentialities it can bring to me and other people..

- **Nischa**, Teaching Assistant, Zaya

KEY MILESTONES

2011

Pilot with Khan Academy and Ck-12 in Indonesian orphanage

2012

5 pilots in India with partners like TFI and Rotary Club

2013

8 schools in Mumbai

2014

Became a social enterprise, closed investment from Pearson Affordable Learning Fund, expanded to Bangalore and Hyderabad. Reached 20 schools.

2015

Impacted over 3000 students and 90 teachers by end of academic year

FUTURE FOCUS : PERFECTING THE MODEL

- Make a large-scale impact in the Indian education space by reaching out to more affordable private schools around the country
- Be the world's largest affordable Blended Learning school
- Be in at least 100 schools by 2015
- Tap into the right networks and foundations to identify, curate and market to these schools
- Participate in the nascent National Independent School Alliance
- Engage with more content providers from India to share content online.

We invested in Zaya because they had a student-first approach to education technology. Too often, we see ed-tech viewed as a silver bullet that is designed without a deep understanding of the realities of the classroom. If Zaya can be successful in achieving their vision, they can transform affordable education.

-**Arvind Nagarajan**, Manager, Business Development, Office of the Chief Education Advisor, Pearson

Chrysalis TechMate by EZ Vidya

Interactive and engaging learning Forum

Despite all Government efforts, the current state of India's education sector is quite abysmal . 1.4 million children aged between 6-14 years still remain out of school. Out of those who do attend, 40% drop out in secondary education . A number of factors point to this: outdated educational content, style of delivery that is far from engaging, and limited resources available with teachers to engage students, are few of the most important.

Chrysalis ThinkMate, which is EZ Vidya's flagship solution, aims to deliver high quality holistic education to suit the needs of the 21st century. Chrysalis ThinkMate is an online platform that contains the digital version of the Chrysalis syllabus. The platform allows for connectivity and collaboration between teachers, students and parents, and makes teaching and learning more interactive through the use of digital and audio visual material. The innovations are in the user experience, content organisation and software delivery mechanism. The students can access and share learning material which promotes self-learning. Furthermore, parents can log in to monitor and assess their child's progress. Being an open source cloud based solution, users can access the platform anywhere, any time. The platform was developed using open source frameworks. Content is created in Adobe Indesign and outputs as PDF Flash files. EZ Vidya has successfully introduced an appropriate, affordable and effective solution using technology, aimed at increasing learning outcomes of students, as well as giving teachers access to high quality teaching materials and skill enhancement tools. Currently, EZ Vidya has partnered with over 1000 schools benefiting over 250,000 students pan India and engaging 6,500 teachers through at least one of their programs.



EDUCATION

AUGBRAIN

by Genauth Solutions Pvt Ltd.

This web platform contains interactive learning content such as quizzes, games and brain training exercises. Furthermore, the system analyzes the activity of the students on the portal, builds a brain profile of the student and provides individual suggestions for learning. The mode of operation is 3 fold with users first undergoing a workshop to introduce them to brain learning techniques.; second, they use the solution to learn the 6-10 standard syllabus of science that the organization has re written to include elements of cognitive psychology; and third, students are provided brain training exercises depending on their results, to boost their understanding. Currently the solution has been launched in 11 schools in Punjab and Bangalore and has been tested by over 21,000 students.

A-VIEW AMRITA VIRTUAL INTERACTIVE ELEARNING WORLD

by Amrita Elearning Research Labs

A-VIEW is an online collaborative platform pertaining to the realm of online classrooms, meetings, training & workshops. People can participate on A-VIEW via remote centers. The platform is being used across 31 states by over 55,000 higher education institutions with 77 lakh student hours being clocked.

ONLINE SUBTITLING SOFTWARE SOLUTION

by BufferInfinite

This software product when integrated with popular Internet browsers adds subtitles automatically to the online videos being viewed. The project ensures that the pool of online videos with foreign content becomes more accessible to the Indian masses; the innovation has the capability to be adapted and used by people all over the country.

EVIDYALOKA REMOTE EDUCATION MODEL

by eVidyaloka Trust

eVidyaloka connects qualified professionals and teachers from across the world to rural schools with a view to bringing quality education to the most remote areas of India. They do this using Skype, Optic Fiber Technology, 3G, WiMax, PC webcam and the like. A solution such as this solves the problem of the teacher shortage within India as well as provides last mile access to education. Currently the program is operational in 3 states with over 25 centers in 20 villages impacting over 1200 students so far. Furthermore, it's network of teachers span across 76 cities in 13 countries.

FEDENA

by Foradian Technologies Pvt. Ltd.

Fedena is a free & open source school management software that has more features than a student information system. It can be used to efficiently manage students, teachers, employees, courses and all the systems and processes related to an institution. Fedena is used in more than 40,000 schools and colleges around the world and powers 20 million students and teachers. It has been downloaded more than 200 times daily and reaches 150+ countries. The most notable implementation of this innovation is by the Education Department of Kerala, which has implemented Fedena to automate all systems and processes of 15,000 schools.

FUNTOOT

by eDreams Edusoft Pvt. Ltd.

Funtoot is an intelligent, adaptive and personalized digital tutor, which helps every child based on IQ, Interest, Speed of Learning and other parameters. Funtoot observes, assesses, diagnoses, interacts, encourages and helps based on each child's capacity. It is built on patent pending technology algorithms around Artificial Intelligence, Machine Learning and Natural Language Processing. Funtoot is designed to work in the India-specific cloud-computing model and without any Internet connectivity in schools. Funtoot is currently being used by over 14,000 children on PCs/Laptops/Tablets across India.

Guru G Teacher Assist Platform

by Guru-G Learning Labs Pvt. Ltd.

This android-based platform aids in teaching, teacher training and teacher certification thereby bridging the gap between training and classroom teaching. Teachers can use Guru-G as a classroom companion that helps them learn new skills and customize teaching methods. Currently GuruG teacher assist platform is implemented on a pilot in 100+ schools in Bandipur-Karnataka, Madhumalai-Tamilnadu, Sawai Madhapur- Rajasthan, Kanah, Pench and Nashik in Maharashtra.

GOVERNING EDUCATION MANAGEMENT SYSTEMS (GEMS)

by Juno Software Systems

GEMS, an academic institution administrative solution which supports a platform for a connected campus, has processes seamlessly sinuous across departments, constituents and stakeholders. It consists of 40 modules purposely integrated to manage complex institutional processes. Integrated capabilities can help accomplish effectual stakeholder relations, admissions and enrollment, facilities, recruiting and staffing, teaching-learning assessment process's, student and teacher performance, and organizational growth and development. Currently GEMS has over 42000 educational institution employees, management, students, parents and alumini using it across Mumbai, Delhi and Pune.

SKILLTRAIN

by SkillTrain Training and Consultancy India Pvt. Ltd.

The organization provides vocational training to rural school dropouts in the form of free video content delivered on a mobile phone for easy access. The videos are also distributed via mobile recharge shops which make them easy to access. After the youth completes the video learning, they can then opt for hands-on training at centers for a nominal fee of Rs. 10-50. The ubiquitous nature of mobile phones has allowed the organization to penetrate a population of over 5000 people.

MANGO READER

by MangoSense Pvt. Ltd

Mango Reader is a platform that makes books interactive through collaboration, creation and distribution of interactive content and the use of existing and new content from various sources for curation. This is a cloud based offering and can be accessed anytime, anywhere. HTML5 has been used to ensure that the content and platform works across devices. The content can be distributed offline, enabling remote learning and students can access content from home or mobiles giving them access to learning all the time. Mango Reader has reached over 5000 schools across 22 states impacting over 4 lakh students.

INCLUSION OF PERSONS WITH DISABILITIES

With technology being the central theme to all change, it has huge potential to bring not just economic progress but social progress as well. However, as we gallop towards newer tech innovations, we are losing on people inclusion, thus unwittingly creating a divide. This divide becomes even more relevant to persons with disability (PwD) creating further challenges in their path to living normal, routine lives.

Assistive technology and adaptive technology play a significant role in the development of means for people, especially the differently-abled who can live a more independent life- fully participating in the mainstream activities. India being one of the first few countries to have signed and ratified the UNCRPD shows the commitment to Rights of Persons with Disabilities; accessibility being the overarching right! The challenges in fulfilling the commitment, though are indeed huge. The past has seen accessibility revolve mostly around providing access to built environment. It's now time to extend it to almost all areas of day to day processes.

The new Government has many plans to encourage young entrepreneurs to innovate, however focus needs to be around development of technology which will be for all. With the increasing number of Mobile users, accessing services on touch screen through apps; we all need to think about accessibility integral to everything we do. Today's generation spends significant time on phone and therefore areas like Education, Healthcare, Financial Services, Entertainment and Retail will have to be made truly 'Inclusive'.

With the smart and enthusiastic young generation, comprising mostly of 'Digital Natives', we only need to work in a concerted manner around encouraging right 'Thinking' which will facilitate Innovation to cater to the ever increasing need for accessibility. Awareness of unique and diverse needs of PwDs across the disability spectrum, achieved through sustained interactions and keen observations, coupled with sensitivity and empathy, will help the young breed of solution providers develop unique insights and evolve appropriate solutions. And above all, affordability will have to be kept in mind to reach these benefits to the needy masses. Technology today offers solutions, be it in the area of Web Accessibility through Speech Technologies. Some of the Solutions like Easy Web Browsing, Media Captioner & Editor, Hindi Speech Recognition and Mobile Accessibility Checker. Government will have to work around adopting these solutions by framing policies and programs that support the growth and adoption of such solutions. Support to establish cross industry collaborations to share best practices and institute Awards to recognize outreach initiatives and promote Innovation, can play a key role in this.

