Samuhik Pahal

सामूहिक पहल

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ICT for NGOs

CONTENTS

Between tehno-optimism and technophobia

Like in many other things, sometimes we are caught up in an either/or binary when thinking about technology in the non-profit sector. Some of us tend to see technology, especially ICTs, as a solution to all the problems at hand. These days, often we see software/apps/devices being developed and pushed as solutions to all our extant ills. There is the other camp that is technophobic and sees technological advancement as a part of the evil that is plaguing the world, and does not want to engage with it. The desirable course of action is somewhere in between. It would be different for each individual organization and domain.

We must remember that despite the digital divide, ICTs have often worked as enablers over the last few decades. For marginalized communities like LGBTQ+, and family members of neurodivergent people, etc., online spaces/forums have opened up a sense of community. Similarly, various online platforms have democratized news and media production in languages with relatively smaller numbers of speakers. These are making it possible for newer ways of reaching out to audiences that were unthinkable till just a couple of decades back. As these examples show, ICTs create avenues for communities and social groups that have been hitherto sidelined. These spaces can be used by non-profits as well, in many different ways, to work more effectively. The first kind of usage is of course in NGOs' routine operations. These range from internal and external communication, management of data, and maintenance of records.

Social media tools can be used for advocacy purposes. However, figuring out which audiences to engage with on which platforms is key. This is because the user demographic is quite variable across these. Social media might be a part of the spirit of these times.

However, older forms of media technologies, such as community radio and print magazines, continue to have relevance in the work that we all do. Before we choose the tool, we need to have clarity on what is it that we are advocating and why.

ICTs (both proprietary and open-source) can help NGOs to potentially streamline project management and grant management cycles. They can also play important roles in meeting learning and development needs of the team and the communities the non-profits work with. Apart from using technology to meet the needs in this space, open-source platforms can help players in the social sector to create free online courses and workshops in areas that need urgent attention.

Expanding the space of free (both in terms of open-source and in being freely available) software, by use, evangelization and development, is a key service that we can offer in the social sector to expand the use of ICTs for freedom, justice and development. Technology is not the solution to the issues we are trying to address in the work that we do. But surely, depending upon the context, it can be a useful tool, a force multiplier, an enabler and a community builder. There is a path between unbridled tehno-optimism and technophobia, which has place for all of us to walk on.

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Information technology in the social sector

Prospects and problems for NGOs

Venu Narayan

Understanding technological change

Rapid technological change has been a staple feature of the last two hundred years or more across the world. This has expanded and deepened economic opportunities and societies have gone through dramatic transformations in their wealth and affluence. There has been widespread impact on social, political and cultural life too. It is no exaggeration to say that technological change has touched and fundamentally altered human lives and possibilities like no other force before.

Admittedly, the benefits and costs of this change are experienced unequally. Despite this history, the continuing technological revolution of the last fifty years seems to belong to a different order of complexity and sophistication. The transformation of work and lives directly resulting from changes triggered by digital electronics, communication, computing, and the internet seem unprecedented. These changes are global in nature and have had direct and deep impact on individuals and societies in a very short time.

No one seems to doubt that this digital revolution will continue to dramatically alter our lives, and faster than in the past. However, this is accompanied by global problems and challenges that strain the ability of local communities and nationalist politics to solve in any credible manner. But the stakes couldn't be greater.

Unlike in the past, the problems of climate change, ecological degradation and resulting crises of food, health and livelihood threaten all nations to some degree and may lead to large scale destruction in vulnerable parts of the world. There will certainly be, in a narrow sense, winners and losers. But from a broader perspective the uneven impact of technology and looming global crises together represent an existential threat to life on the planet.

Except under special conditions, commercial and proprietary software is unsuitable for the social sector.

It is in this context that the question arises whether digital technologies can be deployed more extensively to serve the cause of greater justice and good. It is unlikely that technology by itself is the primary solution to any social problem. In fact, many believe that the uncontrolled development and deployment of technology in the last fifty years, especially digital technology, is a likely cause, or at least the trigger, for many of the challenges that we face. The idea that technology can serve as the fount of solutions therefore needs to be established beyond doubt.

At Azim Premji Foundation, we hold that the challenges that societies face globally, of conflict, poverty, and unequal access to health, nutrition and education must be solved through political participation, enlightened policy, and core development action. These are not, at their core, technological problems, nor are they

amenable to technological solutionism. Put bluntly, our problems have their roots in historically determined and fundamental socio-political processes and distortions that continue to operate.

What is the role of technology in this quest for positive change? While technology may not be the primary effector of change, no resolution can happen without active use or deployment of technological resources either. Put another way, while technologies may not bring about solutions to global problems, no solution can work fully either without the use of our technological prowess.

It is important to set balanced and realistic expectations within NGOs about what adoption of information technology entails. There should be recognition that existing processes will change, and so will the way various functions interact.

Technology for development

What can be done? We believe that governments and civil society will have to, sooner than later, confront the limitations of business as usual. As mentioned earlier, all effective responses to global and local crises will inevitably involve using human technological prowess.

This deployment of technology for the social good cannot be an accident of circumstance. Azim Premji Foundation aims to actively contribute to the debates in India that help us articulate the promise and challenges of technology, especially information technology. We will use our financial resources and people to help develop interventions and solutions, both at local and national levels. These interventions will be guided by the values of sustainable and inclusive development and will emphasize participatory involvement of communities that are key stakeholders.

Government of India (GoI) has, in the last decade, made concrete and focused choices for using information technology in governance and delivery of services. This has been implemented in many ways, including through capacity building in the government systems and implementation of large-scale technology frameworks and platforms for citizen engagement and service delivery. These include technology platforms that aid identification of residents, provision of systems that accelerate financial inclusion, and governance systems for provision of social services including education and healthcare.

Civil society and development

The efforts of the government in the development sector, important that they are, need to be augmented by civil society initiatives, which operate at smaller scale and more local contexts. These initiatives traditionally have taken two forms. The first one is the effort by communities and citizens to organize themselves for various purposes, including efforts to represent their voice to the state, create cooperatives and self-help groups to organize producers and consumers, or to organize workers to voice and defend their interests.

The other form that civil society initiatives have taken involves the creation of not-for-profit ventures or non-governmental organizations (NGOs). These operate in specific development domains and geographies to serve public interest.

India has a rich history of both these forms across the country. There are, in addition to the above two, for-profit organizations that aim to serve public interest but expect to sustain their work through market linked operations. Given the prominence that legal

and taxation systems give to not-for-profit activity, the last type has remained a small niche category.

Unless leaders of NGOs have a realistic understanding of what information technology can contribute and are also willing to commit time and energy at all levels of the organization, efforts to leverage technology can fail.

Both the civil society organizational forms mentioned above depend on either the state or private individuals and foundations for resources and financial support. In a context where development aid and funding from international sources have shifted away from India, local philanthropy and corporate social responsibility initiatives have stepped in to compensate.

Azim Premji Foundation is supported by one of the largest global endowments for philanthropy. It has deep and direct field-based activities in education. The foundation has also started public health initiatives in the aftermath of its humanitarian work during the Covid-19 pandemic. Azim Premji Foundation is also one of the largest funders of not-for-profit civil society organizations in the country today. A wide range of small and large not-for-profits are supported by the foundation with an extraordinary breadth of themes and geographic reach.

Azim Premji Foundation considers all NGOs, whether part of its network or not, to have significant areas of operations that will be benefited by information technology. Identifying these areas and ensuring that NGOs have the tools to implement information technology systems requires more than just financial resources. The following sections discuss these aspects.

Technology for NGOs

How can information technology serve NGOs in their mission to support and facilitate sustainable development? As mentioned in the first section, Azim Premji Foundation does not consider information technology as the primary solution to development problems. Development challenges are socio-economic and political problems. These need solutions to emerge from an understanding and resolution of these problems. The more participative and broad-based the solutions are, the better the outcomes are likely to be.

In addition, technology can be used in projects with poorly designed strategies. It can amplify negative outcomes, just as it can serve exemplary and positive efforts. That said, we believe that information technology can be a powerful facilitator both for NGOs and for the communities that they serve, when implemented carefully.

Civil society organizations are as diverse as their counterparts in the business sector. They vary in size, geographical reach, diversity of beneficiary groups, and the themes they address. All but the top quintile of NGOs - top quintile in terms of total number of employees or total expenditure - would fall into the category of SMEs (small and medium enterprises) as used in the business sector.

Therefore, their IT system needs are also likely to be on that scale of size and complexity. This also indicates that this segment is unlikely to have applications that demand highspeed and real-time availability. This is unlike an organization with high volumes of real-time financial or other transactional loads.

Unless leaders of NGOs have a realistic understanding of what information technology can contribute and are also willing to commit time and energy at all levels of the organization, efforts to leverage technology can fail. This requires understanding three dimensions of what is involved in guiding

organizational change through information technology.

Information systems: Understand the information problem to be solved through automation. Explore the costs and benefits. Analyse the organization's patterns of information flows, areas for improvement and the anticipated costs and benefits of adopting information technology solutions.

Technology options: Understand availability and access to cost effective computing systems and resources, especially software applications, cloud platforms and internet resources.

People, implementation and support: Ability to access expertise, internal or external, to evaluate options available, make critical decisions and implement them to make successful transitions. This aspect includes the effort needed to prepare the organization to make the transition to different ways of functioning that the adoption of technology makes inevitable.

Supporting NGOs through technology transitions

It is important to set balanced and realistic expectations within NGOs about what adoption of information technology entails. There should be recognition that existing processes will change, and so will the way various functions interact.

There could be an extended period of learning and adjustment depending on the scope of the project initiated. This requires preparation, training and the ability to adapt to some measure of disruption.

The good news is that, in the case of well-planned and successful implementations, these challenges are balanced by significant gains in efficiency, and overall effectiveness. The planning process, in addition to these issues, also includes the first step of the three stages mentioned above, the analysis and specification of the information system to be streamlined. This analysis is independent of the choice of technology.

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Unless the NGO invests the time and resources to analyze the information processes it wishes to automate, choices down the line are likely to be suboptimal. There is also the tendency to choose the tool first rather than take the effort to understand the information problem. That would be a serious mistake. If the NGO does not have the ability to do the analysis on its own, it would be wise to allocate part of the IT budget to hire the expertise.

Most use cases in the NGO sector can be covered under three broad headings. Special cases include long duration projects in areas like education and health.

Operations: accounts, payroll, inventory, basic analytics, fundraising and compliance.

Communication: email, discussion forums, conferencing, reports and presentations.

Program management: beneficiary data, program delivery, analytics, case management, partner, and volunteer management.

The first two of the above functional domains are well understood and many choices exist in terms of information technology tools. Most NGOs are likely to have already successfully adopted some form of information technology to solve their operations and communications needs.

Most of these tools are affordable. In many instances, commercial vendors provide these tools to charities free of charge or at very low prices. It is in the third functional area, that of program management, that NGOs encounter dynamic and unique requirements and therefore confront hard to understand decision situations. The next two sections discuss these challenges.

The universe of FOSS

Except under special conditions, commercial and proprietary software is unsuitable for the social sector. In addition to price considerations, proprietary software's "vendor lock-in" and opacity make it problematic for organizations that use philanthropic or taxpayer money to work for the social good.

On the positive side, free and open-source software (FOSS) today has matured, and large communities of developers and users offer solutions and support for most use cases. The fact that FOSS systems are part of internet infrastructure available today and that FOSS components are the foundation on which most commercial software is built is testimony to their power and usefulness.

That said, adopting FOSS systems is often harder. It requires more domain expertise than commercial systems. This is due to the voluntary and activist nature of FOSS development. We anticipate that philanthropic capital will have to be involved in creating and curating FOSS platforms.

This would make it much easier for organizations to put together the components of the suite of systems they would use, once the first stage of information system review mentioned in the previous section is complete. This work is already happening. Azim Premji Foundation is involved in identifying the FOSS systems it can support and promote for the social sector.

Five ways not to fail

There are numerous ways in which a transition to use of IT systems can fail in an NGO. Such failures are all too common. Understanding the risks of failure and preparing to avoid them is a significant part of the transition. While some of these are contextual and specific to particular NGOs, it is worthwhile to identify typical cases and causes of poor outcomes.

