

OPENING DOORS TO A VISION FOR TOMORROW

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Title of Story: **Opening doors to a vision for tomorrow**

Describe the project: **Project Background**

"It is not our abilities but our choices which make us what we are", J. K. Rowling had written in one of her hugely popular Harry Potter books. The important word here is 'choices', because the quality of available choices determines the quality of life we live. Yet, rarely is attention given to the choices available to the people with disabilities, particularly in large democracies like India where these people form a relatively small, fragmented and marginalised section of the population.

Take the example of Shivaji Kumar, a blind student who studied in an integrated school and college. Throughout his school and undergraduate education, he depended upon his fellow student volunteers who would read out course books to him and scribes who would write the answers he dictated in the exams. While his batch mates could study even at odd hours, Shivaji had to depend on the time available with the volunteer reader.

A meritorious student as he was, Shivaji had to still rely on the writing speed and spelling proficiency of the scribe in the exams and as a result during his secondary school examination he scored low marks in English because the scribe who was assigned to him could not write fast enough and left two questions unanswered. Shivaji had no choice and paid a price for some else's mistake.

In 2001, a small group of Indian IT professionals, who wanted to take an entrepreneurial plunge but in an area that was also socially relevant, laid the foundation of Enabling Dimensions (India) Pvt. Ltd. (ED). ED is modeled on the principles of "social entrepreneurship" and with a belief in what Howard Stevenson (theorist of entrepreneurship, Harvard Business School) has said, "*heart of entrepreneurial management is the pursuit of opportunity without regard to resources currently controlled.*" ED was formed with the vision of leveraging ICT including, developing software products, services and e-learning content that would enable people with disabilities improve their quality of life. The initial focus of the company is to cater to the needs of the people with visual disabilities in India. Later, we plan to include other disabilities and scale our operations across South and South-East Asia.

Listening to the audience

In early 2002, we conducted a research study to reach a deeper understanding of the needs and problems faced by the people with visual disabilities, and thence, to assess what kind of ICT based products and services make a difference to their lives. The findings of the study were insightful, some of them eye-openers.

We found that in a large proportion of schools in Northern India, blind students are not taught Mathematics beyond Class 8. This implies that a blind student cannot pursue science and technology subjects where math is mandatory and are restricted to pursue humanities stream for higher education. The alternatives available to them for further education and future career options are limited by this decision some one else has taken for them. So, when Dinesh (a legally blind student) wanted to study computer programming, shockingly he discovered he couldn't because he wasn't taught mathematics in school – a pre-requisite for learning computer programming. The freedom to choose his career was not available to Dinesh.

"Knowledge economy", "Information is power" – these were slogans till the end of the last century. In this century we have already started living them. That also means that

another slogan is a reality now - "Digital Divide" – it is a reality for over 12 million people with visual disabilities in India that also constitute 70% of blind in the world.

Yet computers and Internet are liberating. Shivaji learnt using computers with the help of screen reading software that reads out all textual information being displayed on the computer monitor. After learning to use this software, he was independent of volunteer readers and scribes. He could study whenever he wanted to by scanning books using Optical Character Reader (OCR) software and then by using a text-to-speech software or a screen-reader to read the scanned text. Using a computer he could write his own M. Phil. thesis while studying at the premier Jawahar Lal Nehru University, New Delhi. More doors opened when he qualified for a Ph.D. programme at Purdue University, Indiana Polis, USA, completing the entire application process independently. There are several such examples of transformation of lives of people with visual disabilities after they learnt how to use computers and Internet.

In our study, we found apathy at institutional level and that different apex organizations for the visually challenged worked in isolation. They encouraged students to take up courses like humanities and careers such as teaching only. In many institutes the stress was still on teaching skills such as cane weaving and candle making - skills that are becoming obsolete with even villages in India replacing cane chairs with molded plastic chairs.