Anil U Joshi
Program Director
Human Ability & Accessibility
IBM India Research Lab



1 THE SIMPLEYE THE BETTER

SimplEye by Kriyate Design Solutions

Bijoy led a full life. A good job as a Lecturer at JNU, Delhi. A great social circle. And an independence that made everyone envious. Then one day, the world changed to smartphones. And his world came crashing down.

Bijoy was partially sighted, but neither his family nor friends ever made him feel any less. His sense of touch helped him navigate his way around successfully. But although smartphones relied on touch technology, their flat screens without the familiar guiding textures made it difficult for him to make even a simple phone call.

“This is the plight of nearly 285 million visually impaired people in the world,” rues Sumit Dagar, Founder, Kriyate Design Solutions. “While smartphones simplify everyday life on one hand, they marginalise the visually impaired which only makes them feel more challenged.” This insight led him to develop SimplEye, an Android-based app for all devices that helps bridge the gap between smartphones and the visually impaired, using sound, vibration and tactile accessories.

“Initially, we intended to solve the problem by developing a Braille-enabled smartphone, for which we were in discussion with various organisations in India and abroad, elaborates Sumit. “But software can scale up more easily and faster and create a bigger impact with present day smartphones. We saw this as a more immediate need and one which could be answered sooner. So we created the SimplEye app.”

Like all start-up innovations, Kriyate also faced its share of challenges – finding the right development partner, setting up the teams and collaborating with the right institutions. While the design is in-house, they found the perfect rapport with Persistent Systems to indigenously develop the app. Persistent’s high quality support has given SimplEye greater stability, which has led to its winning features.

Today, the SimplEye app is a free download in India and in developing nations, but charged in developed countries. Local development has helped create a high quality product at a very low development cost compared to other such efforts internationally. The app will be launched internationally in April 2015 at a nominal charge

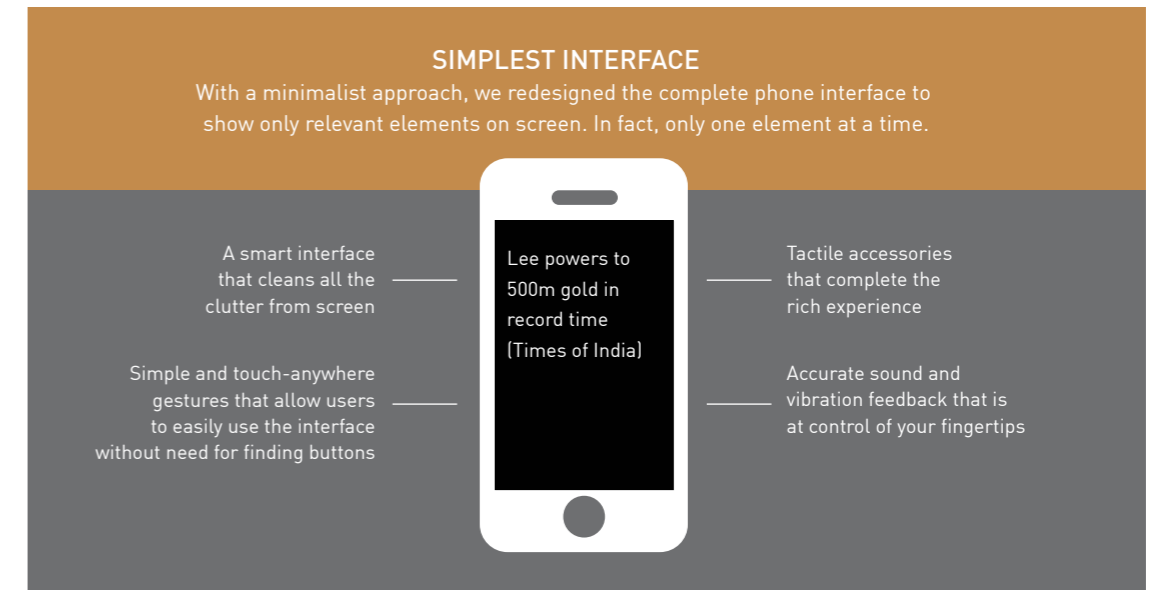


Accessibility sector can benefit most by making use of design techniques that have transformed technology usage over the last decade. A user-centric design process would allow contextual innovations in the field that will be simpler, intuitive, powerful and futuristic.

Sumit Dagar,
Founder
Kriyate Design Solutions

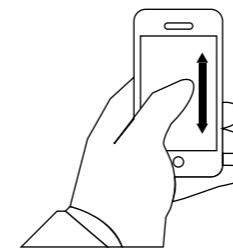
THE SIMPLEYE APP : WHERE SMARTPHONES AND THE VISUALLY IMPAIRED SEE EYE-TO-EYE

Launched in 2014, the SimplEye app redesigns the interface of a smartphone and presents it in a simple way as it removes all the clutter from the screen to present only one element at a time, which is narrated by a voice.

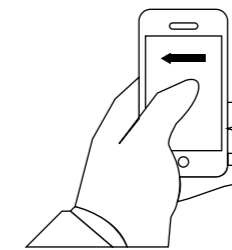


The “Smart” app

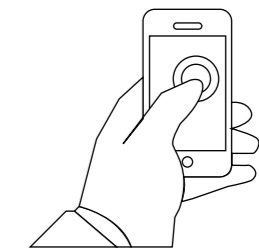
The user can interact with this single element using simple gestures which can be applied anywhere on the screen, freeing one from the need of seeing the display.



Swiping up/down scrolls through the elements in order



Swiping left takes the user one step back



A single tap takes the user forward while a long press is for accessing options

How SimplEye Works

In a first of its kind in the world, features such as Braille typing, news, maps and dictionary are provided for in a seamless experience. Other necessary features such as time (alarm, stopwatch, timer), calendar (with appointments and to-do lists), logs (with call, messages and reminders), messaging, contacts, notes, music, weather and lock screen with notifications are also included. It also acts as a launcher, whereby the user can also access other apps installed on his phone through the SimplEye app.

USING TECHNOLOGY TO A DESIGN ADVANTAGE

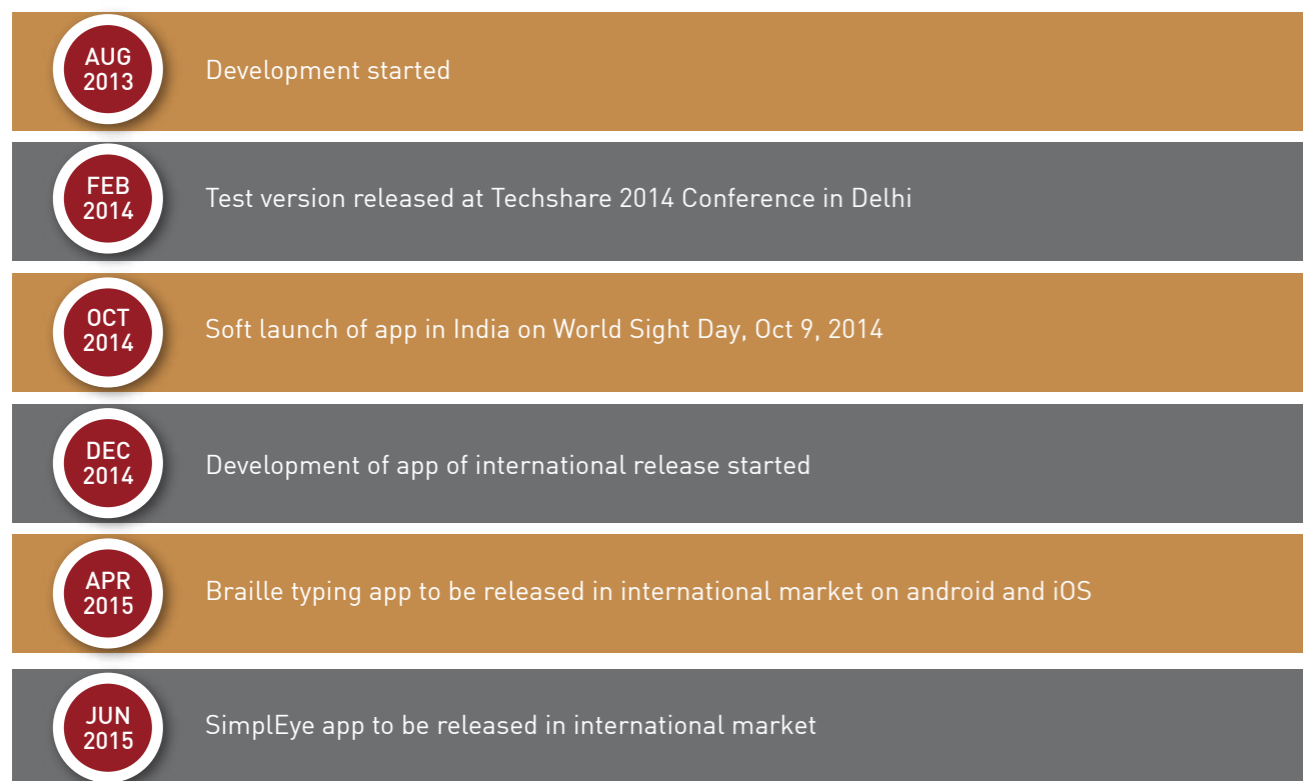
Kriyate’s expertise lies in user-centric design. While the technology is not new, the experience it offers is revolutionary. The custom designed interface is integrated with touch gestures that allow the user to use all features of the phone without a need to see it, making it a true view-free interface. Bijoy uses the SimplEye app and finds the Braille interface on the touchscreen its most path breaking achievement. “This completely reinvents the smartphone for the visually impaired”, he adds. “The default Google keyboard and other

alternatives available in the play store are not that easy to use because 26 alphabets and other characters all come in a condensed form on the screen, making it difficult to use for a visually challenged user who is familiar with typing with a single finger in a traditional number pad. The keypad, as an independent app, installed as the default setting on a smart phone would allow visually challenged users to type much faster, especially if this could be use with a Braille contraction. The Braille interface makes it possible for the visually challenged user to type on a touch phone by drawing the shape of a Braille letter. This interface has several advantages such as faster typing with only one finger and easy switching between digit mode and letter mode.