Poor preparation and planning: This aspect was mentioned above. It is worth reiterating that the time and effort spent at information system analysis, planning and preparation

pays for itself through the benefits of a successful implementation. This step also calls for realistic expectations, which understand and accommodate the non-monetary costs of the transition.

While technology may not be the primary effector of change, no resolution can happen without active use or deployment of technological resources either.

Choosing products instead of solutions: Many NGOs choose vendors and products instead of identifying the problems to be solved and the solutions that will help address them. Very often this is the result of decision making that has been influenced by advertizing, anecdotal experiences, or special interests.

Paying the piper too much: One of the core reasons organizations choose expensive commercial tools when free options are available is the myth that high prices guarantee quality and stable implementation. There is no direct causal link between prices charged and the success of implementations.

While it is true that FOSS tools do not guarantee success, high prices paid do not, either. The biggest threats to successful IT transitions are that of decision making in ignorance, and the failure to understand and prepare for the trade-offs involved.

The myth of uniqueness: Many NGOS, deeply aware of the nuances of their contexts and the problems they face, assume that the solutions to information problems must be as unique as the problems themselves.

This leads to attempts to build unique products with all kinds of customized functionality specific to their needs. This is often a serious mistake. Information technology tools, like all tools, are prone to failure and the risk of faulty design. Every tailormade tool can fail in unanticipated ways. Building a new tool for your information problem is a decision that needs careful and rigorous justification.

No organizational buy-in: Transition to effective use of information technology cannot be driven exclusively from the top. More inclusive and participative the process, the better the outcomes. This would also prepare all organizational members to invest the time, effort and patience to make the systems work.

Conclusion

This article has touched on some of the prospects, challenges and promise of information technology for social sector organizations, especially NGOs.

The key message is that NGOs should begin with the realization that adoption of IT is not an end in itself. It must serve a clearly identified set of goals that are highly likely to make the organization more effective.

Challenges, both internal and in the technology itself, must be recognized and understood. Trade-offs are inevitable. The leadership of the NGOs must invest the time and resources to understand these factors and then lead the organization through the steps involved in planning, choice of tools, and training for implementing the transformation.

Thus, especially in cases where the change affects many functional areas, it should be recognized that the transition could be a time of disruption and the organization must embrace that risk.

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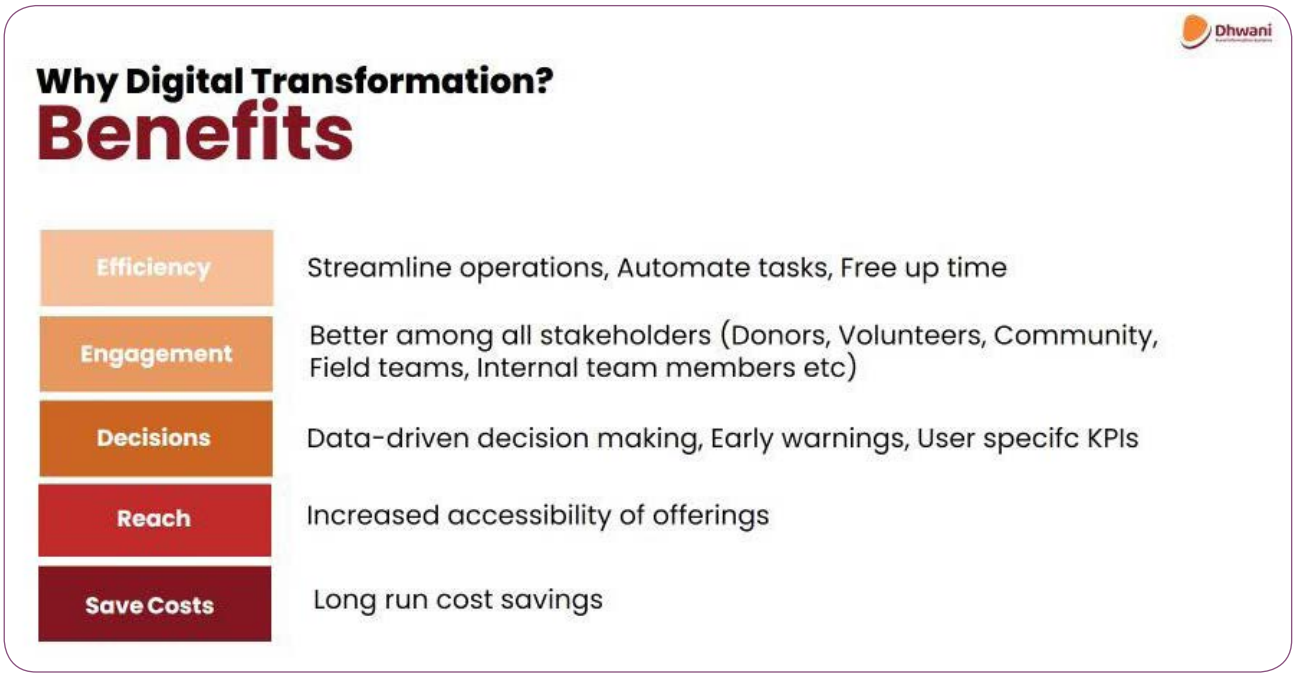
Harnessing technology: a roadmap for nonprofit success

Swapnil Agarwal and Gitesh Aggarwal



Dhwani RIS

In the ever-evolving realm of technology, our journey at Dhwani Rural Information Systems (RIS) has been a humble and introspective one. We are an advisory and consulting firm focused on social and development sectors, with over eight years of industry experience. Our work has focused on developing IT applications for NGOs to maximize impact and ensure seamless operations. We are a team of 150+ ICT4D (Information and Communication Technology for Development) professionals. This team includes a diverse mix of development professions, technology enthusiasts, software engineers and analysts.

Through the course of our engagements and partnerships, we have come to identify the main challenges, hurdles and barriers that non-profits face when adopting technology. It is a journey marked by the aspirations and complexities encountered by them, as they navigate the tech landscape. In this article, we delve into these challenges and share the strategies we have developed to counter them, to foster collaborative progress in the realm of technology and social impact.

Navigating the technological frontier

In our ongoing journey at Dhwani RIS, we have been working to overcome these challenges and support non-profits in their quest to harness technology's potential for social impact. Here, we share with you how we have charted our course.

There is a growing need for digital transformation. Non-profit leaders and project managers are recognizing the importance of digital transformation in their organizations and projects, especially in large-scale initiatives. However, despite this recognition, many non-profits express trepidation when it comes to tech solutions and data analytics. This is often due to a feeling of under-preparedness.

Challenge 1 – Lack of data-driven decision-making: One of the prevailing challenges that non-profits face is the aspiration to prioritize data-driven decision-making. However, this often remains a distant goal, as data is typically aggregated primarily for reporting purposes. In sectors such as education and skilling, capturing specific, actionable data remains a complex task. In comparison, public health projects tend to fare better due to government-driven technology adoption.

Challenge 2 – Missing change management processes: The resistance to embracing new technology within organizations is a common issue. Staff members often find themselves uncomfortable with unfamiliar technology. The absence of proper training and change management processes exacerbates this resistance. This challenge is experienced throughout the hierarchy, from frontline workers to middle management.

Challenge 3 – Disinterest in technology by leadership: The successful adoption of technology is significantly influenced by the attitudes of leadership within organizations. Some leadership teams lack clarity regarding the need for data dashboards and may not possess the necessary skills for data-driven decision-making. Backgrounds in philanthropy or the corporate sector may encourage a tech-oriented mindset. However, lack of genuine tech exposure among leaders can be a significant hurdle.

Challenge 4 – Ineffective donor incentives: Donor priorities often do not align with technology adoption. Grants may not prioritize tech spending. This situation leads non-profits to follow suit. It often results in incorporating technology without clear objectives. It may also lead to underestimating the budget required for effective tech implementation.

Pioneering tech integration

The article identifies various categories that cover almost all digitization requirements for non-profits. These range from office automation to stakeholder management. Non-profit leaders should reflect on their organization's challenges and roadblocks that technology can potentially alleviate to determine what to invest in.

Building vs. buying software: Non-profits have the option to choose off-the-shelf software systems that are cost-effective and quick to implement. Alternatively, they can opt to build custom solutions for highly specific needs. Identifying what to invest in requires reflecting on the organization's

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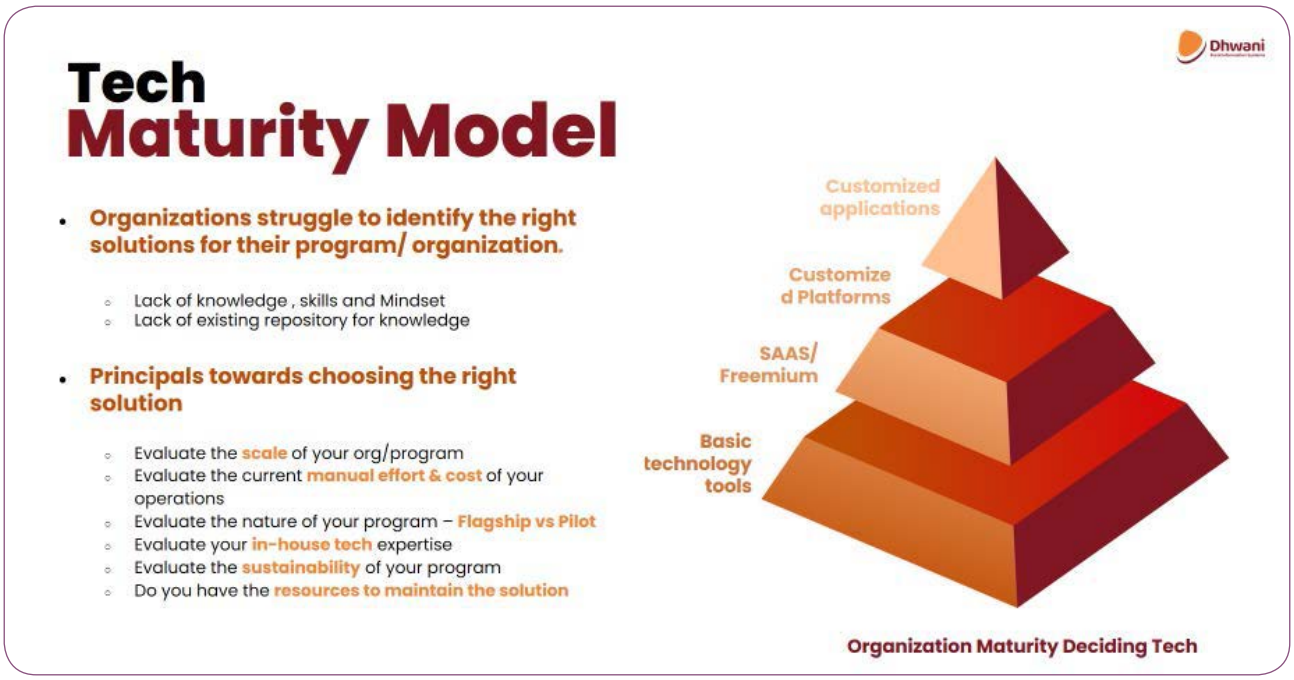

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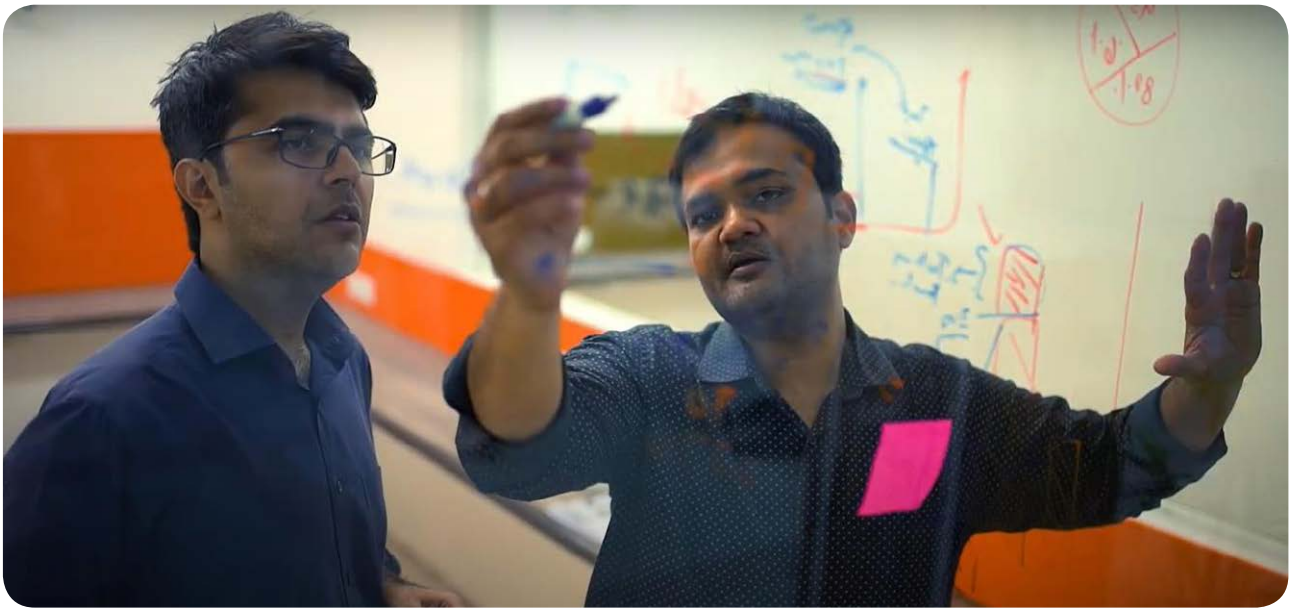
challenges and roadblocks that technology can potentially alleviate.