Awareness about assistive technologies, accessibility of electronic information and potential of computers and Internet was quite low in this community. In spite of this, there were small groups of individuals who had made extraordinary individual effort to learn computers. Life for these individuals was much better than those without computer skills because ability to use computers and Internet enabled them to live more independently. For instance, globally one of the major advantages of Internet cited by most visually disabled people is that it allows them to read the daily newspaper on their own.

Our research study revealed that information sharing and problem solving amongst the target audience was done in small local groups. We found a tremendous need for information, education and training in various job-related skills that are relevant for the new economy. A big concern for this audience is to find suitable jobs that pay well and offer better growth opportunities. We also found anyone from within the community achieving success in a field became a source of inspiration for those who knew him/her.

These findings and the inferences from the study led to several action points. We realised that our initial premise of pure online play needed to be modified to include some very important offline activities. There was a dire need for increasing awareness on the issue of accessibility of electronic information and how it is essential for empowering people with disabilities in today's knowledge-driven economic milieu. Consequently, we organised a seminar on this issue in New Delhi in November 2001, participated by decision makers from voluntary organisations, government agencies, academics and private sector. One of the highlights of the seminar was Charu Jadav, former blind chess champion of India, who demonstrated how he uses computers to hone his skills and amazed the audience by playing a game of chess with a computer based chess programme. He demonstrated how computers are facilitators not just for academic pursuits but in myriad other ways.

The seminar was followed up with formulation of a regular 3-day training workshop on how to develop electronic content that is friendly to use for people with visual disabilities. We have since provided this training to several private companies, voluntary organisations and leading educational institutions.

Another realisation from the study was that disability and poverty are interlinked. Most people with visual disabilities belong to poorer sections of the society. The social attitude towards people with visual disability is indifferent at best and discriminatory at its worst, leading to lack of good job opportunities forcing them to live in poverty. To break this vicious cycle, it was important to create more alternatives and better job opportunities for them. With India becoming a global hub for software development, back office operations and call centre operations, new areas of employment are emerging for people with disabilities provided efforts are made to equip them with new economy skills. Therefore, adequate training and placement services are the need of the hour.

EnableAll – Celebrating the spirit of life, differently

Considering the lack of availability of relevant information, we felt that there was a need for an online, self-help community that provided an interactive platform for people with visual disabilities. The purpose of this online community would be:

- To provide a wider common pool of knowledge / resources
- Facilitate day-to-day problem solving through peer interaction and self-help
- To provide web based education
- To provide online training for acquiring skills relevant in the new economy
- Employment facilitation through placement services
- Inspiration and motivation through peer group success stories
- Catalyze change in stereotypical mindsets (e.g. change the mindset that blind people cannot learn math by portraying examples of blind people who are adept at math)

Currently in its soft launch phase, our online community – www.enableall.org - consists of several channels, viz. Education and Careers, Rights and Issues, Community Interaction, Technology and Equipment and Entertainment and Leisure that seek to cater to a variety of information needs for people with visual disabilities. Based on specific feedback from the community, we have added features such as:

- Success Stories – Highlighting people from within the community who have achieved success in various fields
- Job Alert – Regular collation of job advertisements appearing in various publications that are relevant for the community members and posting the same on our portal
- Admission Flash – Regular postings of Admission notices from various educational institutions and other courses in which the community members may be interested
- Discussion Forum – An accessible electronic discussion board to encourage regular interaction between community members
- Resume Service – Creating a database of resume of community members who are interested in jobs arranged by EnableAll
- Current Affairs Bulletin – A fortnightly newsletter on current affairs intended to help community members preparing for competitive exams.

Making the web a disabled-friendly place and revenue generation too

We realised it quite early that support and sponsorship for the activities undertaken by us under the EnableAll umbrella in India would be negligible. Thus, we had to think of a viable business model by adding complementary web-based services that would augment our revenue stream. The business model we have evolved to sustain our activities is based on the changes taking place in the developed world. USA, Canada, European Union, UK, Australia and other countries have passed laws to ensure that equal access to electronic information is provided to all including people with disabilities. In USA, the law (Section 508 of Americans with Disabilities Act) on accessible ICT applies

not only to all Federal Agencies but 14 States have also adopted this law. These legislative measures have created a new and growing market for web accessibility related services.