MEASURING IMPACT

Kriyate's approach to measuring impact is a combination of various methods - collecting user feedback via in-app features, reviews on Play Story and through participation in forums. SimplEye received full marks from 70% of the users who reviewed the app on Play Store with an average rating of 4.22. When asked to mention three good features about the app, 60% of the users mentioned the Braille Typing feature as most useful. The Single Finger touch option was mentioned by 40% of users, as was the ease of navigation. Around 40% of users mentioned that they did not require any assistance to carry out installation. Users rated Simpleye above other similar platforms with a rating of 4.25 as compared to 3.4 for IOS Braille and 3.1 for MBraille

KEY MILESTONES



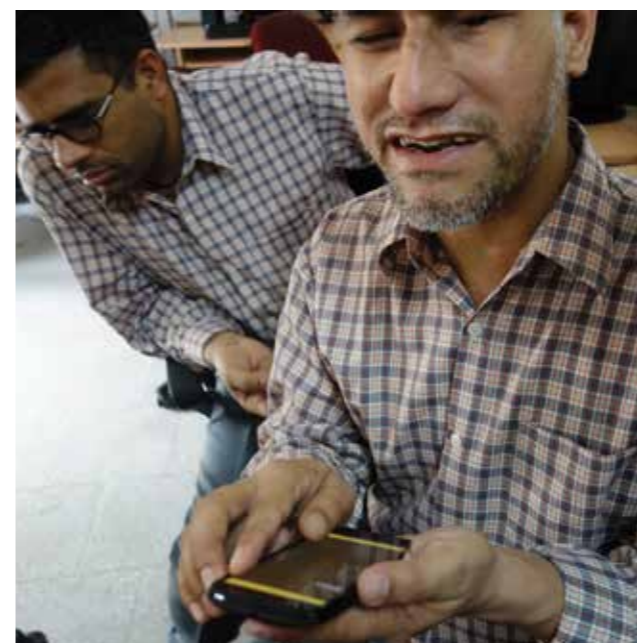
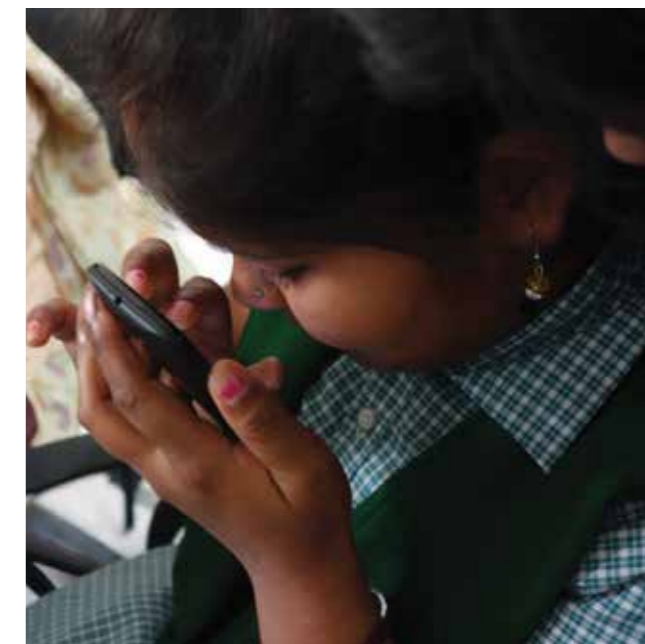
FUTURE FOCUS : ADDING FEATURES

- Develop a book reader to work seamlessly on the SimplEye interface
- Browser and Email
- Launch the application internationally after a sound user base in India

Image Recognition	Peer Finding
OCR Text-Recognition	Light Meter
Colour Identification	Location- Sharing
Object Tagging	SOS

SimplEye is good for starters as it is compatible with lower android versions. Currently, not many accessibility options are available for android versions lower than 4.0. The latest versions do have Google Talk which is a good tool. Though not yet compatible with some popular apps like Whatsapp, SimpleEye is a good solution to make lower end phones accessible for people with visual impairment.

-Shalini Khanna, Hony. Secy, NAB India Centre for Blind Women and Disability Studies



2 ALL FUN AND GAMES

D Labs by Devesh Kumar, Deepali Sinha, Amit Sharma and Abhishek Kumar

Despite his efforts to teach underprivileged children in Patna, Devesh Kumar found some of them still unresponsive 6 months later. They would spell 'ball' as 'dall' or 'believe' as 'beleev'. Others would catch a ball with their left hand when thrown to the right one. Devesh struggled to understand the problem. He found it in 'Taare Zameen Par', a movie which addressed the issue of Dyslexia. Dyslexia was relatively unknown in the states of Bihar and Jharkhand, probably due to the societal framework. Devesh met doctors at Patna Medical College to shed further light on the subject.

Dyslexia has subsets and these can also be unique to each individual. It can be manifested in numerous ways like delay in speech, mirror writing or distraction. Dyslexia can also cause lexical encoding deficiency in which one is unable to recognise alphabets. Devesh's challenge was to first identify those problems and subsets and then eliminate the subsets which were not so common. This data was very important to find the solution. The second challenge was to devise a method which would obtain this data. The solution was not simple. Neither was it a one-size-fits-all. It had to incorporate a mix of human intelligence and tech power.

Devesh set up The DLabs and the 4 member team created a software + eye tracking hardware combination. The product aims at enhancing the learning abilities of school students suffering from Dyslexia and creates a report to understand how severe the problem is. The software maps everything a student is doing, whether he's moving his hand or writing a sentence. The eye tracking hardware understands the pattern of the eye movement of the child. The device records minute details about the child's activities and then creates solutions bespoke to their needs and orients games and exercises to address those needs. For the kids, it's fun and engaging games. But it's really about tracking copious amounts of data like reaction time, accuracy, speed, motion, direction and orientation. Moreover, dyslexia is a problem which is not visible. This technology helps to recognize and track the problem.

"The idea was to collect the data in a fun and engaging way rather than a forceful manner" says Devesh. "We hit upon the idea of games and this excited the team even further. We took the help of doctors to break down the data points to help build the games. Initially, we started with 3 to 4 and kept going to and fro doctors, coding and testing to make improvements. The whole process took one and a half years from start to finish."

The team worked only with groups and NGOs to help them target more people at a time. "One day, we got an email from a lady in Bangalore called Vandana Gayatri. Her 14 yr old son was suffering from acute dyslexia. This was our first individual case. We travelled to Bangalore, played games with her son for a week, and collected a lot of on-field feedback. We then returned and provided her with a diagnostics kit, and worked with her for the next 45 days to collect data based on his activities. The boy had a problem with letters and spelling rather than sound, motion or direction. We gave her our improvement kit which consisted of games that helped the child learn the basics of English alphabets in a more fun and interactive way. Now, one year later, her son has scored



We believe in Interactive learning rather than forceful correction. That's the vision of our company and that's why we have created The DLabs that analyses a huge amount of data with a lot of artificial intelligence and machine learning - but all of that in background. On the frontend, it's just fun games that the kids want to play in their own comfort.

Devesh Kumar
Founder,
The DLabs

THE DLABS. SIMPLE AND SCALABLE.

The product uses Microsoft's Kinect a gamification device that captures movement through sensors, Silverlight, a Web-browser plug-in to create the interactive feature, and Azure, a cloud-computing platform used to build, host and scale Web applications. As this system is hosted on cloud, it's scalable and can be used by multiple users at once.

The process works in 2 steps:

Step 1: Diagnosis – The first step is to gather data and observation on how a child reacts and behaves this may include their writing, reading and phonological abilities when placed in different situations.

Step 2: Software integrated with hardware – The next step is that a few games which have been integrated with Kinect are used to track the eye and hand movement, use of keyboard and other coordination. A report is generated from the collected data which is sent to the doctor to understand the exact problem and accordingly take the case ahead.

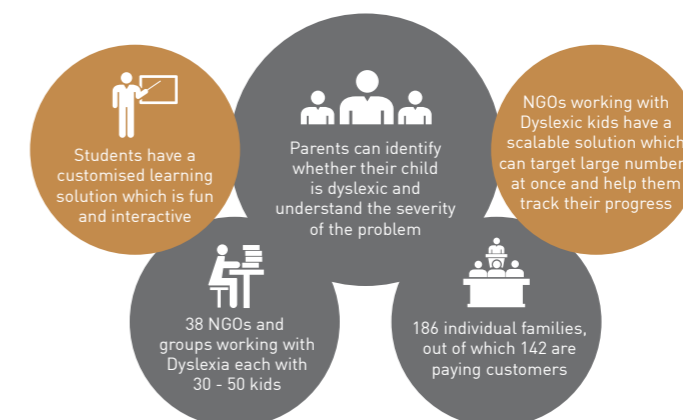
Step 3: Remedial Process- An improvement kit with relevant games and learning content is provided to the child to help them overcome the specific challenges they face that are by dyslexia.

The DLabs is working to improve and redesign the eye tracking device to make it cool and fashionable, whilst retaining its features. They are working with many hardware designers for this and aim to (re)create an eye tracking hardware that is minimal and powerful.