Scaling digital solutions: It is crucial that digital solutions can scale alongside the growth of non-profit teams and geographic presence. Organizations classified into different tech maturity levels must foresee potential challenges. They should build tech capacity within their leadership teams to ensure smooth scaling.

Change management: Implementing new IT systems often faces resistance. Therefore, a change management process is essential to bring key stakeholders on board. This can help them understand the benefits of the new system. Starting small and growing step by step helps in gaining buy-in from team members.

Tech capacity building: Building tech capacity within the leadership team and middle management is crucial for articulating digitization needs, identifying suitable solutions, and ensuring that teams understand tech features and limitations.

Budget for IT systems: Budgeting for IT solutions should be a separate line item in



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funding proposals. This can potentially help ensure that adequate funds are available for tech adoption. Encouraging tech adoption in non-profits requires tangible support from funding organizations, including proactive funding for IT solutions.

Efficient digitization: Organizations can efficiently adopt digitization by understanding their needs, assessing tech adoption challenges, building internal capacities, trying off-the-shelf solutions, and giving these solutions time to stabilize. The alignment of donor priorities with tech adoption fuels innovation, drives greater social impact, and accelerates progress.

Harnessing technology for social good

At Dhwani RIS, we stand as witnesses to the transformative power of technology harnessed for social good. Through our journey, we have come to appreciate that technology is not merely a tool. It is an enabler of dreams, an amplifier of impact, and a bridge that connects aspirations with outcomes.

The true value of "Tech4Good" lies in its potential to fast-track progress, to empower organizations, and to create a ripple effect of positive change throughout communities. It is the catalyst that transforms aspirations into reality.

As a thought leader in this space, Dhwani RIS remains committed to being warm, supportive, and accessible to all those on a mission to make the world a better place. We undertake initiatives to address challenges and to forge new pathways toward greater social impact.

Our door is always open, and our journey is one we embark upon hand in hand with non-profits, impact organizations, and individuals who share the vision of a better, more sustainable world. Together, we will continue to harness the incredible potential of technology to create lasting, positive change and to navigate the path toward a future where the SDGs are not just aspirations but tangible achievements.

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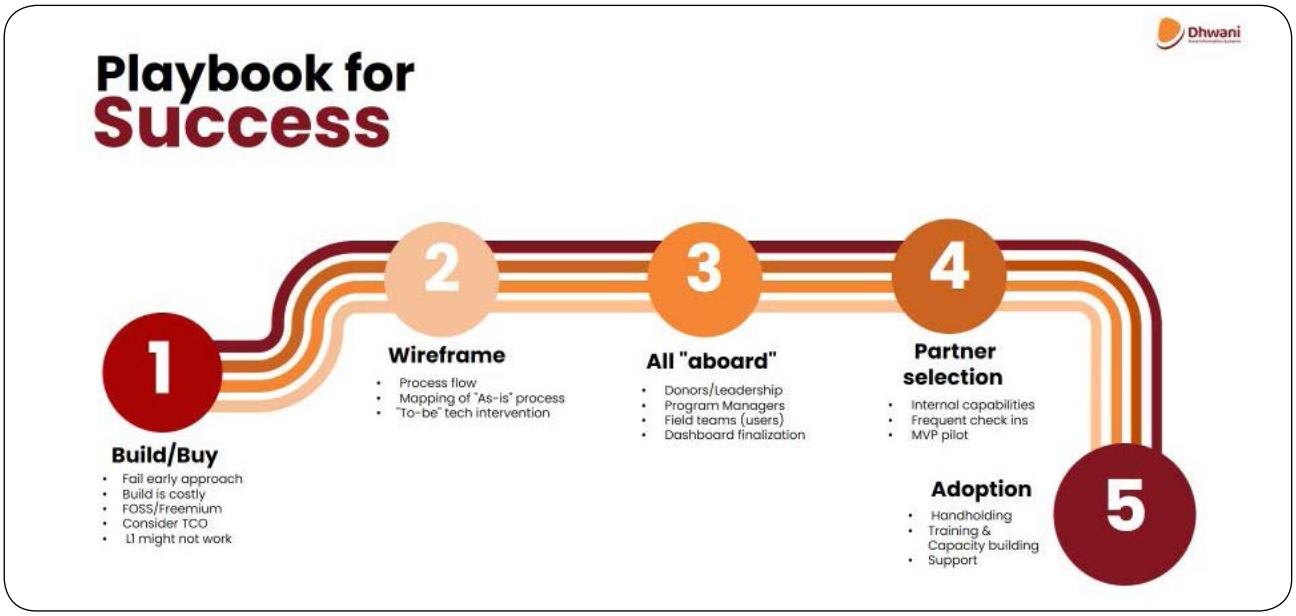

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Reflections from using technology

Mainak Roy

Like many of you who are reading this, Simple Education Foundation (SEF) started inside a classroom in Delhi. Here my co-founder and I observed the challenges our government teachers faced everyday while trying to make learning possible. These challenges eventually led them to give up or turn apathetic toward children. Our work is embedded in the idea of making the teacher more effective and the learner more engaged and inspired.

We work with governments to build state-wide training programs for schoolteachers and principals to make learning in public schools across India more engaging and impactful for children. Our programs are centered around addressing specific teaching and learning needs we identify in the local regions. We are co-designing processes and frameworks with government institutions and educators to help them implement and scale the programs by themselves in the long term.

Understanding technology to use it effectively

When we started this journey in 2016, we were not focused on using technology. As we look back, this lack of focus was not from an aversion to technology. It stemmed from the limited idea of possibilities and use cases. I remember Rohit Dhankar Ji (from Digantar, Jaipur) once saying at a Wipro Foundation Annual Conference, that there is no solution to the problems we are solving but only deeper understanding. I resonate with that idea so much today.

In 2016, we worked with 100 Master Trainers and 1,000 trainers in Jammu & Kashmir and Ladakh, who eventually trained more than 85,000 elementary teachers in the region. However, our assessments were paper-based. While we manually evaluated what we needed to learn from these assessments, we have very little evidence of learning from those days, let alone the data sets that we can dig into to build learning now.

Similarly, when we started working with schools in Uttarakhand and Delhi in 2017, we collected a bunch of student data. We used tools like Google Forms and Google Sheets to collect and make sense of the data. However, as we look back today, a lot of the data that we collected is not very helpful. Our understanding of student learning has evolved and the data collected back then is not helpful.

As we started deep diving into integrating technology over the last few years, we reflected back and we recognized that technology is just a tool. Our own understanding of the problem, our inputs, the output and outcome, are central to choosing and building the tech stack. Central to our story today is the strategic integration of technology into our key interventions. As we have deepened our understanding of the work we are doing and the various things that can be automated or where technology can play a role, we have been able to effectively harness the power of tools such as Google Workspace, Kobo, Looker Studio, and Zoho.

Reflecting on one's work helps in choosing the tools

Take for example our student assessment system. Our assessment philosophy is based on learning levels and not on grades. Hence, when facilitating assessments, the team must first conduct an assessment based on the level last documented and then evaluate it and decide on the next level for assessment. This whole process can get quite cumbersome. To solve this, we built a system where we could code the assessment logic on Kobo, the data collection platform. Kobo

Simple Education Foundation

would do the backend work of evaluation and then suggest the next best assessment for the student.

This significantly saved time and allowed us to have rich data. This was then cleaned up and analyzed on Looker Studio. The impact has been nothing short of transformative. Assessments have become efficient, backend analyses are now automated, and invaluable insights are generated instantaneously.

Similarly, we have built systems to observe teaching practices inside the classroom. This is in conjunction with the student data. It enables to show us whether our teaching practices are having a positive impact on our children's learning. These learnings and the journey of building these tools have also strengthened our ease with technology.

Today, one of our key offerings to a state government is a robust training management platform, which is designed to the state's needs. It tries to enable the state to take effective decisions. It also enables us to learn what our teachers and students need. The management platform can be used to track attendance, collect and measure learning data, and create reports. It can also be used by mentor teachers to track data from classroom observations.

Challenges in adopting technology by an NGO

However, this journey has not been devoid of challenges. Embracing novel technologies posed a steep learning curve for both our team and stakeholders - from struggles with embracing the tools to being open to innovation. We have navigated this challenge through a focus on internal training and deepening the team's understanding of the tools at hand. We focus on developing our understanding of why we are using the tool. We also spend time showing our team members how the tools are going to enable their individual work.

The training started with a focus on building understanding of the needs that require to be addressed. Involving key team members who were working on the specific challenges has been key to building team investment and having technology champions in every team. A significant amount of feedback we received during our prototyping phase was on the absence of usable insights that could guide

every team member who was using these tools. Prototyping has played a pivotal role, enabling us to pilot solutions, comprehend their nuances, and refine them before scaling. Crucially, we have made rapid decisions, swiftly rejected ineffective solutions and embraced those that are effective. Furthermore, we have designed tools with an eye on the future. This helps in ensuring not just immediate scalability but also long-term sustainability.

Lessons learned: a guide for others

Our journey provides some insights for other organizations embarking on the path of technological integration. We share a few of these here.

Prototyping for precision: The creation of in-house prototypes and their subsequent piloting is a foundational step. Properly understanding the tools ensures well-informed decision-making, be it guiding tech partners or selecting the most suitable product for the task at hand.

Team training and investment: Investment in comprehensive team training is pivotal. It is important that every team member comprehends and embraces the technology. Collective investment among team members can become a cornerstone of the technology's success.

Swift rejection, swift adoption: The ability to swiftly identify what does not work is as crucial as recognizing what does. Our agility in rejecting inefficient solutions expedited our journey toward adopting impactful tools. The pace at which we made decisions paved the way for the swift adoption of effective solutions.

Building for scale: We approached the construction of tools from a lens of scalability, even when operating on a relatively modest scale. This has proved to be invaluable. Solutions that are robust and scalable are indispensable for long-term success. This is especially true in the dynamic landscape of technology.

Despite the absence of significant funding, we have found strength in collaboration and volunteering. We have joined hands with tech companies like EdZola. This has helped us build the tools. Volunteer communities like DataKind, have helped us to work with experts from data science and other relevant fields. They have helped us build some of our tools and form relationships that have proven instrumental in our technological endeavors. This collaborative spirit has helped us build tools that we believe can create enduring change. They have already helped us build a niche for ourselves with the states and local governments we work with.

As we continue our mission to transform education in India, we strongly believe that the correct use and adoption of technology will go a long way in making our programs powerful.

Mainak Roy is the co-founder and CEO of Simple Education Foundation (SEF). They work with governments to build state-wide training programs for schoolteachers and principals to make learning in public schools across India more engaging and impactful for children.

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Navigating a constrained space: i-Saksham's tech journey

Aditya

Introduction

Addressing IT challenges can be likened to the pursuit of nourishing the body with wholesome sustenance. It necessitates a thoughtful consideration of requirements, blending a nutritious assortment of pertinent elements, and crafting a delectable concoction palatable to the intended audience. Moreover, this process continually evolves in parallel with the growth of the individual concerned.