World Wide Web Consortium's Web Accessibility Initiative (www.W3C.org/WAI) has laid down Web Content Accessibility Guidelines (WCAG 1.0), which are the globally accepted and established standard on what constitutes a universally accessible and disabled-friendly web content.

With our close understanding of the needs of people with disabilities and continuous interaction with the community members, coupled with cost advantages of working from India, we had a competitive edge in providing web accessibility related services. We translated these advantages into a business opportunity and in the past two years, we have successfully completed prestigious projects of creating universally accessible web content and applications for clients in UK, Switzerland, Singapore, Malaysia and India.

Enabling Dimensions' bouquet of offerings includes website audit for accessibility compliance and usability, retrofitting websites to make them accessible, content development including e-learning courseware creation that is disabled-friendly, web based and class-room based training on how to develop WCAG 1.0 compliant web content, consulting on web accessibility, customized research studies and market surveys, outsourcing services in the web accessibility space and franchisee of assistive technology devices and software. These services not only help us generate revenues, by providing such services to external clients we also contribute towards making the web a disabled-friendly place.

On the basis of our interactions with the community, we are planning to develop some already identified software products such as a software application that enables visually disabled learn English spellings and a self-help e-Learning tutorial on "Basic PC and Internet Skills" for the visually challenged. Similarly, there are other needs-based products and services opportunities that are in the development pipeline.

Leveraging cutting-edge technology

Since people with visual disabilities are auditory learners visual elements like diagrams, charts, graphs are not inherently accessible to them. To make e-Learning engaging and effective to them we are experimenting with developing content that can be interpreted through alternate senses. Our e-Learning content would not only provide the visually challenged learner with the audio description of visual elements, it would also add the sense of touch by deploying forced-feedback (Haptic) technology. Since forced-feedback technology is a gaming technology we believe it will become more pervasive and less expensive and a vibrating mouse or vibrating track ball will help in explaining say, a line chart to a blind student. We have conducted pilot tests on such force-feedback enabled content and have received a positive feedback.

Besides adhering to Web Content Accessibility Guidelines in developing our e-learning content, we are also experimenting with the DAISY guidelines – the emerging standard for Digital Talking Books (www.DAISY.org). We have also developed software applications like a Content Management System that generates accessible web pages and makes content updation and management very easy.

Describe the result of the project until today: **Results**

Gradually, our efforts began to bear fruit. We formed a partnership with Venu Eye Hospital – a leading non-governmental eye-care and rehabilitation organisation that has a large base of charity patients spanning several states in North India. It gave us an opportunity to better understand rehabilitation issues and problems that concern people with visual disabilities and apply our knowledge of IT to address these problems.

We interact regularly with apex associations for people with visual disabilities in India, such as National Association for the Blind and Blind Relief Association to understand their perspective, bounce-off our ideas with them, and reach out to more visually disabled end-users through their network.

In May 2003, EnableAll.org received the Social Entrepreneurship Laboratory Award '03 by Digital Partners and Hewlett Packard. Digital Partners is a US based non-profit organization supporting companies that seek to use ICT to empower the poor and underserved communities.

Recently, we have partnered with GE Capital International Services, India (a subsidiary of General Electric) to set rolling a process for recruitment of people with visual disabilities for data entry jobs. The process is in advanced stages of completion. We have initiated a similar process with Hewlett Packard's India operations for hiring people with visual disabilities for jobs in HP's software development, business process outsourcing and call centre operations.

In September'03, we received corporate sponsorship to initiate an instructor-led training course on Basic Computer Skills for people with visual disabilities. Beginning October, the first batch will include 3 blind undergraduate girls. A blind instructor will provide the training.

The most motivating results have come from the members of the visually disabled community itself. Though we started from Delhi, being based there, our portal – EnableAll, has visitors and members from all over the country including Maharashtra, Tamil Nadu, West Bengal, Uttar Pradesh, Andhra Pradesh, Punjab and Haryana. The response to our various initiatives has been generous and very encouraging.