"When they first met me, I thought how are these young engineers going to solve this acute problem. In the next 45 days, they answered it all, with their powerful technology and impressive support. This is an amazing application of real world technology to help fight the problem of Dyslexia. Their monthly overall report was so important and informative, that I still refer to it when I am participating in an activity with my son. I feel he has become more smarter or maybe I have become more learned."
-Vandana Gayatri, Mother of a 14 yr old son with severe Dyslexia



MEASURING IMPACT



The D Labs is currently working with around 38 NGOs that work with children with Dyslexia, providing them with a solution that helps track progress. The D Labs also works with individual families, helping them use this solution to enhance learning outcomes in children. Over 75% of these families are paying customers,

KEY MILESTONES

AUG 2013 Developing prototype for major dyslexic organisations in Gujarat, Bihar and Delhi

FEB 2014 Partnering with corporates for the eye tracking device

OCT 2014 Partnering with US based colleges for integrating and scaling

DEC 2014 No external funding

FUTURE FOCUS: SCALING UP

- From now to 2 years - Launch complete product and market place with developer API so that other developers can create more apps for Dyslexics
- 2 to 5 years - Implementation across all Dyslexia Centres in India
- 5 years and beyond - Extend the program to target multiple geographical regions and extension of the product from Dyslexia to other disabilities like Autism

In recent times, there has been a strong emphasis on the need for creating assistive devices and the equipment and more so, leveraging the enabling power of technology to achieve true inclusion. The Microsoft Kinect controller, though cannot be used in isolation, is a device that holds much promise, with it's success becoming evident in the areas of occupational as well as educational therapy and while it shows potential for impact in addressing conditions such as autism too.

Hence, an integrated solution such as Dlabs, not only showcases the potential of the application of technology to a pressing social problem but also provides a ground breaking insight into what the future of inclusive education could look like.

I would summarize the earnest endeavors as a provenance to empowerment; as we are not looking for fugacious changes but assimilation of Technological advancements as weapons to fight the battles that most will never know

-Dr . Smita Pallavi, Head, AID India Patna Branch and Convenor of REVA, India's largest fest for underprivileged kids.

Games for learning by tamana foundation

Using Microsoft Kinect based games accentuate motor functions of Persons with Autism

Over 60 million people in India live with some form of disability. Of these, 10 million are suspected to be suffering from some form of Autism Spectrum Disorder (ASD). Estimates peg it at 1 in 250 people. Due to the lack of understanding and difficulty in diagnosing it, little attention is paid to the sufferer. Treatment facilities are still inadequate and expensive making it inaccessible to the masses, which only further worsens their plight.

Tamana is an NGO dedicated to the cause of improving the lives of differently abled children. Autism is a complex neurodevelopmental disorder that manifests in children by the age of three. Children show impairments in social interaction, communication, cognitive functioning and adaptive behaviours. Through its various programmes, Tamana has both recognized and leveraged the power of technology in treating autism. Video games are increasingly being seen as effective tools for learning, training and skill development. Tamana, together with IBM, attempted to leverage the potential of video games in addressing and tackling autism by introducing two unique applications that leverage Microsoft Kinect. An Xbox 360 controller enhances motor coordination, joint attention and cognition skills of children with autism and intellectual impairment. Microsoft Kinect requires players to use their body to dictate actions on the screen, which it picks up using a motion sensor. Though Kinect was not specifically designed for children with autism, it has shown great results in treating it and is used in fields such as occupational therapy.

Tamana has created two games, Balloon and Money aimed at youth aged 7-20 years. Balloon aims to help with fine motor functions, joint attention and colour identification, while Money aims at building social and cognitive skills.

Tamana currently caters to more than 300 differently challenged individuals across three centres in Delhi. The first set of trials with patients showed 88% acceptance with prolonged attention and improved socialization skills. Though the applications are currently quite expensive, Tamana hopes more research and funds will enable them to develop more economical and culturally adaptive applications across diverse disabilities.



DISABILITY

AUTISTO

by GetVidya

Autisto, the open source software with interactive audio-visual educational content for autistic children, helps effectively track the child's development. The solutions also allows teachers or therapists to import material such as images the child is familiar with, for instance of their home, parents, siblings and so on therefore tailoring learning to suit the individual needs and comfort levels of the child. Currently, Autisto is being used in over 20 autism centers in Bangalore, Delhi, Mumbai, Pune, Hyderabad and more.

CHILDRAISE INFORMATION SERVICES (CRIS)

by ChildRaise Trust

Child Raise Trust has created a multi-modal service in the form of a website, mobile alerts and helpline which parents and caregivers can get access to information on disability issues. The website covers topics such as disabilities, education, rehabilitation, parenting, financial guidance and legal aid all to ensure the proper care of children with disabilities. Since the launch of the initiative, the website has attracted over 2,000 visitors a month and 33,780 visitors in total as well as logged 1020 calls on the helpline.

DAKSH

by Autism Society of India

Project 'DAKSH' is an open source, computer based educational intervention, which uses technology as a platform in unison with special educational techniques to strengthen and harness the unique abilities of children with Autism Spectrum Disorders (ASD). As part of the intervention the organization started a portal www.learn4autism.com which aims to be the largest repository of visual, text and multimedia content for autistic learning. The organization is currently operational in Bangalore and has impacted about 100 children.

IGEST

by Enability Technologies

iGest is a kinematic sensor based system that captures the gestures of children with cerebral palsy and converts them into a dictionary of sentences. The solution is used in conjunction with video games as games have been proven to reinforce motor skills and reduce the stress of learning. All the data captured by the sensor is transmitted to a phone which allows the child to carry his/her communication device. Still in its early stages, iGest is estimated to impact approximately 1.5% of the total population in India.

FAMILIES ALLIANCE ON MENTAL ILLNESS (FACEMI)

by Action for Mental Illness Limited

Families Alliance on Mental Illness (FACEMI) is an online forum for families of disabled persons with the sole mission of Awareness, Advocacy and Action pertaining to issues faced due to disabilities. The portal aims to bridge the gap between families, care givers and care receivers restoring equal rights of patients as equals in the family. At present, it is an all India portal with over 200 members.

FITTLE

by Tania Jain

Fittle is an educational toy, which helps visually challenged children learn braille, construct words and understand shapes and objects all through interactive 3D puzzles. The puzzles are available in the form of an open source software that can be downloaded and printed through the use of 3D printers making it both globally accessible and affordable. An innovation such as this is estimated to impact over 19 million children globally.

E- GIFT

by Palanivel Ge and Keshav Chander (Ex students of Velammal Institute of Technology)

This mobile-based android application helps visually impaired people board the bus by transferring information displayed on the notice board to the user's phone in the form of voice signals via Bluetooth. The users also receive a voice notification once they reach their destination which would help them in successfully disembarking. Though the innovation is in its prototype stage it has been implemented successfully in the city of Chennai, once launched all India, it is estimated to impact over 15 million people.

WEBASSIST

by Harpreet Singh Sareen and Amanjot Singh (Ex students of University College of Engineering)

WebAssist is a web application that takes the form of a pluggable toolbar which when added to a web page helps in rendering it accessible to people with disabilities without changing the code. The centralized profile administration system also allows users to set their accessibility preferences which then stores their preferences on the cloud and applies them automatically to any website they visit hence making the world wide web universally accessible. The potential impact of such a solution is massive.



LIVELIHOODS, FINANCIAL INCLUSION AND OTHER SOCIAL ISSUES

It seems you can't swing a cricket bat in India without hitting a social entrepreneur. Social innovations abound in India, the world's laboratory for socially impactful products and services. I am fortunate to have a front row seat in Bengaluru, which is ground zero for the global impact business explosion. Our small office houses Gray Matters Capital, Unitus Impact, LGT Venture Philanthropy, Accion, Unitus Seed Fund, Khosla Impact and IDEX fellows, in addition to our sizeable Unitus Capital team.

Each day we see companies performing life changing work in the fields of clean energy, affordable education, health care, financial inclusion, women empowerment and agriculture. Our clients constantly inspire us. Many of these businesses are thriving because of the passionate entrepreneurs, the use of innovative technologies and, sadly, almost limitless market opportunities due to the state of basic services for the poor.

The social business boom in India benefits from many positive aspects of the India social business ecosystem, including low start up costs, high quality human capital, dynamic entrepreneurs, co-working spaces, collaborative leaders, well functioning capital markets, a massive market for almost all products, good food, an entrepreneurial culture, great weather (at least in Bengaluru) and critical mass of people who want to change the world.

Despite all these positives, there is significant room for improvement in the Indian social business ecosystem including lenders willing to take greater risks, more equity investors interested in looking beyond the e-commerce space, domestic rupee equity, a less hostile environment for women, stronger industry associations, a more stable regulatory environment, access to crowd funding and better infrastructure. Many people are working to overcome these challenges, but we need help! We urge you to join the dynamic and critically important impact business sector. You will be able to put your skills and experiences to work in a way that will benefit millions of people who so desperately need it! When our work is done there will still be time for cricket although it may seem less important.

Eric Savage
Co-Founder & CEO
Unitus Capital

1 HOW JAVA ADDED FLAVOUR TO COFFEE

Livelihoods 360 by ConceptWaves Software Solutions

Most of us cannot dream of starting our day without our cup of coffee, but only Jaani Buddu, a tribal coffee grower in Araku Valley, Andhra Pradesh, knew the trouble he had to go through for this. Yield estimation was error prone and not accurately collected, calculated or preserved. Trucks travelled from place to place collecting the produce, proof of which was a handwritten receipt. This was then dumped days later at the central warehouse. Organically grown coffee bean is extremely time sensitive and no matter how good the quality, deteriorates if not processed in time, which affects the price considerably. Worse, tracking of payments made to farmers from the co-operative society was abominable as these were done on paper. Reconciliation took at least a month and required a personal visit which often meant walking to another village and losing precious hours of work.

The certification process for organic farming needs large scale and accurate data and what was required was a sound and efficient framework for managing the information ecosystem. This was when Naandi Foundation, an NGO that worked with the farmers invited ConceptWaves to Araku to understand the exact process of coffee collection and initial processing. Conceptwaves is a software developer for educational platforms and a chance meeting at a school intervention between Raghu Kanchustambham, the Founder & CEO and David Hogg from Naandi gave rise to a solution that was intelligent and yet simple. ConceptWaves developed Livelihoods 360, a mobile application that would solve complex program management challenges in rural and tribal regions of India by using commonly available and affordable technologies, such as a low cost mobile phone and cloud computing.