In a similar vein, guided by organizational requisites, it becomes imperative to devise a fitting blend of IT solutions, ensuring their acceptance by the team, while nurturing aspirations for the platforms to evolve harmoniously in step with changing needs.

The choices made during an organization's IT journey wield substantial influence over its systems, procedures, culture, outcomes, and overall impact. Therefore, organizational leadership must commit significant resources to transform the IT architecture into a force multiplier for the entire enterprise.

In the eight-years journey of i-Saksham Education and Learning Foundation (i-Saksham), we have experienced multiple IT solutions. I will be sharing the journey and the lessons thereof, in this article, with the hope that it helps other organizations using IT to force multiply the impact.

i-Saksham's journey

As an idea, i-Saksham started during our Prime Minister's Rural Development

i-Saksham

i-Saksham's present IT solutions mix

Program element	Tool/Platform	Data to monitor/analyze
Edu-leader selection process	• Bitrix CRM • Bitrix Projects • Google Workspace	• Mobilization to completion funnel
Edu-leader capacity building	• In-house web-based MIS • Moodle • Google Workspace • Duolingo App • KhanAcademy App • Zoom	• Training attendance, feedback and related information • Edu-leaders' growth on Knowledge, Skills and Attitudes
Edu-leaders' leadership progress and children's education	• In-house web-based MIS • Google Workspace • TickLinks • MobileVaani • Social media platforms	• Edu-leaders' progress on the leadership tracks • Children's attendance; progress on learning outcomes • Community mindsets and beliefs • Stories of change
Overall program management	• Bitrix Projects • Bitrix Collaboration • SumHR • Google Workspace • Tally	• Task completion • Compliances • HR management • Budget management • Program communication
Alumni engagement	• In-house web-based MIS • Bitrix CRM • Google Workspace	• Alumni personal progress • Keeping alumni informed of developments

Fellowship (PMRDF) days in 2013. In the fellowship, we were experimenting with the use of low-cost tablets to improve learning outcomes in children. We had won an innovation challenge by National Skill Development corporation to skill youth in basic tutorship and digital literacy. i-Saksham was formally incorporated as a not-for-profit in March 2015.

At the outset, we were clear about not making expenses on IT solutions till we were clear about the final shape of the solutions we want and have explored free and open-source solutions available in the ecosystem. The clarity was rather forced by constraints. We had very limited funds outside of the project funds. Those days, very few organizations would fund you for technology. Further, as an organization, we were evolving by the day. We knew that as an organization, we would keep learning and modifying our model and our IT systems would have to keep supporting this evolution.

Phase I - 2015-2016; single data source: In this initial phase, we focused on training youth in the villages of Jamui and Munger districts in Bihar. Our program spanned three months and centered on basic pedagogy and digital literacy. The objective was to empower these individuals to improve children's learning outcomes while enhancing their own educational and career prospects.

i-Saksham

The activities encompassed candidate mobilization and training. Data collection was centralized. We constructed a user interface based on Microsoft Access, linked to MS Access database.

Phase 2 - 2017-2019; building on no-cost resources: The previous model failed to yield the desired transformation. Consequently, we pivoted and introduced a two-year fellowship model that demanded substantial investment in the development of youth and the facilitation of improved learning outcomes for children. The IT team was tasked with creating a transparent, real-time data flow system to foster data-driven decision-making among stakeholders.

Thanks to Google, we acquired a subscription to Google Workspace for free. We integrated this into our ecosystem. Each fellow had a dedicated Google sheet for managing data related to children. A range of Google Forms were deployed to feed data into Google Sheets. The data was visualized through a Google Data Studio Dashboard. We extended our reporting beyond high-level dashboard summaries. We started generating reports that provided valuable insights to the on-the-ground team in their day-to-day activities.

Monthly reporting was facilitated by a VBA (Visual Basic for Application) Macro. It consolidated data and delivered relevant analyses to the team. Given our team's size, which remained below 20, auxiliary software tools were not a primary concern. Except for core data management, most other functions were managed through spreadsheets.

Phase 3 - 2020-present; expansion and consolidation while staying low-cost: Our organization expanded from 17 fellows in 2017 to 100 fellows. We began to feel constraints within the existing setup. We had long envisaged the development of a centralized Management Information System (MIS). However, the associated costs had hindered our progress. Many cloud-based solutions were cost-prohibitive on a per-user basis. This was a scenario we aimed to avoid. Fortunately, the Force for Good initiative by JP Morgan Chase emerged as a blessing. It afforded us the support of a diverse team

with expertise in building IT solutions for non-profits.

This initiative covered problem analysis, solution scoping, platform research, development, testing and handover. It mirrored the processes typical of a client engagement. We seized this opportunity to construct the long-awaited MIS for i-Saksham. Through three cycles of engagement with the Force For Good project, we established a web-based MIS with a monthly cost of INR 2,500, for the Vitual Prive Server space cost on Godaddy.

Support from Tata ProEngage, an initiative by the Tata Group, also proved invaluable. It provided access to professional volunteers for designated projects. Details about some of these IT volunteering programs and other resources are outlined in Table 2.

We subsequently employed IT platforms to enhance various aspects of our operations. These include selection of Edu-leaders, HR processes, accounting procedures, project management, team engagement, support fund management, inventory management, and more. Selecting suitable platforms presented a formidable challenge, given the abundance of options. Our aim was to minimize the number of apps that our team members needed to navigate, leading us to select Bitrix24. It is a cloud-based platform that encompasses CRM, project management, workflow management, team

Some useful avenues of IT related help

Avenue	Description	Points of suitability
Tata ProEngage tataengage.com/AboutProengage.aspx	Tata group across the globe offers time to specified projects for 3-12 months. Not restricted to IT. And you get tenured, skilled professionals to help you.	You should have clarity of the project and the kind of resource you need. The team anchor for the project must commit time to get the delivery.
Force for Good	JP Morgan Chase brings a full-fledged client service team to help you build your solution over almost half year cycle	You should have clarity about the problem. The team helps you build the solution. Build team absorption capacity to use the solution.
Benevity volunteering	Works if you have FCRA. Individuals help you with your specific problems.	Same as 1.
NASSCOM BigtTech	Works if you have FCRA. Provides access to subsidized solutions by various organizations (e.g., Zoom, Adobe)	You should be clear about long-term need and value addition of software being bought. You should have mentors and resource persons to help you utilize the resources optimally.
AWS/Google/Microsoft for Non-profits	Works if you have FCRA, except AWS. Google workspace, AWS, Azure credits to help the non-profit use IT resources as required. Helps reduce overall costs.	

intranet, and more in a single package. Initially, our subscription did not impose any user limits.

However, it took time to realize that Bitrix24 required a more tech-savvy audience. Initially, our intention was to develop everything within Bitrix workflows. However, we eventually recognized that, for standardized problems, off-the-shelf solutions were more time efficient. As a guiding principle, we would first test any process change within smaller groups. We would subsequently expand it to larger groups over a period of six months. This ensured that a refined understanding of the process preceded the development of an IT solution. Until that point, these functions remained rooted in spreadsheets and Google Forms.

What we could have done better

Reflecting on the journey so far, we could have avoided certain mistakes. We share some examples here.

Fitting context to the solution: In the early days, we got an app for free. The app was being used to track candidates attending skilling programs sponsored by the government. We had to adjust a lot of variables to suit the app structure. However, making a small change and analysing the data out of the app was too complex. After some months of struggling to cope up, we gave up.

Too much too early: Bitrix24 is a useful one-in-all platform covering majority of the organizational functions and workflows for those which need customization. However, more than 70% of our team members were early users of smartphones. They are having difficulty in picking up all the features offered by Bitrix24. Eventually, we had to make do with using only those features which the majority of team members could easily pick.

Delaying outsourcing of the solution building process: In the early stages, I took it upon myself to build solutions in-house. Even with the MIS built by JP Morgan's team, we relied on looking for the next cycle to do the next phase of the development. Outsourcing it earlier may have helped the team to avoid using multiple platforms. But it was a cost vs efficiency call, and we chose cost, to be realistic.

Thus, overall, timing, content and fitment, all are important while choosing the IT solution.

What lies ahead

The delivery model for i-Saksham's impact continues to evolve based on our experiential insights. Over the past two to three years, we have identified program elements that will facilitate the expansion of i-Saksham's impact. As our organization grows, IT plays a pivotal role in supporting our team's learning, growth and more effective delivery. We are also exploring avenues to enhance our solutions, particularly leveraging Generative AI to promote the cause of i-Saksham more efficiently and effectively.

So next 1-2 years would be spent in consolidating what we already have, to make it more relevant for the team. We will also undertake research and experiments with Generative AI and other similar avenues to help scale and intensify the impact. Thankfully, we have got funding support specifically for building IT solutions to scale.

What we have learned from our journey

The IT journey of any organization is an ongoing, ever-evolving process. Allow me to share some of the valuable lessons we have garnered throughout our voyage, with the understanding that these insights are context-specific, influenced by the nature of our organization, its stage of development, size, and available resources.

Build the menu, not the dish: When formulating your IT strategy, it is essential to align it with your organization's current priorities, rather than attempting to force-fit solutions to meet your needs. Start with a

blank canvas and thoroughly understand your organization's requirements, identifying areas where IT can truly make a difference. Equally crucial is recognizing where you can afford to offer no immediate solution at your current stage. Clarity on what aspects you can be merely adequate at, and where you must excel, will help set accurate expectations. Ensure that end-users of the proposed solutions have a voice in these discussions, fostering alignment and acceptance among stakeholders while ensuring timely access to necessary resources.

Ready-to-eat vs. fine wine: In the realm of social impact, driven by the ever-shifting landscape of societal needs, achieving absolute clarity regarding your IT solution is often an unattainable goal. To navigate this dynamic environment, you must segregate your needs into two categories: core and experimental. Core needs demand a carefully tailored solution, while experimental needs are areas where you can afford to experiment and fail quickly. Employ a lean, dedicated team for experimental initiatives and expedite their deployment before your attention shifts elsewhere. Learning from these experiments will guide you in determining the nature and necessity of a more robust solution.

World is back to millets - maintain belief in cost-effective solutions: It is essential to maintain unwavering faith in your capacity to build no-cost, low-cost, or manageable-cost IT solutions for your organization. Throughout your journey, you may face temptations to settle for whatever solution comes your way rather than holding out for what's truly needed. This steadfast belief will sustain your patience during such trying times.

Seek assistance from the ecosystem, but be the head cook yourself: We made the mistake of delaying the implementation of an MIS due to a lack of committed funds, causing unnecessary challenges for our team. The IT landscape is rich with beneficial initiatives

i-Saksham

and support. Continuously search, reach out and seek assistance. Focus on what you excel at and outsource what others specialize in.

Cultivate absorption capacity: Developing an IT solution for your team is vital. However, fostering your team's proficiency in utilizing that solution is equally crucial. Your team members will have varying levels of technological expertise. Investing in their growth and comfort is the path forward. The IT leader should dedicate 20%-40% of their time to these activities. These must include regular capacity-building sessions and feedback mechanisms to ensure optimal adoption and usage. Furthermore, to stay updated with the latest advancements, continue learning from various sources, people and networks.

In conclusion, our journey has taught us that the path to effective IT solutions is a dynamic and ever-changing one. By adapting to the unique context of your organization, staying nimble, and maintaining a strong belief in your ability to find cost-effective solutions, you can harness the power of IT to amplify your organization's impact. Seek support when needed, and invest in both your IT infrastructure and the skills of your team to ensure a successful IT journey.

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Connect on:

Creating a supportive ecosystem for caregivers

Engaging social resources with technology

Prachi Deo and Ankur Singh

In the remote town of Indrapur in Uttar Pradesh, Sandhya, the mother of a child with intellectual and developmental difficulties (IDDs), faced profound challenges when she encountered them in her child's early years. The lack of awareness and guidance in her community led her to unverified solutions. This caused her to fall prey to deceptive quacks that drained her limited resources. Schools did not admit her child and she was left alone to provide him with round-the-clock care and support his development. As if this was not enough, the weight of societal judgment bore down. Her in-laws blamed her for her child's condition. Her husband abandoned her, leaving her alone to care for her child.