"I really appreciate your efforts in arranging for jobs for persons with disabilities." – Dinesh Kaushal, Delhi

"I am very grateful to you to work for visually impaired persons. I know it very well that you try your best to make us independent in accessing Internet...I whole heartedly appreciate your efforts." Shyamsunder, Mumbai

"An endeavour to cater to the needs of the physically challenged community and offer them education and training in job-related skills required for employment in the new economy are the primary goals of this online endeavour." From the article 'Access One and All' on Rediff.com

"Enabling Dimensions (ED) is doing some good work too... ED itself came into being in an area where IT could be applied for a social cause. So far it remains the only Indian company of its kind." From the article 'From disabled to enabled' in Business Standard.

Based on inputs from community members we started a newsletter that helps them prepare for competitive exams. Our 'Current Affairs Bulletin' provides general knowledge

related information every fortnight in a capsule format which is easy to read and remember. Some samples of feedback we received on this newsletter:

"Great. It is indeed informative. The placement of information is very comfortable to read." Ashwini K. Agarwal, (low vision) Director, National Association for the Blind, New Delhi.

"Very good show. I get 15 days news on various topics in one place. I like this mode of communication the best." Nafisa Shikari, (blind) woman banker, Mumbai

"You can in a great way help us in keeping ourselves up-to-date about the happenings. General Knowledge has always been a problem for me as far as the banking exams are concerned, mainly as I can't read newspapers and other printed stuff. You have organised the whole information in a planned manner which would further help us." Nilendra Gawde, Mumbai

Similarly, when we covered the FIFA World Cup Football'02 live we were appreciated by the community and were covered by the international media. It was one of the handful of accessible live coverage of the event on the web in the world. We covered the matches, providing minute-by-minute commentary in an accessible manner. We received over 20,000 hits and 7,000 page views without promotion of any sort. A sample of the feedback from the media and the community:

"...your effort and keenness to make the site more and more accessible deserve the appropriate recognition and appreciation." Anjali Arora, blind Supreme court lawyer, New Delhi

"It is really great. What I really noticed most is that the links also have a short cut key. I never saw this on any other page." Krishnakant Mane, blind software engineer, Mumbai

"http://www.enableall.org/ -- designed to enable the disabled, especially the blind, has actually made it possible for the blind to access the live coverage of the ongoing World Cup Football matches" - The Hindu, New Delhi, India

"The blind can now 'watch' live coverage of the World Cup football matches on a Website - www.enableall.org - designed by Enabling Dimensions." - The Business Times, Singapore

"I think it's great. Sincerely I do. It's got the right stories at the top and nice little bits of information scattered around the place too." Paul MacInnes, Senior Sports Editor, Guardian, UK

Football being a very popular sport in South East Asia, a Malaysian company collaborated with us to provide live commentary in Bahasa Malaysia on our portal for the benefit of the visually disabled audience in Malaysia. New Straits Times, Malaysia had this to say:

"The visually-impaired can now enjoy live online audio Bahasa Malaysia commentaries on World Cup matches...All they have to do is log on to enableall.org, a website set up by portal creator Enabling Dimensions in association with United Multimedia Sdn Bhd (UMM), a wholly-owned subsidiary of Universiti Tun Abdul Razak"

Lessons learned and advice: **Lessons**

Since the inception of Enabling Dimensions, it has been a continuous learning process for us. Being a commercial organisation working in a socially relevant area, there are two facets to our operations – revenue and sustainability perspective, and the perspective of involvement and interaction with the visually disabled community we work with.

Audiences' requirements paramount

During our study in 2002, we realised that without close interaction with our target audience, it would be impossible for us to develop products and services that would solve a real problem for the target audience. This is a no-brainer for any product development company. However, the real insight was that the conventional 'focus group' approach would not work here. It would require a much deeper involvement that is more broad-based, continuous and informal interaction, than what is possible in a representative focus group approach.