The initial prototype was built on J2ME mobile application with limited scope. Naandi implemented this for one crop season. Upon receiving an encouraging response, ConceptWaves quickly implemented the remaining pieces of the application while Naandi invested efforts in training truck drivers and other personnel to use the mobile and server side components of the application. Network connectivity is a major issue in the valley and hence the application had to be efficient enough to work with minimum data transfer requirements, especially in hilly regions. From start to finish, Livelihoods 360 took 6 months and was finally ready to serve in December 2010.

With this simple solution, and with a mobile, a farmer could now get the exact price and buy and fully control products, without the need to travel. Today, 'Livelihoods 360' has been adopted by over 12,000 farmers across 658 villages in the Araku Valley region in the state of Andhra Pradesh.



It's a matter of great pride that we had an opportunity to take cutting edge technology of cloud computing and mobile applications to the grass root levels. It is very satisfying to see our frugally engineered solutions make a difference in the lives of 12 thousand tribal farmers across 650 villages. All this was possible thanks to the help we received from our implementation partner Naandi Foundation and the sheer enthusiasm and openness to new technology that was demonstrated by farmers and truck drivers in the villages.

Raghu Kanchustambham
Founder and CEO,
ConceptWaves Software Solutions

Livelihoods 360

SOLVING COMPLEX PROBLEMS USING SIMPLE SOLUTIONS

Simple, user friendly and designed to the education and intelligence levels of the truck driver, Livelihoods 360 is centred on the interaction between driver and farmer. It is designed to track crop produce at source, yield forecasting and track payments to farmers.



Delivering Farmer Payments Through Mobile

Accuracy is so high, it has not only helped Naandi in their operations, but also in their organic certification process. The Just-In-Time approach to processing of crop produce is of particular importance as coffee beans are particularly time sensitive. The server also captures data about the exact time, humidity, temperature and other factors maintained at various stages in processing the crop. The historical data collected then becomes useful for understanding the co-relation between these variables and the quality of the end produce.

BASED ON BASICS

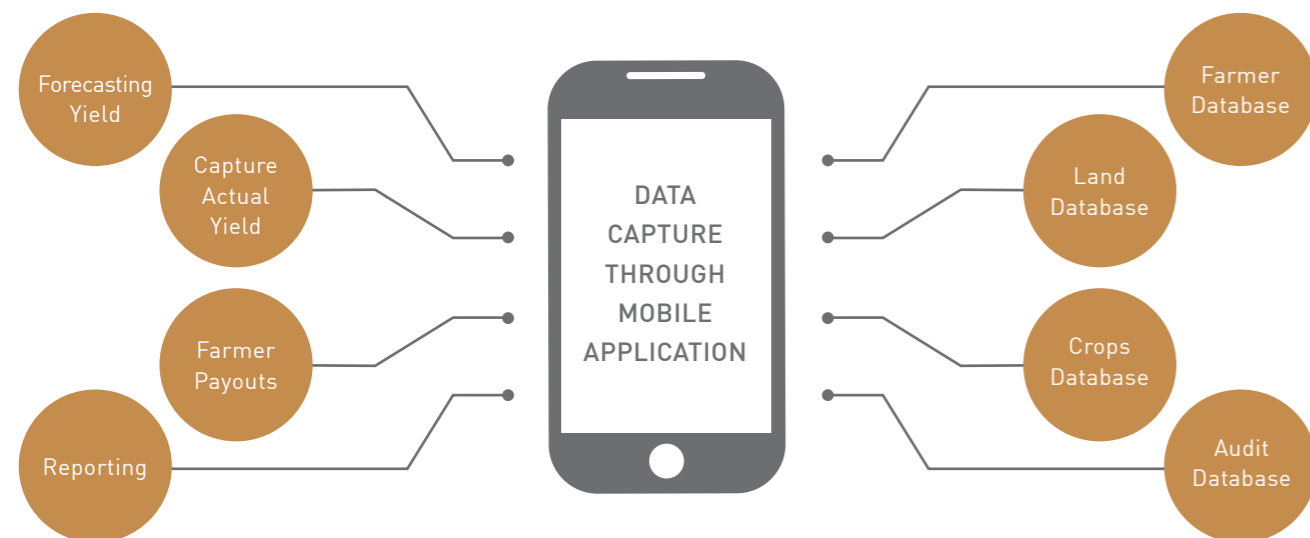
ConceptWaves developed an app that runs on most basic feature phones that truck drivers mostly use. The phone captures data at source on the field. As Net/Mobile connectivity is an issue in the valley region, the data is stored locally on the phone and pushed to the server hosted in the cloud as soon as it receives a signal. The server provides real-time reporting metrics. Deep analysis at individual farmer level is made possible by using a world class reporting infrastructure.

The farmer transacts with the truck driver by quoting his unique code. The crop produce data that is captured against the farmer code by the truck driver is synced at the backend on Amazon cloud. This ensures that the CPU (Central Processing unit) is aware of the overall production well in advance and they can plan accordingly. Given that both credit as well as produce history of the farmer is accessible in real time on the field, farmer payments are made on the spot as compared to a month long reconciling period previously.

The technology is crop agnostic and can be seamlessly configured to work with any particular crop.

MEASURING IMPACT

Used by 12000 farmers across 658 villages Organic certification becomes easier for Naandi. Access to real time metrics makes the laborious process of organic certification easier. The digitized data collected is also of huge research value. Real-time information helps Naandi apply just-in-time processing effectively which helps in improving the quality and price for the coffee. Farmer payments are tracked effectively and easily.



Used by 12000 farmers across 658 villages

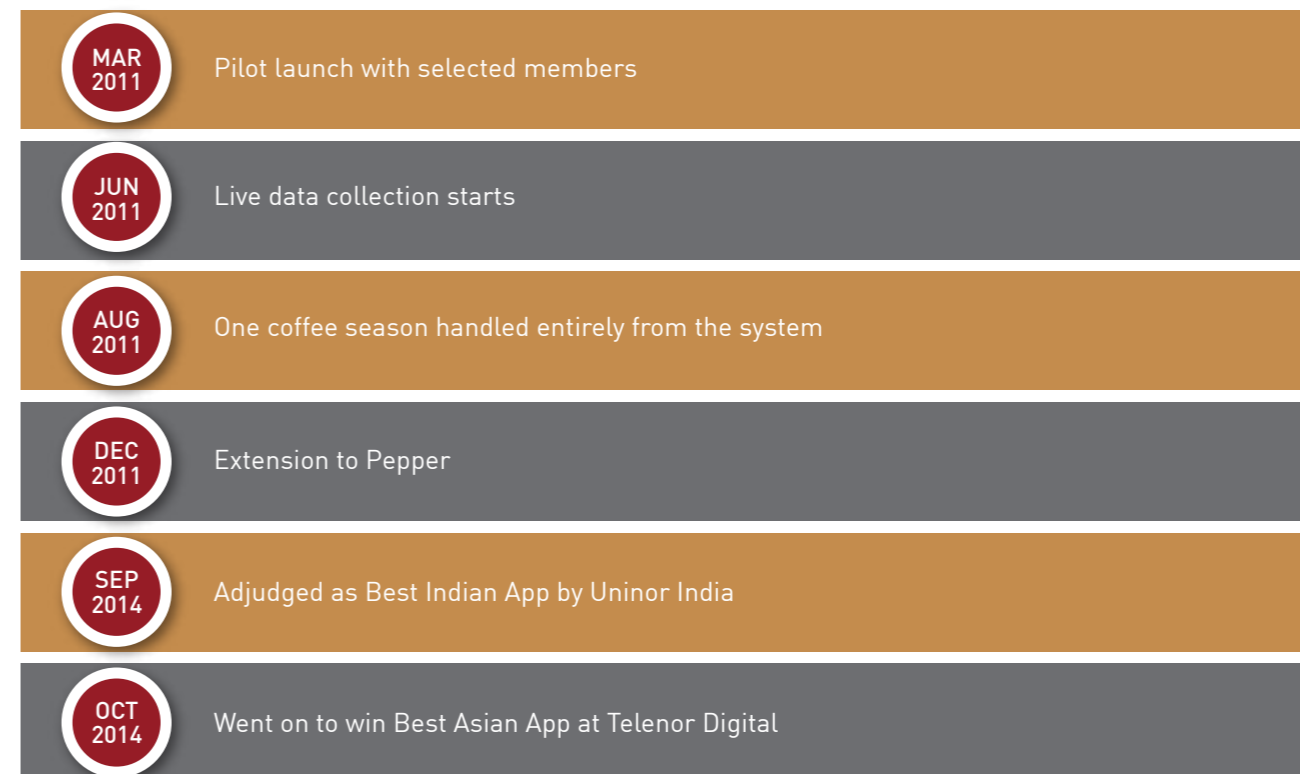
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Farmer payments are tracked effectively and easily.

How L360 Works

KEY MILESTONES



FUTURE FOCUS : EXPANSION INTO OTHER FIELDS

- Cloud based enterprise-grade backend architecture
- Crop agnostic solution to be extendable even to cattle
- Android based app for data capture
- Contribute to carbon credits initiatives for donors
- Platform ready to scale to handle multi-dimensional data across villages including literacy details of family, access to nutrition, beyond crop produce
- Expansion into new geographics post recognition in EU and requests for replication in Malaysia, Thailand, Bangladesh.

Eradication of poverty and restoration of prosperity is not so much about wealth generation but rather about re-establishing of our proper social and economic organisation and bringing about cooperation and sharing of resources. The L360 technology is a tool towards this goal in all aspects of production, processing and payments; additionally L360 has greatly improved our efficiency in managing data.

-David Hogg, Chief Sustainability Officer, Livelihoods, Naandi Foundation

Unlike previous years, I now am able to do yield estimation in a very easy manner. More importantly, I can verify and cross check the quality of the fruit being given by the farmers while making all the data entries easily.