As the incident shared above shows, families impacted by Autism, Down Syndrome, and other developmental disabilities struggle to find the right schools and services for their children who in many cases are non-verbal and unable to fend for themselves. They run pillar to post in search of verified information. They are often duped by quacks who promise them non-existent cures for their child's condition.

The gap

Despite 50 million children at risk of developmental disabilities in India, there is a severe lack of awareness. Information is not easily available. Families needing information have no support. This leads to delayed diagnosis and reduced uptake of services, which are critical for the child's development. Families are, thus, unable to actively contribute to the child's development.

Nayi Disha

These challenges, distinct from those of physical disabilities, manifest as a lifelong journey of complex decision-making for parents. Unlike physical disabilities, these conditions affect the very core of their child's cognitive and behavioral functioning. The impact on families is profound. They often find themselves navigating a lifelong journey of support and care.

Everyday decisions can be complex, from educational choices to healthcare and therapy options. Moreover, the challenge of fostering independence, while ensuring the safety and well-being of their child, is a constant concern. The emotional toll on parents is significant, as they strive to provide the best possible life for their child, while coping with the uncertainty and unique demands that come with developmental disabilities.

Moreover, finding the right professional to guide the family in the appropriate direction often becomes a tenuous activity. These professionals bring specialized expertise, offering tailored interventions addressing

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the unique needs of each child. These interventions can potentially address the everyday needs in the journey of the development of a child with intellectual and developmental disabilities.

A 2019 study shows India has only 5,000 occupational therapists[1]. The challenges for a parent don't stop here. The lack of awareness and abundance of common myths in the common populace hacks away at any sort of social support. This has become a major contributor to 50% of parents with children with disabilities facing severe psychological distress in India[2]. Along with the inadequate number of professionals, for parents like Sandhya living in non-metro locations, finding a professional for their children and a supportive and affirming social support system becomes a challenge.

In focus group discussions conducted by us with families in different parts of Hyderabad, they seemed to resonate with our understanding of the challenges involved. In their own words, families mentioned that the early years after any diagnosis were like a haze, almost like walking in the mist. In addition to the lack of timely and verified information, families also mentioned the isolation in the caregiving journey and the lack of social support.

To think of a platform sans technology (that would understand the gamut of challenges at a macro scale and help counter the daily challenges faced by families) would have been an arrow in the dark.

Why ICT?

Access to information is the starting point for any intervention. Considering the growing access to informational networks, it is imperative to include technology right from the beginning of our interventions in this space.

Futuristic solutions for scale: The statistics around internet penetration were 21% when we started with the idea. Today, the data indicates more than 50% internet penetration in India, with a prediction of 900 million users in the country by 2025. One workshop could reach 50-100 families at a time. However, a digital platform can reach families breaking geographical boundaries.

One-stop solution for verified information: To provide holistic support to parents and caregivers, the solution is required to be all-encompassing. This means information about the condition, therapeutic know-how, and government schemes at every stage of their child's development and information about available services with their contact details tagged by location and age-group.

Breaking mobility barriers: The caregiving needs of a child with a disability often bind the families at home. Discrimination and accessibility barriers in social spaces make it even harder for them to reach out for support. With ICT solutions, information can be

brought to the fingertips of families from the comfort of their homes.

For parent like Sandhya, verified information, help at the fingertips and judgement-free support becomes important. It would help all those parents on a similar journey, if they have a support system walking with them in the journey of their child's development.

Critical factors to consider while building an ICT solution

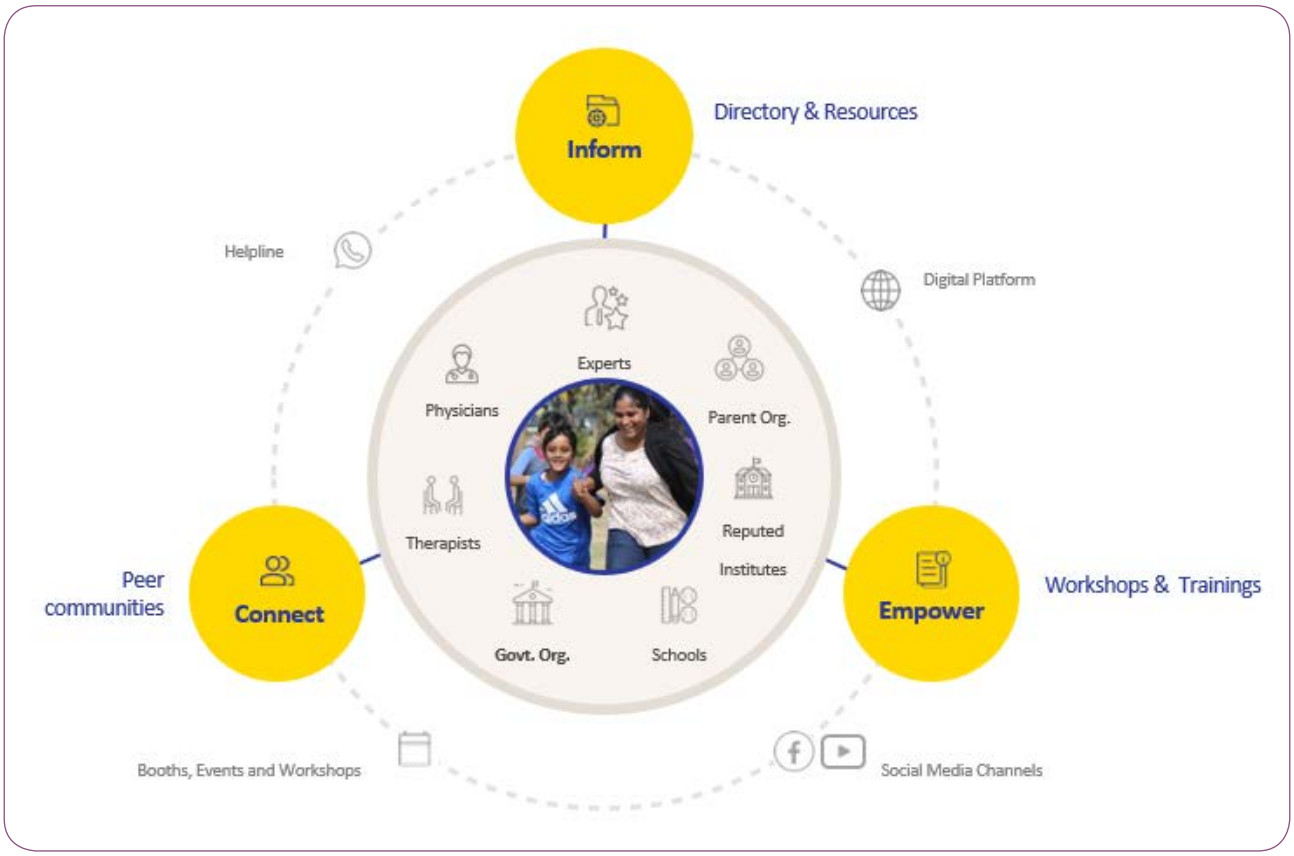
Accessibility, availability and acceptability are they key concerns at hand while building an IT solution**.** The internet penetration numbers can seem exciting on the surface. However, some ground realities must be accounted for while planning any intervention. Many households might have only one phone that can be accessed by the family after the male breadwinner returns home.

Anytime access through ICT can ensure that families access information at their convenience. There has been a significant growth in accessing information. However, most seek infotainment through social channels such as YouTube, Instagram, WhatsApp and Facebook. Additionally, in a country as diverse as India, it is pivotal to provide information in the language of choice for the families.

Family caregivers provide life-long support, and the journey can get isolating. Emotional support, and knowing that one is not alone, can help motivate families and provide a sense of belonging to the community. This is where WhatsApp community groups can play an important role.

The ICT solution to leave no family behind

Considering all the above factors, Nayi Disha developed a unique platform comprising a mobile progressive web application with verified information and resources, expert networks, and a multi-channel helpline available through WhatsApp chatbot. The platform acts as a repository for all the information to bridge the accessibility gap. Credible information is also being



Nayi Disha

disseminated through all available social media platforms to build more awareness around IDDs. These include YouTube, Facebook, WhatsApp and Instagram.

Nayi Disha also hosts its support groups on WhatsApp to connect, share experiences, and offer mutual support. ICT has played a transformative role in enhancing these connections. It has made it easier for parents facing similar yet unique challenges to find one another. The resources of the website are also available in printed format for families that will not be able to access the internet.

Technology remains core to our work. It is truly an enabler to help us reach families across the country. The following are the services available through the Nayi Disha platform.

Access to verified and curated information: 700+ published articles in English, Telugu and Hindi have been made available. These include crucial evidence-based information across life stages on Autism, Down Syndrome, and other developmental disabilities, regarding therapies, education, home management, and future planning. We have also translated the information resources into three languages - English, Hindi and Telugu. Through these translations, we have taken care to break the medical lingo and jargon into easy-to-understand snippets. The interventions have helped in reducing parents' challenges.

Addressing the gap between professionals and families: An ecosystem of 4,800 providers of services required by children with Autism, Down Syndrome, and other conditions from 250 towns have been tagged on the platform, with geo-location. Parents can also provide feedback and reviews.

Social support for families: The platform also has 28+ support groups based on location, conditions, and age group on WhatsApp.

Access to support through helpline: A competent team of special educators, counsellors, and social workers that cater to various queries on the phone and the chatbot. Since the inception of our Helpline in 2020, we have received 12,500+ queries to date. We have gotten one step closer to families and made our services more accessible for all parents through the WhatsApp chatbot integration.

Training the parents to complement therapeutical intervention: Saksham is an offline and online 8-session parent training program in Hindi. It has been designed for parents of children aged 2 to 13 years. These modules address key areas like managing behavior, enhancing communication skills, ensuring child safety, and promoting awareness of parental rights. Parents are trained through these sessions to be empowered and self-sufficient, to provide necessary support to their children, and complement the impact of therapies.

Challenges faced

In the long run, technology stands as the most sustainable pathway for bringing transformative change to families with children with disabilities. While traditional methods of support and intervention are essential, ICT offers a scalable and enduring solution that transcends geographical barriers. However, there have been a few challenges along the way. We share these below.

Funding: Funding agencies have traditionally made grants for early childhood, early intervention, and mostly skilling-based initiatives, as far as developmental disabilities are concerned. For a long time, it was very difficult to convince the funders about the true impact of an ICT-based solution such as ours, and the need to invest in public goods, which can have long-term implications. The COVID-19 pandemic underscored the potential impact of digital solutions and the role of caregivers in the disability inclusion space.

CSR focus: Funders and donors often hesitate to back tech-focused non-profits, when the impact isn't immediately evident, as opposed to supporting other non-profits where qualitative data presents immediate results. While, for-profit tech companies invest heavily in building their ventures and typically maintain substantial teams, our challenge as a tech-based non-profit often revolves around remaining bootstrapped. Also, it's not just about creating ICT solutions. These solutions also need to be supported with adequate effort on social media, search engine optimization, and search engine marketing to improve the uptake of the platform. This requires constant effort and financial support to do so.

Technology talent for non-profits: It is practically impossible for non-profits to hire technology talent, as non-profits cannot compete with the corporate salaries of technology firms. This was, and remains, an ongoing concern. However, a lot of social good entrepreneurs have started initiatives that specifically support the technology needs of non-profits, which makes us hopeful.

In conclusion

Through digital platforms, families can access specialized resources. They can also connect with support networks and acquire valuable knowledge and skills. All of these empower them to provide ongoing, tailored care for their children.

Moreover, digital advocacy and awareness help in spurring societal shifts that recognize and accommodate the unique needs of individuals with disabilities. This technology-driven empowerment improves the immediate well-being of these families. It also ensures a sustainable and inclusive future where every child can thrive, regardless of their abilities.

Today Nayi Disha has reached 4,50,000 people through the platform. It has a community of 30,000 families that have availed various Nayi Disha services through the varied channels. We believe that the unique marriage of technology and community has helped us at Nayi Disha to reach families and parents with the support that they deserve.