It is through an ongoing interaction that we regularly add new features and enrich the content on EnableAll portal. In one of the surveys, we conducted amongst computer literate people with visual disabilities we found that Current Affairs, Education and Technology figured topmost in the information needs of the community members. So, we soon introduced a section called Admission Flash, a fortnightly newsletter on current affairs and a section on Technology Update.

Most people with visual disabilities avoid commuting due to practical problems in reaching distant places independently. We also learnt that their disability came in the way of receiving equal treatment in a normal classroom situation. We felt that these conditions make accessible e-Learning most conducive for people with visual disabilities. In a survey amongst computer and Internet users, this inference was corroborated with 74% respondents preferring e-Learning over classroom as a medium of receiving training.

While delving into the reasons behind the learning of computer skills amongst some of the early adopters in this community, we learnt that mostly it was because a close friend had learnt computers. From the experiences of those who had learnt computers, their friends realised the advantages – greater independence and better education and job opportunities. Another influencing factor was that they knew someone like themselves whom they could approach without hesitation with queries and problems when they started taking the training themselves.. We realised that this was a scalable proposition – if we could project more people with visual disabilities working successfully in different fields, more people would be inspired to emulate them. This would open more doors within their minds about their own potential and what they can do. And we followed this by creating tools, such as discussion forum, and processes by which those who are inspired can then interact with these achievers.

Such insights, suggestions and requests kept coming as our interaction with the community increased. For instance, once while discussing the information needs of the community with Mr. Ketan Kothari, Manager, National Association for the Blind, he quipped "*the media and others think people with disabilities are saints. Not many people realise that they are normal human beings with same proclivities. He suggested that some sections of our portal EnableAll should have some "spicy" content too like a dating service for the visually disabled.*" Well, we have not started a dating service yet, but we attempted a short story competition. However, the competition bombed. Later post-mortem revealed that not many of our end-users were good creative writers in English

and next time around we will have to include regional Indian languages. And, of course, there is the dating service and maybe a matrimonial service that we need to start!

Though, we did strike the right note with our coverage of the FIFA world cup'02 mentioned above, where we tried to fill the lack of usage of Internet for entertainment by the visually disabled, which we believe could be a great catalyst for encouraging the adoption of computers and Internet among the visually disabled youth especially.

Technology insights

From technology perspective too there were learnings and solutions along the way. We found that ready solutions for generating accessible content were not available. This led us to develop our own software applications such as a Content Management System (CMS) that generates accessible web pages and makes content updation and management for the portal very easy. Since the CMS is a product that can be customized it has become another revenue source for us. Recently we did a custom deployment of this CMS for an international organisation based in UK.

Commercial lessons

Another lesson was that being a commercial organisation, we had to find our own way to make our activities sustainable. Unlike, non-governmental organisations we could not expect to receive grants and donations. We found out the hard way that few corporations were interested in targeting this community and that the size and the profile of the community did not seem attractive to them. That meant that EnableAll could not rely on the originally planned advertising and sponsorship revenues. The plans and projections underwent changes and we developed a bouquet of services around web accessibility discussed earlier. We devised a unique model of working with freelance professionals, while keeping the core team small to keep our fixed costs low.

We also realized that Internet penetration is not very high among the visually disabled community in India because of high cost and lack of availability of connectivity. To overcome this hurdle and make the contents of our EnableAll portal available to more end-users we have thought of several options.

Since people with visual disabilities are auditory learners, we are planning to use FM radio broadcast to deliver the e-learning and other content we generate on EnableAll, because in India radio is far more ubiquitous than Internet. We have also discussed with other organisations working with the blind and who have computer centres or cybercafes to allow their students to access our e-learning and portal content at their premises. This way will achieve the twin objectives of reaching out to more people in the community and making our proposition more attractive to sponsors and advertisers.