- G Ugrasan, Cluster Coordinator (Hukumpet mandal)

2 THE KIRANAWALA BANK

Okekey and Simplibank by Eko India Financial Services

Kamala Devi sold flowers outside a temple, but her own prayers went unanswered. She had three daughters to marry and her self-respect wouldn't allow her to ask for help. While she had a savings account, the branch was located at a distance and every visit meant loss of many precious hours of work and hence, substantial income. To add to her woes, she was illiterate, which elicited more impatience and less respect by the bank. Kamala Devi was destined to remain poor, or so she thought till in 2009, a bank not only understood her economic plight, it also served her at hours convenient to her. Best part was, it was located right next door and the bank officer was an old friend. Her new bank was her kirana store!

Welcome to Eko - a unique financial service that offers instant, secure and convenient transactions through branchless banking to the common man. These segments can now walk in to any Eko counter (retail outlet) to open a savings account, deposit and withdraw cash, send and receive money across the country, buy mobile talk-time or pay for a host of services.

"Low income and low literacy level populations have always had poor and limited access to formal financial services", rues Abhinav Sinha, Co-Founder & COO, Eko India Financial Services. "Formal institutions find it hard to service this segment due to unviable transaction costs. Remoteness, low literacy rates, lack of credit history all contribute to large segments of such populations being unbanked, underbanked or excluded altogether. In many cases this results in a vicious cycle of poverty". Prior to Eko, the founders were in the business of developing and deploying the electronic prepaid recharge platform for Mobile Network Operators across Middle East and south east Asia. This experience helped them identify an opportunity to offer banking services to Indian masses using similar simplified telephony and banking processes. Eight months later, Eko was born and with Centurion Bank of Punjab as their first client, the pilot in Uttam Nagar, West Delhi in February 2008 saw much success with 30 retail outlets and 5000 customers within just 30-40 days. Unfortunately, the bank merged with HDFC almost immediately and Eko was declined by the latter due to the absence of regulations for mobile transactions.

Interestingly enough, a meeting with Bill Gates at Consultative Group to Assist the Poor (CGAP), the foundation that funded Eko, breathed new life. Gates loved the idea. CGAP released fresh funds. And from no bank, Eko was joining hands with the country's largest bank, State Bank of India. Today, Eko is helping daily wage earners, migrant labourers, security guards, auto drivers, hawkers and nearly 4 million such customers across the country reclaim their pride and dignity with financial inclusion.



By lowering costs and bringing disproportionate increase in efficiencies in processing financial transactions, we can not only reach customers untapped by financial transactions, but also disrupt how they work for you and me.

Abhinav Sinha,
Co-Founder & COO,
Eko India Financial Services

EKO

A BIG IDEA WITH A SIMPLE SOLUTION.

Everyone using a mobile phone in India is number literate. Eko leveraged this insight to its fullest. No particular type of handset, SIM card, application or subscription to a particular network is required. This was a very important and critical element of the business model. The fact that the service could work on any device meant that capital investment was practically eliminated. Anyone could start the business as a CSP and anyone could be a customer.

Customers can open a No Frills savings Account (NFA) at mom and pop stores, pharmacies, kirana stores, internet centres and other small enterprises. These outlets are called Customer Service Points (CSPs). Account holders can deposit and withdraw money as per their convenience at these CSPs.

In addition, Eko is committed to increase absolute revenue of the CSP without any additional technological investment. A CSP can use his existing basic or smart phone or a computer to perform transactions. Currently, they earn up to 20% of their total retail revenue which translates to approximately Rs.6000-10000 extra income every month.



Banking at a neighbourhood Eko counter

USING USER-FRIENDLY TECHNOLOGY

The technology and infrastructure required is low cost yet innovative - a low cost cell phone, existing retail shops and banking. The technology was developed internally by Eko and required creation of a "switch" which would on the one hand connect with mobile (GSM) networks to capture transaction information and relay it to Eko's transaction processing core called SimpliBank. SimpliBank in turn can apply a very large set of rules to process the transaction and carry out the relevant validations and accounting that result from the transaction. The final leg of usage was to integrate SimpliBank to Core Banking /File Upload interfaces such that transactions originating at a retail counter can be relayed online to Banks' core banking systems for further processing and accounting.



Banking Through Mobiles

I can send money back home at my convenience. It is faster and cheaper than courier or money order.

-Ram Pal Yadav, Security Guard, New Delhi

Earlier I had a gift and novelties store. Now at my store I offer only banking services by Eko. I earn somewhere around Rs. 80,000-1, 00, 00 per month. I have hired two more people to help me in servicing the customers.

-Nirankar Tyagi, Eko CSP

To make the entire service glitch-free, Eko interacts with various 3rd platforms to process transactions. These include:

1. Bank's core banking platform & switching infrastructure
2. Mobile network operators USSD / SMS or data availability
3. Eko's transaction processing platform i.e. SimpliBank & Connect
4. Wipro's cloud infrastructure to host SimpliBank & Connect

Since a basic mobile phone and number dialling are the least common denominators for the unbanked segments, Eko created a secure mechanism of transacting that only requires the user to be number literate and made the security as fool-proof, cheap and easy-to-use as possible. The service works on all mobile phones and in areas with power cuts. Connectivity is also not a challenge as the CSP can use multiple channels like internet, USSD and SMS which are available even where network coverage only allows voice calls. The use of USSD as a communication channel also brings down cost, improves speed and reach.

MEASURING IMPACT

Lowered the cost of customer acquisition and customer servicing to Rs. 1/- to 2/- per customer from Rs. 50/- for bank branch and Rs. 15/- for ATM



1 million financial transactions a month



3300 retail outlets



Value of transactions in excess of Rs. 14000 crores



11 states



Tie-ups with 4 banks - SBI, ICICI, Yes, Indus Ind



4 million customers



Zero balance accounts compared to minimum balance of Rs. 1000 in a nationalised bank and Rs. 10,000 for a private bank



KEY MILESTONES

OCT 2007

Partners with YES Bank

NOV 2008

Bill Gates visits Eko's offices; Eko receives funding from CGAP

FEB 2009

Partners with SBI

JUN 2010

10,000 customers, Partners with ICICI BANK, Launches money remittance

JUNE 2011

Series a funding of Eko

AUG 2011

Eko reaches 1000 cr transaction volume

FUTURE FOCUS : ENHANCING SERVICES

Eko wants to enter the payment landscape and is committed to simplify transactions over web and mobile. Currently, Eko is leveraging 700 million Aadhaar holders. The e-KYC service offered by UIDAI has simplified customer acquisition. Customers could be on-boarded on a real time basis. This is more of a business opportunity than a challenge.

Eko is exploring the possibilities of integrating with UIDAI to enhance its services offered to customers. Apart from on-boarding, a KYC customer could do a remittance of higher value than a walk-in customer.

EKO is appointed as Business Correspondent with ICICI Bank since FY 2007. It has supported and helped fulfil the Financial Inclusion mandate of the Bank. It supported us in building an impactful delivery model in Eastern UP which is one of the most under-developed regions in the country. EKO technology was integrated for opening 0.18 million saving accounts of financially excluded customers of Cashpor Micro Credit, an established micro-credit organization with a good reputation and a long term relationship with ICICI Bank Limited.

-Mr. Avijit Saha, General Manager, Rural Business Division, ICICI Bank

Viking by Spatial Ideas Web Solutions

Technology platform to ensure transparency in Government services delivery

In 2014, India ranked 85th out of 175 countries in Transparency International's Corruption Perceptions Index. The largest sources of corruption in India are entitlement programs and social spending schemes. The main reasons for rampant corruption are inefficiencies and lack of transparency in process, system and structure, backed by poor accountability of public sector employees.

Spatial Ideas is a technology social enterprise that provides smart, data driven technology platforms to key decision makers in Government, to implement Government initiatives intended to benefit low income households in a better and transparent way.

Spatial Ideas has created Viking, a technology platform on which its offerings and products are based. The platform is comprised of four cutting edge open source technologies - biometrics, business intelligence, mobile technology and mapping. These technologies are used to build various modules on the platform that can be adapted to any of their products. Modules include billing, attendance tracking, mapping, mobile sync and charts.

At present, Spatial Ideas uses Viking for 3 flagship offerings - food security interface, health interface and solid waste management interface. It can address the pain points within each of these sectors. For instance, the health interface allows local Government officials to track attendance of health workers, patient outcome and data collection and management, as well as monitor treatment, all of which is possible through a mobile application. In short, the platform aims to streamline Government workflows to unlock significant value or cost savings while dramatically improving the delivery of public goods by inculcating transparency, accountability and efficiencies. The estimated savings the platform can create across sectors which it currently services is estimated to be Rs.3.5 lakh Crores annually. Real time data and analytics from the field enable district and municipal officials to manage delivery of public services effectively. The major advantage and potential of Viking lies in the fact that it is sector agnostic. It has also been designed keeping in mind common constraints of developing countries, which means it can be scaled internationally.

At present Spatial Ideas operates in four districts across Maharashtra. They have deployed both their food security and health interface in 23 shops and health centres covering a total population of 150,000 persons so far, but have many more in the pipeline.



Homelink Network Systems by Don Bosco Forum for Youth at Risk

Tracking missing children

Every year, 45,000 children go missing as per National Human Rights Commission Reports. Police networks suggest that out of these, 11,000 remain untraced. Furthermore, the Government has little information regarding children growing up under institutional and non-institutional care.

The Don Bosco Foundation, an NGO based in Trivandrum, has been working with youth at risk since its establishment in 1991. Homelink Network Systems was a technology based innovation which was developed by the National Youth at Risk Forum, an arm of the NGO. Homelink Network Systems is a unique online child tracking system for effective data management, monitoring and reporting of children at risk. With over 300 partners across the development and public sector, the system's database has information on over 250,000 children. The moment a partner receives information regarding a missing child, it is placed on the website that searches national and local databases for a match. After this, network partners and local authorities across the specified region are alerted and action is taken. The utility of the solution does not end there. The software comprises of a whole gamut of services and tools necessary to orient and empower the children who have been found, to help them lead a normal life. Services such as counselling, medical care and non-formal job training is provided. Thus providing a holistic tool to effectively trace and help children at risk recover.