Sandhya is one such parent. She discovered "Nayi Disha" with new hopes. Although early intervention opportunities had passed, the counsellors at Nayi Disha's helpline provided emotional support. They also connected her with knowledgeable professionals, leading to her child's' diagnosis of Autism. Through Nayi Disha's WhatsApp support group, Sandhya found solace in the company of parents who shared a similar journey as hers. She learned valuable techniques to cater to her child's unique needs, though the question of her child's future after her remained uncertain. Sandhya's story underscores the resilience of a mother, the power of community, and the transformative impact of ICTs, illuminating a path of hope and determination in the face of adversity.

End notes

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Connect on:

Empowering frontline services and bridging gaps

A tech journey for impact

Mohit Saxena and Anamika Verma

"Harnessing the power of digital technologies is essential for achieving universal health coverage. Ultimately, digital technologies are not ends in themselves; they are vital tools to promote health, keep the world safe, and serve the vulnerable." - Dr. Tedros Adhanom Ghebreyesus, Director-General, WHO (April 2019)

As the world becomes increasingly connected and digital, the role of technology in revolutionizing crucial sectors like healthcare, education and nutrition, etc. cannot be underestimated. There is a growing recognition that technology has the potential to transform economies, create jobs, and improve livelihoods. Healthcare challenges, for example, in low- and middle-income (LMICs) have been the focus of many digital initiatives. These have aimed to ensure consistent implementation of these services. In this piece, we will highlight our ongoing efforts and initiatives towards empowering frontline workers, the potential to extend digital solutions to diverse sectors, and the inclusive, decentralized approach we adopt.

Harnessing digital technology for positive social change

Dimagi, as a social enterprise, has been working toward meaningful impact by facilitating frontline work through scalable digital solutions and services. We use the term "designing under the mango tree" to emphasize the need to involve all stakeholders, including partners and the end-users, in the design process. This ensures that frontline workers' perspectives are valued and amplified. This is a crucial step that often gets missed in the design process.

CommCare, our flagship product tries to harness user-driven innovations. It strives to remain a scalable, sustainable and contextually relevant tool. We are a certified Benefit Corporation. In USA's corporate law, a Benefit Corporation is a for-profit corporate entity whose objectives include positively impacting society. We have teams in the USA, India, South Africa, Senegal, and elsewhere around the world. We have supported over 3,000 digital programs in over 130+ countries. In 2021 alone, we supported over 120,000 active FLWs (frontline workers).

Navigating a technological landscape in flux, we see the need to develop solutions suitable for the present environment and adaptable to an uncertain future. We are encouraged by new technologies such as using AI to detect pneumonia from audio clips of coughs. Digital technology also promises help to provide mental health services without expert therapists.

Dimagi

These all have the potential to improve outcomes and in turn, well-being. It's worth taking risks on such technologies, even if there are no guarantees they will pan out. We believe in placing substantial bets on these technologies, while applying them thoughtfully and realistically to help drive major improvements in closing the service gaps.

While we aspire to ambitious goals, we also acknowledge the value of taking incremental steps towards realizing a grand vision. We advocate for a "crawl, walk, run" approach to digital technology in general, and data use in particular. In this approach, programs must first establish a foundation of consistent technology use before venturing into more advanced technologies.

We believe that inclusive technology is open-source, is designed for low-literate users, and works in environments with limited internet connectivity. The offline capability of our software platform, CommCare, is particularly critical. This is because it serves markets where connectivity is not assured. This enables frontline workers to provide uninterrupted care in remote, disconnected areas.

Maintaining an offline-first software platform, despite its complexity, is essential for our mission. For us, it's a necessity for FLWs to serve their clients in remote villages, working for weeks without connectivity. Similarly, we maintain CommCare as a "no code" platform. This significantly expands the number of users who can build their own applications.

CommCare's support for the advancement of frontline workers, many of whom engage in demanding work for minimal or no pay, is underpinned by numerous studies that highlight its positive impact on their legitimacy. Therefore, we advocate for smartphone use in the context of work, and for non-work-related utilization of these devices to support FLWs' health, in line with our commitment to their holistic well-being.

CommCare Connect - empowering frontline workers

Dimagi's CommCare Connect initiative is a significant milestone in our journey. It is underpinned by a $25 million investment from Steele Foundation for Hope. This initiative aspires to empower Frontline Workers (FLWs) in low and middle income countries (LMICs). It enables them to learn, deliver, verify, and be compensated for high-impact interventions.

On top of their heavy workloads, FLWs typically have limited training and support. CommCare Connect aims to put more money into the hands of local actors. This would allow interventions to be more efficiently delivered where they are needed. The goal is to catalyze their impact at scale, while leveraging existing health resources and contributing to local economies.

In the long-term vision, individual workers can access opportunities through free accounts on CommCare Connect and participate in vital interventions like vaccine campaigns and educational programs. Each opportunity on the platform will specify a mobile application for correct and verifiable intervention delivery, ensuring timely payments to workers.

Dimagi's partnerships with organizations in India and Africa have been instrumental in implementing child health campaigns to children in the age group of 6-59 months. These campaigns, focusing on interventions like Vitamin A supplementation, deworming

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delivery, and malnutrition screening, are an economical, yet vital, intervention. These help in saving lives among malnourished children.

We initiated pilot interventions in collaboration with Cohesu in Kisumu, Kenya, and LiveWell in Lusaka, Zambia. We are pleased to announce that these organizations have successfully delivered one round of Vitamin A supplementation and deworming to 5,000 eligible children in their respective areas.

As we progress, we are committed to moving from these smaller milestones towards large-scale implementations. In partnership with C-WINS in Katsina, Nigeria, and SANMAT in Jharkhand, India, we are working to provide these essential supplements to 80,000 children by March 2024.

WellMe – a digital solution for FLWs' well-being

The crucial roles of FLWs often come with heightened levels of stress. When not managed successfully, this work-related stress can lead to burnout. This manifests as exhaustion, mental distance or negativity towards one's job, and reduced professional efficacy. Unfortunately, burnout is prevalent among FLWs such as healthcare providers.

To address this issue, we have introduced WellMe. It is a well-being and resilience building application, specifically designed to promote resilience-building behaviors and prevent burnout among FLWs. Grounded in the evidence, it's clear that resilience is a learned skill that can prevent burnout.

WellMe helps FLWs develop healthy routines such as self-care, stress management, and connecting to others. It uses a combination of evidence-based learning materials and practice activities. It is designed for all frontline workers across sectors including delivery partners, health workers, and drivers. All of these groups of FLWs are likely to be smartphone-equipped.

The development of WellMe has been a journey spanning nearly three years. It has been characterized by formative work conducted in close collaboration with FLWs and partners. Johnson & Johnson Foundation has been a key supporter of our formative work on FLWs' resilience since 2020.

As part of this consortium of organizations, Dimagi has helped develop and test the Resilience Message Program. This is an evidence-based, free and adaptable set of messages designed to increase health worker resilience.

Dimagi is conducting pilot studies to test two hypotheses. The first one is that substantial use of WellMe will enhance FLWs' well-being. The second one is about our ability to foster the use of the WellMe platform.

The pilot projects are ongoing in India and Nigeria. We have also introduced a WellMe Beta Testing Program toward collecting feedback from FLWs. This will lay the groundwork for making WellMe available to FLWs at scale across LMICs.

It has been gathered that customized videos, especially custom-animated ones, are preferred over public domain content. The cost of mobile data was a significant obstacle for users in Nigeria and Uganda. This highlighted for us the importance of offline access.

FLWs desire improved two-way communication within the app. This feedback has prompted us to start exploring ways to leverage large language model (LLM)-powered chatbots to provide this two-way communication channel at scale.

The vision for WellMe extends to making a positive impact on millions of FLWs in healthcare and other sectors, such as last-mile delivery, facility management, and gig workers, over the next decade. Our journey toward WellMe reflects our commitment to address the well-being of those who tirelessly serve their communities.

Extending solutions to other sectors like education

While our journey was initially centered on healthcare and nutrition, we realized the potential in extending similar solutions to various other sectors. Dimagi has acted as a technical lead and has partnered with in-country implementation leads across numerous sectors with a clear aim to enhance efficiency, efficacy, and our ability to make a meaningful impact on the communities we serve.

In the domain of education, empowering educators and education systems through technology holds the potential for positive transformation. Through effective data utilization, optimized resource allocation, and enabling personalized learning experiences, we envisage a future where education becomes more accessible, equitable and efficient.

Mobile tools present an avenue to enhance service quality, enrich decision-making processes, and bolster accountability in education. Potential use ranges from monitoring teacher development against personalized plans to tracking and benchmarking school and student performance against local and historical averages. We can also potentially track teachers' growth against personalized plans and record and compare school and student performance to local and past averages.

Mobile tools can help to improve quality of services, inform decision-making, and strengthen accountability. Within this landscape, Dimagi has an array of CommCare based products. These have been developed involving continuous assessment of needs and the feedback of users who have helped us shape the solutions.

CommCare offers features to strengthen teacher professional development programs. It does this by equipping instructional coaches with mobile tools. These can monitor teacher performance and provide individualized support by monitoring schools' performance and attendance. These can also help in tracking progress, standardized assessments and learning outcomes, and instructional coaching.

Partnering for educational change

Banyan Global has partnered with Dimagi to create an SMS-based system. This is a journey that was initiated by a need for better program engagement and linkage to employment and education resources for youth. The development process involved building automated, personalized messaging based on registration and course data from the Moodle platform. The project begins as a pilot aiming to enhance course completion rates, employment outcomes, and program retention while reducing attrition and migration among the 2,500 participants.

Dimagi has partnered with Plan Canada for the Primary (School) Access through Speed Schools + (PASS+) Project. The goal of this collaborative intervention has been to extend the reach of education to 180,000 out-of-school boys and girls, aged 6-14, across 15 regions in Burkina Faso, Mali and Niger. The PASS+ CommCare application tracked out-of-school children by identifying, registering and tracking them at Speed Schools and Primary Schools based on the tools developed and tested by Plan Canada. The app identifies and maps out of school children (OOSC). It creates child profiles to track attendance, progress, transfers and registration into a primary school the following year.

Save the Children Thailand, has used CommCare to track student attendance in schools along the Thai-Burmese border, making a difference for over 100 users. In Sierra Leone, the International Rescue Committee (IRC) adopted a CommCare app to monitor school performance and track student attendance across 450 schools, impacting 15,000 students. Field workers

Dimagi

could enter data in real time for supervisors to assess schools' performance on relevant indicators. Dimagi is also venturing into Large Language Model (LLM) based chatbots that have sector-agnostic use cases. Early applications have shown these to be helpful in training and development and client servicing. LLM-based chatbots can be extremely useful in the education sector use cases as well.

Closing thoughts

In this tech-driven era, Dimagi is on a mission to empower FLWs and bridge critical gaps in sectors crucial to human well-being, from healthcare and education to nutrition and mental health through technology. However, we won't achieve the desired impact if we build apps that lead to radical improvement but cannot scale or be sustained. And as we scale, we must continue to put in the groundwork to ensure that we are continuing to improve well-being.

Looking ahead, we eagerly anticipate the continuous evolution of technology. We will explore AI applications and other technologies for our tools. We firmly believe in embracing emerging technologies while ensuring thoughtful integration, to drive improvements and bridge service gaps. Dimagi's journey is a testament to our commitment to inclusivity. We will continue to advocate for open-source, low-literate user-friendly, and connectivity-flexible technology, which can make a lasting impact in a rapidly advancing digital landscape.

Mohit Saxena has worked in the development sector for the last 11 years specializing in partnerships and relationship management. He has led business development and product verticals in the past across public education and Agri-tech. He is currently managing the Mental Health Portfolio of Business Development for Dimagi India.

Anamika Verma has over seven (7) years of experience in operations and strategy. She currently works as Division Operations Associate at Dimagi and can be contacted at anverma@dimagi.com

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Using ICTs for educational change

Samuhik Pahal Team

ICTs are not a panacea for all our educational problems. However, they have a role (sometimes limited, and on other occasions, expansive and critical) to play in addressing some of the most intractable issues in the domain of education.

In this piece, we share with you some ICT resources that can potentially help educational non-profits work more efficiently to serve their target communities in a more effective manner.

Some of these resources/programs are about accessing commercially available software either for free or for a discounted fee. Some others involve using platforms built on open-source technology to create one's own interfaces and tech-enabled interventions. Some can help in streamlining organizational work by using software or platforms that specifically target non-profits.

We have also included here instances of NGOs using ICTs to better serve underserved communities such as CwDs. We hope that these resources help you in making choices that are better informed.

BigTech Software Donation Program

Organization: NASSCOM Foundation

Nature of the resource: Information, communication and office tools

NASSCOM Foundation helps Indian NGOs achieve greater impact by making relevant technologies affordable to them. The BigTech Software Donation Program supports NGOs with donated and discounted technologies. It does this for an administrative fee that is generally less than 90% of the market value of the technology. This is made possible by the generosity of the technology donor partners of NASSCOM Foundation.

Curated tools

Nature of the resource: General, multipurpose

The link provided above contains a curated list of FOSS (free and open-source software), freemium tools and guides that are relevant for NGOs in their ICT journeys. These include operating systems, tools for collaborative decision making and social intranet, email, messaging, project management, publishing, broadcasting and streaming, content management system (CMS), data management, visualization, etc.

Digital literacy tools for the visually challenged

Organization: Vision Empower

Nature of the resource: Learning & development, Digital literacy

Digital literacy is a key skill for teachers and students with blindness. Vision Empower has been working with Microsoft India to create a curriculum for digital literacy for learners with visual impairment.

DIKSHA

Organization: National Council of Educational Research and Training (NCERT)

Nature of the resource: General, multipurpose, with a focus on learning and development

DIKSHA (Digital Infrastructure for Knowledge Sharing) is a national-level platform for school education, built on an open-source technology called Sunbird. It is an initiative of NCERT. It was launched in 2017. Meant for learners and teachers across the country, it currently supports 36 Indian languages. Users have the freedom and choice to design and run programs for various

stakeholders including teachers, learners and administrators. DIKSHA offers over one hundred micro services as building blocks to develop platforms and solutions. Some of the potential use-cases of the platform include creating online courses, composing content, content sourcing, making interactive quizzes, compiling question banks, chatbots, analytics and dashboards. Audio books and ISL (Indian Sign Language) videos are also available on DIKSHA for CWSNs.

ELEVATE (Energizing Leadership with Enhanced Visibility and Administrative Transformation towards Excellence)

Organization: ShikshaLokam

Nature of the resource: Admin-office, Project management, Education leadership

ELEVATE is an open-source technology project by ShikshaLokam. It is aimed at supporting the work of educational initiatives and enhancing the capabilities of education leadership. It uses societal platform thinking. ELEVATE's building blocks are meant for human development. These have been designed for scale and are under the MIT license. ELEVATE supports NGOs in their technology journeys. Toward this end, the ELEVATE team offers a range of support services.

Firki

Organization: Teach for India (TFI)

Nature of the resource: Learning & development, Teacher professional development

Firki is an online platform for teacher education created by TFI. It provides a large variety of resources for learning experiences in this space for teachers, pre-service training, school leaders, teacher coaches and other interested stakeholders. These resources are in the form of courses, webinars, learning paths and online learning circles.

commons.wikimedia.org/ Mattruffoni

Google Workspace for Non-profits

Organization: Google

Nature of the resource: Information, communication and office tools

Google offers some services completely free for eligible non-profits. These include professional email addresses at the organization's domain, 100-participant video meetings, 30 GB cloud storage per user, security and management controls and standard support. It offers other services at discounted rates.

MobileVani

Organization: Gram Vaani

Nature of the resource: Communication

Mobile Vaani is a social media platform for rural areas in the form of an Android app. It has an intelligent IVR (Interactive Voice Response) system. This allows registered users to call into a number and leave messages about their issues and communities. They can also listen to others' messages.

Registered users can contribute content, share the same over WhatsApp and Facebook, and forward it to mobile numbers. Images, links to YouTube, titles, relevant transcriptions and contributors' profile are available to be seen along with the items. This platform can be used by educational CSOs for their work as well.

Radio Mewat

Initiating Organization: SMART (Seeking Modern Applications for Real Transformation)

Nature of the resource: Communication

Radio Mewat is a community radio station located in Mewat. This district is one of the most backward ones in Haryana. Radio Mewat seeks to give voice to the voiceless in this backward community. Starting with two hours in 2010, the radio station now broadcasts 14 hours per day. Its programs cover several local issues and concerns. This has become a great example of how we can use an apparently "old" technology for addressing very contemporary concerns.

Software Donation Program, Microsoft Tech for Social Impact

Organization: Microsoft

Nature of the resource: Admin-office

As part of its Technology for Social Impact initiative, Microsoft supports non-profits in leveraging appropriate technologies to work toward social good through its Software Donation Program. Through this program, it offers low-cost/no-cost technology solutions for eligible non-profits.

StoryWeaver

Organization: Pratham Books

Nature of the resource: Communication, Learning & development, Children's literature

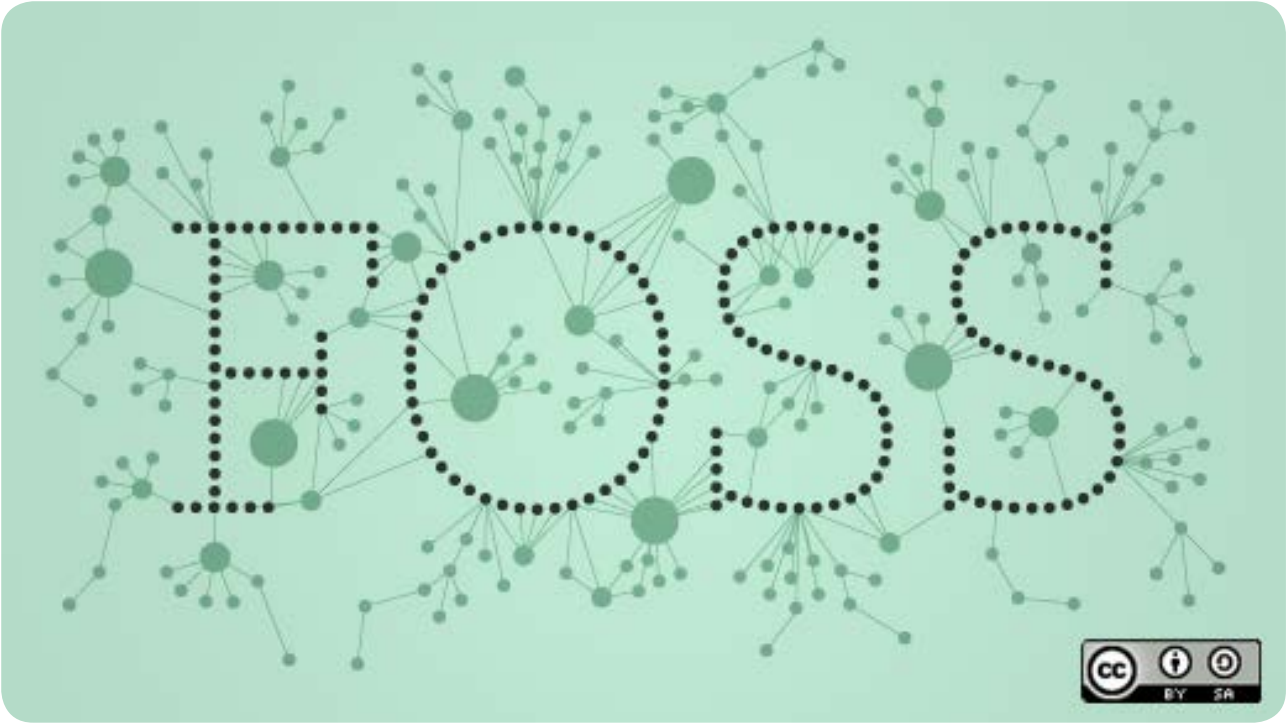
StoryWeaver is a platform created by Pratham Books in 2015 for creating and distributing books. It has been successful in taking books to disadvantaged children in whose mother tongues reading resources are not readily available. StoryWeaver acts as an online library of openly licensed storybooks. All the books available on this platform are available for being read online and offline. These books can also be downloaded, printed and repurposed. StoryWeaver is a good tool for creating new books for your reading communities. You can also use it to translate and create versions to customize already existing books for your own context.

The Managr

Organization: Vodaphone Idea Foundation

Nature of the resource: Project management

The Managr is a product whose goal is help digitize the project management cycle



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for non-profits. It has features for grant management, personalized dashboards for users, individual responsibility metrics, risk mitigation, milestone tracking, reminders for task completion, and others.

TISSx

Organization: Tata Institute of Social Sciences (TISS)

Nature of the resource: Learning & development

TISSx is the online platform of Tata Institute of Social Sciences (TISS), which offers the institute's resources and courses. Through TISSx, the institute's goal is to offer learners with opportunities for continuous learning and professional development. The platform was first trialled in 2016.

In its current avatar, it houses courses from three programs in education. These include: Reflective Teaching with Information and Communication Technology (RTICT); Post Graduate Certificate in Contemporary Education Perspectives and Research (PGC-CEPR); and, Master of Arts (Education). The courses on TISSx have gone through academic review. As a platform, TISSx fulfils the standards set by UGC-SWAYAM. Each course is announced separately.

Each course has a faculty and TA in charge. Older courses, and those not being currently run, are accessible on the platform's archive. Students/users can accumulate credits and work toward the relevant certificate, that are governed by the rules germane to the programmes.

TISSx supports learners through mobile-based communities of practice. You can access TISSx through desktops, laptops, tablets and mobile phones. The relevant app is downloadable on Google Play Store.

YouTube Non-profit Program

Organization: Google

Nature of the resource: Communication, Learning & development

YouTube's non-profit program aims to support non-profits in reaching out to supporters and larger audiences. It allows non-profits to link supporters to any external URL. YouTube Giving features can potentially help in fundraising. It can be used for advocacy purposes as well. The Creator Academy has lessons that specifically target non-profits.

ICT for NGOs

Aastha Maggu

Information and Communication Technologies (ICT) are increasingly playing an important role in the social sector, especially in education. This piece covers the endeavors of three very different types of organizations working in education—SeasonWatch, ASTHA and Vikramshila—in their utilization of ICT. SeasonWatch, established in 2010, is a pioneering citizen science initiative. It engages students and enthusiasts in observing life patterns of plants and trees across India. Leveraging ICT, SeasonWatch has evolved from manual data recording to a comprehensive online platform and mobile application. This has facilitated widespread participation and enables a deeper understanding of the impacts of climate change on plants' lifecycles.

ASTHA, an organization dedicated to empowering persons with disabilities (PwD) in Delhi's urban areas, has embraced ICT solutions to improve data management, provide digital infrastructure, and offer accessible learning tools like audio players and TalkBack software. Vikramshila, based in Kolkata, has integrated the Geneo digital learning application into their Nabadisha program, catering to children from marginalized communities. Each organization's unique approach demonstrates the transformative power of ICT in optimizing their operations and community interventions.

SeasonWatch

Initiated in 2010, SeasonWatch is a citizen science project spanning across India. Students and interested individuals observe the patterns of emergence and maturation of leaves, flowers and fruits of common tree species in India. SeasonWatch aims to bridge the gap in our knowledge by systematically recording the changing patterns of trees. This helps understand how climate impacts their lifecycle. The SeasonWatch team believes that by working in harmony with nature, they can contribute to the conservation of its bounties.

ICT has empowered SeasonWatch by making data collection more efficient, data management more effective, and information dissemination more widespread. It fosters collaboration, education and engagement. In the initial years, volunteers relied on pen and paper to record their observations. Gradually, they transitioned to uploading observations on the project's website. This made these patterns available to a broader audience. As more people gained access to the internet via their mobile phones, SeasonWatch launched a mobile application in 2016.

Geetha Ramaswami, Program Manager of SeasonWatch, states, "I believe the technological solutions in the project have evolved alongside global technological progress. When the project began, a major mode of communication was through a website. Over time, data digitization allowed for storing and curating information in a database. The website, initially designed as an information resource, evolved to facilitate user data contributions. With the advancement of smartphone technology, the option to upload data from mobile phones became feasible."

Information about tree seasonality is compiled and presented in the Explore section of the SeasonWatch website. It provides details on over 170 tree species currently under observation. Many of these species exhibit distinct seasonal features, including flowering, fruiting, and leaf fall

during specific times of the year. This tab also offers information on data patterns, including the number of observations, the most active volunteers, the species observed, etc. In the patterns section, visualizations of tree seasonality patterns across India are available.