With over 300 network partners, the software has allowed for collaboration at a national level. This has increased the speed and effectiveness of services provided for recovering and rehabilitating children at risk. Till date, over 60,000 children have been traced and returned to their families, 54,000 have been home placed and are in a long term rehabilitation process and over 90,000 have been rendered at least some of the services provided across 15 states in India. The forum has played a critical role towards advocacy of child rights policy and the state of children in the country.



FINANCIAL INCLUSION AND LIVELIHOODS

FINOPAYTECH

by FINO Technologies Ltd

The FinoPayTech innovation uses a smartcard with a small chip that captures and stores all the biometric details of a beneficiary securely. It also acts as a unique identity validation for the illiterate population, which enables them to avail financial services. Furthermore the solution is operational in both online and offline modes with bank agents carrying out transactions in the day while uploading them onto a server in the evening. The organization has impacted over 51 million customers across 26 states, boasting over 5 million micro transactions a month.

GIFT A PENSION

by Micro Pension Foundation

Gift a Pension is a simple and secure internet-based single window mechanism that enables employers to enrol their domestic help in an integrated micro-pension program. Using simple online tools like animated films, employers can educate their domestic help regarding financial concepts. The platform aims to have a pan India presence, reaching 40,000 people in the first 3 years.

MOBILE VOICE BANKING

by Uniphore

Uniphore has developed a voice based mobile money platform available in multiple languages, fitted with voice biometric identity to ensure security. This allows less literate individuals from different linguistic backgrounds access financial services in a secure manner. So far, the solution is available in 11 languages, has been rolled out in 11 states and has been integrated with 5 Indian banks reaching 250,000 end users.

MICROGRAAM MOBAPP

by MicroGraam Marketplace

The organization has developed a mobile application, which bridges the gap between Micrograam's network of lenders and rural borrowers. The application provides the lenders information about interested borrowers such as details of their micro enterprises, photos, loan requirements as well as the repayment methods which allows transactions to be made securely and transparently. The platform is currently operational in Karnataka, Tamil Nadu and West Bengal.

NAMMAAUTO

by Three Wheel United India

This is a mobile based solution that aims to facilitate affordable loans for auto drivers to buy their rickshaws which can be repaid on a daily basis through ICT services such as mobile money. The solution is integrated with other in house IT solutions to guarantee no defaults of loans by auto drivers to banks. On an average an auto driver is able to pay back the loan over 3 years. The organization has impacted over a thousand auto drivers in and around Bangalore till date.

RANG DE

by RangDe.Org

Rang De boasts the first online crowd-sourcing platform for micro loans, which provides rural entrepreneurs access to low cost capital so that they may foster an entrepreneurial ecosystem within their communities. Borrowers using the platform pay very little interests with rates ranging from 5% to 10% flat. The organization has been able to raise social investments of about Rs.91.4 million and has reached out to over 15,000 borrowers till date.

EXPERT'S VIEWS

EMERGING SOCIAL INNOVATORS CAN PROVIDE SUSTAINABLE SOLUTIONS TO LONGSTANDING ISSUES

India as a country is rife with problems. It is home to the largest number of people living below poverty line, who do not have access to even essential services such as drinking water, electricity, health care and sanitation. Yet, it is at a time like this that India is at its most hopeful – hopeful not because of any government initiatives or action, but because of the burgeoning group of young entrepreneurs who are willing to trade lucrative careers for social innovation, and create impact at grass root levels with their unique insights and vision. These entrepreneurs are creating models that are scalable and agnostic to geographies or cultures, which is turning them into global benchmarks.

NSIF reached out to entrepreneurs, experts, 'tech for good' evangelists and impact investors to discuss some of the issues faced by these new age entrepreneurs. According to them, most of the challenges faced by social innovators were similar to the ones faced by businessmen in other sectors, especially in areas like financing and human resources. Their suggested a few parameters on which the business model could be based to ensure implementation and success:

- i. Establish a need for their products/services – this will ensure that there is willingness to pay and sustainability over a period of time
- ii. Identify the unique value proposition
- iii. Develop the model first and then approach the right investor, rather than developing it basis investor requirements – which could be a recipe for disaster

These experts also strongly believe growth and scale can only be attained through the use of Technology. 'Tech for Good' is more than a catchy phrase; it can be instrumental in providing solutions which bring in scalability and mass personalisation. 'Tech for Good' in isolation will not be as effective; it must be fortified by partnerships and robust ecosystems to ensure that entrepreneurs do not fail in their endeavour. The role of organizations such as NASSCOM and the Foundation is critical in helping build a platform for partnerships and setting the ground work for ecosystems for social entrepreneurs.

Here are the panellists' views on four key questions which NSIF put forth to these experts.

Their responses will impact the future of social enterprises in India.

What impact can Technology

Led innovation have on the Indian development scenario?

Prof. Ashok Jhunjhunwala,
IIT Madras

India faces a large number of social problems. As India's economy grows rapidly, the people who are being left behind are naturally impatient. They want to get basic necessities of life: food, shelter, health-care, power, water and education for their children today and not tomorrow. On top of it, they want end of corruption, better governance, clean roads and lanes and a clean environment. India needs better tools and services for differently-abled and better care for elders. The "ask" is fairly ordinary. Unfortunately there is a great deficit with respect to all this in India, much more than most of other parts of the world.

What is not well understood is that Technology and Innovation can create a major break-through towards solving these problems. These stories of entrepreneurs and innovators from the NASSCOM Social Innovation Forum network provide a glimpse of what has been achieved in India. Hopefully this will spur other Technologists and Entrepreneurs to take up these challenging problems, with a belief that 'it can be done.'

An important element of such innovations is the ability to commercialise and scale these products or services. To achieve scale, and therefore success, in countries like India, an important element is 'affordability.' An understanding of the income of Indian households is therefore key to better understanding this 'affordability.' Such 'affordability' has to be starting point of any technology development and innovation and can rarely come as an afterthought. This is where the impact of many such innovations remain limited. Another equally important element is social acceptance of the innovation. Again, this has to be considered right at the outset.

Finally, Information and Communication Technology is an important tool in any such endeavour. However, it should never be forgotten that it is only one of the technologies required towards this. Only when combined with other technologies and disciplines, can it yield the required results.

Hopefully, India would see many more technological Innovations in the coming decade to help India overcome its present situation.

Do you think India is providing adequate ecosystem support for social innovations to grow?

Ravi Venkatesan,
Founder, Social Venture Partners; Former Chairman, Microsoft India

India has the largest number of people living in poverty. Nearly 700 million people live without dignity and lack access to sanitation, drinking water, healthcare, education, energy and financial services. While it can be argued that government needs to step up to deliver these essential services, the reality is that our government is very weak at implementation. Social enterprises that develop and deliver sustainable solutions to these problems are therefore vitally important for India's development. Fortunately many young entrepreneurs today are very interested in taking on these challenges. They are motivated by a desire to have social impact and create wealth. A growing number of wealthy individuals and impact investors like Unitus, Aavishkaar and Acumen are willing to invest in such entrepreneurs. The big challenge in India however is one of scale. And it is impossible to scale these businesses without using technology both to reach customers as well as to control a geographically distributed organization. Fortunately ubiquitous internet connected phones and cloud-services are providing an affordable and effortless way to create such solutions and many companies such as Welcare Health, Jiffstore, Blowhorn, GoCoop, iStar, Milaap and Smile Merchants are showing imaginative ways by which entrepreneurship and tech enable innovations can create scalable and sustainable solutions to India's toughest social problems.

We are at a unique point in history where technology can help move the needle on so many different social problems in a significant way. The onus lies with us as investors to support such innovations. But just as with mainstream investing, it's not so much the discussion of whether support exists but rather the enterprise's ability to secure the support of investors. This largely depends on a number of factors; the ability for the enterprise to set itself apart, for them to be able to ask for what exactly they require and above all the entrepreneur's intelligence, passion, resilience and tenacity to see the project/innovation through to success. There is also the question of investors believing that the venture will produce the returns expected, and one way to ensure this, for many enterprises is by providing the investors with evidence of impact and customer traction.

With regards to very early stage social enterprises the best form of support would be to leverage the power of crowd funding platforms. Though the platforms are very new, if an entrepreneur can cast a strong message and sell their cause to the public, they can get a lot with very little.

EN Venkat, Partner,
Aavishkaar Venture Management Services

From an impact investing perspective, there is a lot of interest and capital available for socially impactful innovations. There are broadly two types of impact investors that exist in the Indian context today - organisations such as us (Aavishkaar) who have risk-capital pools to invest in socially inclusive ventures; philanthropy or sustainability oriented pools of capital from government and corporates which target a broader canvas. On a national level there are multiple initiatives and forums that are bringing people in the space - innovators, investors, financiers, ecosystem supporters together to create synergies.

Organisations like Aavishkaar take the "enterprise based approach" to development to ensure coherence between the enterprise and impact investors, which would allow the investor to realise financial and social outcomes which are both scalable. This means that investors in the Indian context are needed to act as enablers to help scale, grow and ensure the sustainability of the social innovation as they would any other.

Ravi Gururaj, Chairman,
NASSCOM Product Council,
Mentor and Investor

Can Industry and Government

play a role in helping social innovation and tech social enterprise to scale?

Prabir Purkayastha,
Director, Office of Social
and Economic Justice,
ThoughtWorks

A product may be innovative but that is only a necessary condition, not a sufficient one for success. For success, it has also to be scaled up to a level that it is self-sustaining. For social innovation to succeed, not only the product has to be innovative but it also needs a supporting ecosystem. Innovators require external support from the industry or the government for building this larger eco-system.