The SeasonWatch team is supported by two members – Veena H T and Farheen Anjum – who are responsible for developing and maintaining the technology. They have observed a growing number of volunteers using the mobile application, in comparison to the website. The team maintains a strong connection with its extensive network of volunteers through WhatsApp groups. These volunteers include nature enthusiasts, schoolteachers, college students, and others. The SeasonWatch team encourages direct reporting of any issues via text and email.

Geetha notes a few challenges, such as the mobile application being available only for Android users. It is also exclusively available in English only. There is a desire to expand to multiple languages. Additionally, the team aims to introduce features to enhance data quality. Adding a photo upload feature would enable volunteers to provide verifiable and accurate data, making the process more user-friendly. Currently, data quality is also assured via an automated data verification process. Here all contributed information is matched against a reference database. And potentially erroneous observations are flagged for review.

The SeasonWatch platform targets two primary groups – school students and adults with an interest in botany, natural history, and tree studies. Teachers assign trees to their students, who then collect data. These are either entered in notebooks, or teachers upload it to the platform. Students' observations are added to the mobile application by their teachers, who are associated with the school for a long duration.

Mathrubhumi SEED (Student Empowerment for Environmental Development) is

SeasonWatch

SeasonWatch's partner in Kerala. It is dedicated to raising awareness for environmental protection among the student community. SEED, with its extensive network of coordinators, reaches out to hundreds of schools each academic year, introducing environmental projects and activities, including SeasonWatch.

Geetha explains, "During district-level workshops for teachers, our team member – Muhammad Nizar – provides an overview of SeasonWatch and how people can contribute data to the project. Following this, we conduct school visits, where we identify interested teachers and motivate them to contribute to the project. We help teachers understand how to use the app and stay in touch with us via WhatsApp for any support they may need. Additionally, Nizar has created a video resource with screen recordings on how to use the app. This is available in Malayalam. It is easily shareable as a small WhatsApp file and is viewable on mobile devices."

SeasonWatch acknowledges the need for further improvements. These include the expansion of the mobile application to iOS users, multilingual support, and features to enhance data quality. These endeavors will help empower even more people to contribute valuable data and insights for the project.

ASTHA

ASTHA was established three decades ago as a cross-disability organization working directly with children and persons with disabilities (PwDs) in urban slums and resettlement colonies of Delhi. It conducts training for other organizations and institutions seeking to integrate disability into their work. The organization also raises concerns and issues related to disability in large forums and alliances operating in various thematic areas.

ASTHA works to generate context-driven information for dissemination. Since its inception, the organization has been constantly engaging with persons with disabilities (PwDs) and their families, especially those on the lower socio-economic strata, to disseminate information on habilitation, rehabilitation, legal rights, and government schemes in easy-to-comprehend media.

ASTHA pioneered the first helpline of this kind in Delhi in the disability area in 2000. The National Disability Helpline is an important component of the Resource Center at ASTHA. People across India inquire about various schemes, policies, and rights of persons with disabilities. The helpline is part of helpline networks at the state and national levels.

A decade ago, the team adopted an interactive voice response system (IVRS) for the helpline. IVRS technology greets and acts on information it collects from callers. There are two team members in ASTHA who are working on the helpline. One is visually impaired, and the other has a mobility impairment. Both approach calls with great sensitivity. ASTHA also has a WhatsApp number to make it accessible for people with speech restrictions, as it allows them to type in their queries.

ASTHA envisions equipping its team and communities with ICT solutions. At all the seven community centers that the organization runs, they have added basic digital infrastructure such as internet connections, computers, laptops, tablets, etc. At three community centers they work with CwDs aged between 0 to 8 years, focusing on early intervention. Three other centers work with CwDs between 6 to 18 years of age on inclusive education. The seventh center works with children aged 16 and above on a life skills program.

Pratik Aggarwal from ASTHA shares, "We work in slums in Delhi. It may come as a surprise to a few people that there are no optical fiber cables. We work with communities engaged in blue-collar jobs. They do not have

ASTHA

the resources to purchase computers and laptops."

The team reevaluated its data management system during the COVID-19 pandemic. They started using Excel spreadsheets to keep track of the households they supported with rations. Pratik added that the scale of information pouring in was so significant that they had to start managing their data and migrate from using pen and paper. ASTHA plans to adopt Goonjan, which is a software for NGOs. It is designed to help them with their donor management system, track data on beneficiaries, budget management, etc.

At the community centers, ASTHA has introduced devices and software such as audio players, TalkBack (the Google screen reader), etc., to children with disabilities. The children have been given MP3 players, which cost one-fifth of a smartphone. The teams upload audio files of NCERT curriculum books, which can be accessed by the children. These devices are offered for six months. The families are poor, and they do not have the necessary resources. ASTHA wants to give children devices without putting any restrictions on their usage. They also provide these audio devices to their community centers and parents.

They focus on encouraging children with disabilities to demand access to computer classes in schools. Pratik adds, "We run an intensive life skills program. We want people with disabilities to be vocal about their rights. A typical child will be able to access devices such as laptops, smartphones, etc. However, for a disabled child, no one thinks about offering them access to these things."

The life skills program ensures that young PwDs learn about, and start using, assistive technology such as braille displays, screen readers, learnings apps, etc. for their independent living. Another aspect of the program is to encourage PwDs to use technology for improving social interactions and communications for which computer training, exposure to video conferencing tools, ensuring access to low-cost devices, etc. is undertaken.

The limited accessibility of technology for people with disabilities continues to remain a challenge. The process of getting a disability certificate is completely online. Pratik shared that for a blind person, filling out the form may not be a big challenge. However, they fall short when there are restrictions on the size of the files they need to upload. They need to take the help of a tool to decrease the file size. He adds, "The processes set up for people with disabilities must benefit them."

For ASTHA, the process of adopting technology solutions has been challenging. Pratik recounts, "One of our community workers shared that adding descriptions for children in our diaries is very different from adding information on computers. They feel that their sense of expression has been snatched away. ASTHA is a thirty-year-old organization, and we plan to embrace technology gradually."

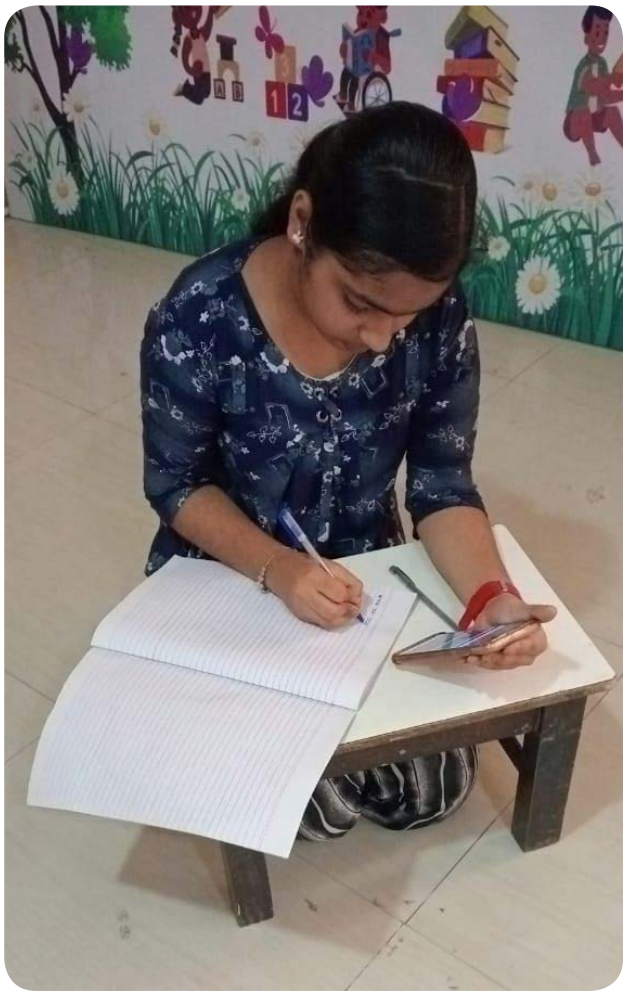
ASTHA's commitment to enhancing the lives of PwDs is evident in its multifaceted approach to ICT, from providing basic digital infrastructure to communities to adopting solutions for its operations.

Vikramshila Education Resource Society

Vikramshila is an NGO based in Kolkata, which tries to ensure quality education for children from marginalized communities.

It undertakes action research initiatives in pedagogy, curriculum development, teacher development programs, supplementary learning centers for children, and child protection. Initiated in 1999, its Nabadisha program is run in collaboration with the Community Police Wing of Kolkata Police. It provides learning support to children aged 3-16 years from marginalized communities living in crime-prone areas of Kolkata. Presently, there are 10 Nabadisha centers in Kolkata.

Vikramshila, in its Nabadisha centers, uses Geneo, a digital learning platform. Geneo uses an app-cloud model that provides students with curated digital content from multiple sources. It also offers remote mentor support. It is accessible across multiple platforms. These include mobile phones, laptops, PCs, tablets, and Chromebooks. The content is mapped chapter-wise to NCERT and CBSE textbooks.



Vikramshila

The website curates digital content provided by organizations, including English Helper, Avanti, and Khan Academy. It aims to complement the primary and secondary syllabi of schools to provide quality learning, while augmenting the delivery capabilities of educators. The app was initially available in two languages — Hindi and English. A Bengali version of the application was launched in 2018. The app provides content on science, math, English, social science, geography, history, and political science, among other subjects.

The Geneo learning app offers both free and paid content options. At each Nabadisha center, two teachers use two smartphones to create respective accounts in the app, enabling students to access the content. Students from each class form groups and take turns in using the app. For instance, grade 9 students would use the app for 30 minutes, which would include watching videos, taking down notes and questions they can practice later, followed by grade 10 students using the phones. Given the limited resources, students have learned to share smartphones amicably amongst themselves.

Teachers from Vikramshila's centers have pointed out how the app's audio-video feature helped students better understand their lessons. Students read aloud, watch accompanying videos, and then take mock tests. For example, when studying the chapter on the concept of force, understanding concepts like velocity and motion can be challenging. On the app, they watched an animated video demonstrating how these concepts interrelate. This leads to a better grasp of the topic. Improved comprehension translates into better insights into the concepts and lesson retention, consequently aiding students in their exams.

Mustafij from the Vikramshila team shares that when they start their interventions in a particular learning center, they begin with focus group discussions. The responses are

descriptive and objective. They use Google Forms, which allows them to take down data from separate groups (formed according to learning levels) and analyze the findings later.

Namrata from the Vikramshila team adds, "Vikramshila's teachers initially recorded the baseline, midline, and endline grade-level assessments on paper. It was during the pandemic that the team decided to adopt digital tools for recording responses of children by teachers. Digitization allowed them to draw conclusions from recorded data on learning levels. For instance, they would share the analyzed data with teachers on the status of children's grade-appropriate learning levels."

Captured data helps the team identify patterns to share with donors, government officials, and parents. The team believes that sharing their children's learning progress data is encouraging for parents, showcasing how learning centers facilitate their growth. Diagnostic tests assess each child's learning levels to guide teachers' pedagogy and optimize student grouping. This approach ensures that students with varying competencies support each other, promoting peer learning.

Vikramshila is also contributing to the Uttar Pradesh Pankh portal, an online platform providing career guidance interventions. The portal has assisted over six (6) lakh students in choosing their career paths. It caters to students in classes 9 to 12 in government and aided schools, including Kasturba Gandhi Balika Vidyalayas.

Vikramshila's innovative use of the Geneo digital learning platform has ensured a comprehensive learning environment. Their meticulous approach to data collection and analysis, especially in a digitized format, provides insights for educators. This process also allows for transparent communication with stakeholders, be it donors, government bodies, or parents.

In conclusion

Collectively, these endeavors underscore the transformative potential of ICT in driving positive change, fostering inclusivity, and amplifying the impact of education initiatives. Tailored to an organization's needs and context, ICT could optimize their operations and community interventions. The ICT journeys of each non-profit may vary, but it is a journey worth undertaking.

You may reach out to the organizations featured in this story at: sw@seasonwatch.in (SeasonWatch); pratik@asthaindia.in (ASTHA) and shubhra.chatterji@vikramshila.org (Vikramshila). You may contact the National Disability Helpline on 011-26466250/51 (landline) and 9560874098 (WhatsApp/text messages).

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