An example will make this clear. We have seen interesting applications for those who are visually challenged using smart phones as a platform. It is very difficult for such innovators to reach the smart phone manufacturers without which such innovations will not succeed. Here, the industry bodies such as NASSCOM or the government can play the bridging role between the innovators and the manufacturers for the success of such innovations.

One entrepreneur with one idea will not solve a problem which is part of a continuum of problems. For instance a successful Oral Cancer Screening program will be ineffective if the government cannot provide a continuum of treatment for pre-cancerous and malignant lesions. Or a math workbook will not make much impact unless the government ensures that the children's nutritional needs are met.

The government and the private sector must mentor and support social entrepreneurs by creating an umbrella organization that will: a) Encourage entrepreneurs to solve real life problems with path breaking ideas and delivery mechanisms. Young entrepreneurs should go to village hospitals and schools to understand the reality of the challenges faced by staff, students and patients. b) Provide seed funding and incubation help for entrepreneurs. I have seen good ideas die a natural death because an entrepreneur is overwhelmed by the multiple needs of a business, and they do not know where to turn, and c) create an enabling environment through innovation hubs in rural areas to encourage local communities, local doctors and local teachers, to find innovative solutions for problems that they deal with every day. It's all about "collective impact" – this is what we need to create real and good change.

Rani Desai,
Head, Biocon Foundation

In the fast-paced digital driven global pace, India is increasingly emerging as the Leader in adopting Technology for Good for various socio-economic development issues and even for business enterprise solutions leading to sustainable impact. This has been eminently possible with the momentum provided by major ecosystem players like IT majors, NASSCOM, new-gen entrepreneurs & technopreneurs while devising and perfecting tech-based solutions -while keeping needs, aspirations & beliefs of masses in mind -which then translates into a huge /unparalleled economic & business opportunity. This would be further propelled by the recent policy announcements including the impetus received by NASSCOM from the present Prime Minister. The sustainable solutions being piloted & perfected by India are sure proving to be role-models for the rest of the world including for the developed countries. We all feel proud to be part of this pioneering effort

Amit Jain,
Founder & CEO,
HealthPoint Services

What are the key factors that social innovators need to look at to ensure that a social innovation program are transformational (scalable and replicable)?

Rita Soni,
Tech for Good Expert

How does a remote district in Maharashtra improve the new born sex ratio from 839 girls for every 1000 boy births to 876 (the world average is 952)? How does a small Gujarat-based non-profit reach 150 million weak readers, doubling the number of good readers in local primary schools (India's adult literacy is 62.8%)? There is only one answer, technology. The information age has transformed communities across vast geographies by plugging them into networks and providing tools to interact, manage and reach. The phrase 'global village' has taken on a new meaning in this information age as miles get bridged by the internet superhighway. However, the impact of ICT on poverty and development is still just beginning to be felt.

There are three principles for social innovators to hasten the pace and scale of impact: a) deeply understand the problem being solved, b) build for the globe but implement locally, c) collaborate, especially where there are ecosystem challenges.

Regardless of the economic model of a social enterprise (non-profit, for-profit), evidence-based implementation that is localized and includes relevant partnerships has the power to transform ingrained social conditions.

I would suggest three important factors that social enterprises (whether for profit or not-for profits) need to look at- a) leverage technology to the fullest to ensure that you are able to mass personalize an engagement with the various stakeholders- beneficiaries/funders/interested stakeholders among others, b) ensure that you look for global best practises. The odds are high the Social innovation may be attempted in other countries and may find customers/co-creators in other countries, and c) build an ecosystem of supporters, global thought leaders, customers, funding sources and keep them engaged. An actively engaged stake holder ecosystem is a big asset.

Siva Ramamoorthy, Mentor,
Angel Investor

¹ <http://www.unfpa.org/publications/sex-imbalances-birth>

² <http://hdr.undp.org/en/countries/profiles/IND>

³ Both examples are part of the NASSCOM Social Innovation Forum

What would be your advice

to social innovations and social enterprises?

Shalaka Joshi ,
Managing Director, Asia
Pacific, Toniic LLC

I hope that we will continue to see strong business models that work through their revenue streams, end-user impact and distribution supply chains, across sectors. My advice to entrepreneurs- a) define and refine your core value proposition (do your customers need this product/service? Will they pay for it? Will it have the impact you intend?) At the start, understand your unit economics, own your brand and hire the best people you can find who have a high tolerance for start-up dynamism; b) Do your due diligence on potential investors, this a key partnership and meeting of minds- do they add value to your vision? Is their return-impact balance aligned with yours? c) explore why you are the best person/enterprise to solve the particular problem you are addressing. Talk to everyone- competitors, sector experts, nay-sayers, potential partners, people who have never heard of the term 'social enterprise'... with an open mind . It's amazing what happens when we listen with humility, and include others questions to get to the heart of the idea you are living with- work on keeping it simple, but not superficial.

As an social entrepreneur, start an enterprise with a problem in mind that you want to solve and do not bother too much about space, sector, investor etc. "Social" is very subjective, so first figure out your business solution and then your business model (financial viability) and then evaluate what type of investor will fit the "patience" your business model needs. One common mistake is that we try and force fit business models depending upon the investor. There is enough money of all kinds (social, commercial and in between) available so do not let the investor dictate what your model is and what social problem you want to solve.

Vishal Mehta,
Co-founder & Managing Director
Lok Capital

Business model innovations are critical for success of a social enterprise. The best of products or services do not reach the common man if they do not have the right and realistic business models. A lot of social enterprises are focused on solving some of the critical problems of the society. The behaviour of the common man plays a very important role in adapting the solutions or services from these social enterprises. Hence it is important that the social enterprises create business models, which are acceptable, both from an economic as well as behavioural standpoint of the common man for being successful . It is very important that the social enterprises understand the ground reality and learn to apply appropriate business models, which will make ensure the solutions they are creating reach the right audience and create enough impact.

K Chandrashekar,
Founder and CEO, Forus
Healthcare

ABOUT NASSCOM FOUNDATION

NASSCOM Foundation is a non-profit organization registered under the Indian Trust Act, 1882. Our vision is to leverage Information and Communication Technologies (ICT) for empowering and transforming the lives of the underserved. One of the primary reasons for the formation of the Foundation was the commitment of NASSCOM and its member companies to promote social development through the application of ICT and NASSCOM Foundation works towards this aim by nurturing the ecosystem for Technology for Good.

The Foundation has two functional program areas – Firstly, fostering ICT for development, by bringing game changing innovations and projects to the forefront and unlocking their potential, thus bridging the digital divide between the urban population and the rural underserved; and secondly, promoting Business Responsibility (BR) within the IT industry in India. By creating various initiatives the Foundation encourages NASSCOM member companies to drive lasting social change, while promoting and assisting them every step of the way.

We believe that ICT helps underserved populations access information, services and opportunities which build their capacities to realize their potential. NASSCOM's member companies have been engaged in various initiatives via the Foundation and we intend to become a catalyst, encouraging these corporates to do more, capturing best practices, and promoting and assisting their replication.

The Foundation is engaged in a number of initiatives, which are multifaceted and leverage on the power of partnerships with the implementing agencies, industry, government bodies and people at the grassroots level. In line with the theme of 'Technology for Good', NASSCOM foundation has developed four key programs.

150 million individuals skilled by 2022. Delivered through identified vocational training companies - NIIT and Global Talent Track (GTT), the program equips aspirants with skills in specialized areas. The program, fully funded by Genpact, is driven through both on-campus and off-campus models across West Bengal, Odisha, Telangana and Andhra Pradesh.

National Digital Literacy Mission (NDLM)

National Digital Literacy Mission is a dynamic and integrated platform of digital literacy awareness, education and capacity programmes that will help rural communities fully participate in the global digital economy. NDLM is aligned to the Indian Government's vision of making one person in each household in the country digitally literate by 2020. NASSCOM Foundation, as the industry's Secretariat for NDLM is enabling digitally empowered communities via digital literacy centers that are housed in a unique community.

Through existing CSR initiatives of corporate partners and through NGOs, NASSCOM Foundation is making implementation faster and more effective. Partners include Cognizant, Capgemini, Cyient, Zensar and Amdocs. Content contributing partners include Intel, Microsoft, GTT and Online Tyari.

Disability Initiative

Since 2010, NASSCOM Foundation has been working towards the goal of creating a sustainable ecosystem for promoting inclusion of persons with disabilities and making ICTs accessible to all. The Disability Initiative encourages inclusion in the IT-BPM industry by sensitizing the sector about accessibility (barrier free workplace and assistive technology) and employment. There are approximately 5.5 million people with disabilities, in the 12-24 years age group in India who face discrimination right from getting access to education to finding suitable employment opportunities. As a result, one of the key goals of the Disability Initiative is "To promote 'Equal Opportunity Employment' within the IT-BPM industry".

The Foundation is working to build an assistive technology marketplace that will engage PwDs, experts, developers, IT industry and the Government in promoting and implementing web accessibility and creating effective indigenous solutions that are Assistive Technologies (AT).

NASSCOM Social Innovation Forum

The NASSCOM Social Innovation Forum aims to enable and strengthen innovations that empower and impact lives at the bottom of the pyramid, enhance delivery of basic services like education and healthcare to rural populations and the underserved communities. The forum empowers NGOs, social enterprises and citizens - the vehicles of social change and helps them refine their innovations to achieve deeper and broader social impact. The platform does this through special thematic challenges, awards, seed grants and mentoring.

The program, with support from its corporate partners, and working with NGO and not-for-profits, aims to impact one lakh beneficiaries in 2015. Genpact India CSR has supported this platform to grow and scale since its inception in 2008-09. This is also being supported and championed by Mphasis.

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PICTURE REFERENCES

Names of the social innovators whose pictures were put up on page 0 (left of Foreword) and page 2.

Page 0:

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