Another fact we learnt was that the per capita purchasing power of our target audience is quite low, so we have devised innovative sales models – like we would be offering finance support for our training services and upcoming products by tie-ups with the financing companies and/or potential employers. Conjoint with this is the strategy of tying-up with apex institutions for people with visual disabilities and make bulk sales to reduce our cost of marketing and distribution.

Our interactions with apex organisations working with visually disabled in other South and South-East Asian countries has revealed that the needs of people with visual disabilities is quite similar throughout these regions. They face similar challenges and similar solutions would be required for them. We have recently consulted a disability related voluntary organisation in Singapore on conducting an awareness seminar and

bringing out a handbook on the issue of web accessibility. EnableAll has been designed in a way that it is replicable in different countries or regions. Currently, we are exploring ways of recreating the portal in countries like Singapore and Malaysia. We are also looking for global partnerships because we feel strongly that a global, interlinked portal with national chapters will help people with disabilities all over the world learn from each other's experience.

Development aspects of the project (or potential): **Development Impacts**

Economist and Noble laureate, Prof. Amartya Sen writes that capabilities are acquired cognitive capacities and the ability to discriminate between alternative choices. Capabilities, according to Prof. Sen, are the combinations of 'functionings' that an individual is actually able to achieve. Functionings are things that people may value doing or being. Functionings may be very basic, like being free from hunger or illness. They can also be very complex, such as being able to participate in a community or having self-respect. Capabilities are the essential underpinning of the freedom to achieve whatever lifestyle people want.

What Enabling Dimensions has set out to do is, to use Prof. Sen's words, helping to provide 'the substantive freedom – of people to lead the lives they have reason to value and to enhance the real choices they have'. In doing so the social impact we are making can be observed through:

- Benefits in material wealth, as measured by increases in monthly income of our target audience. For example, in a conventional scenario a person with visual disability would seek a job in teaching or in the government. The starting salaries in these jobs are approximately \$120 to \$160 per month with minor increments every year. In new economy jobs, for example a Business Processing Outsourcing facility the entry level salaries range from \$160 to \$200 per month, with performance based jumps of approximate 15-20% a year, on a conservative basis.
- A change in attitudes, measured by more self-confidence and feeling of empowerment by being able to improve their own standard of living and helping each other as part of the networked community of people with disabilities. For example, last year when Shivaji went to the US for the first time, Enabling Dimensions arranged for sponsorship of his air ticket, traveling and out-of-pocket expenses. Inspired by Shivaji's example, his visually challenged batch mate A. Vetrivel Murugan also applied to US universities for Ph.D. in International Studies. He made it to New School University in New York. This year again, Enabling Dimensions arranged sponsorship for Vetrivel's first trip abroad. Shivaji's success story is already on EnableAll. We are planning to draw from his and Vetrivel's experiences abroad and make them available to the other members of the community. Similarly, other information and stories relevant to their real life situation are posted on the portal.

The expected social benefits over a three-year period as a result of the EnableAll project (measured by financial benefits to the disabled community members because of their getting training or getting jobs through EnableAll) are conservatively estimated at US\$ 20.81 per dollar of initial investment. This quantitative assessment is based on Robert Enterprise Development Fund (REDF) methodology of calculating Social ROI, where we first calculate the return in terms of incremental monthly income that a member of the target audience starts earning after receiving training from us or getting better jobs through our job matchmaking service.

"You see things; and you say, "Why?" But I dream things that never were; and I say, "Why not?" – George Bernard Shaw

This is just a beginning. A very small one. Already, we can feel that we are making a difference. People are beginning to sit up and take notice. More doors are opening and more organizations are willing to listen to us. Even as our current plans fall into place, we are charting a course for tomorrow. At the macro level, we are approaching the concerned persons at relevant government ministries in India with concrete

proposals to ensure that people with disabilities are provided equal access to electronic information. We are hopeful of making progress there. At the micro level, all our activities are going to converge into a self-sustaining seamless model. At one end, we will continue to create greater awareness and disseminate information through our online community - EnableAll. At the other end, our training courses and placement services will help in enhancing the skills of the visually-challenged community members and empower them to tap emerging opportunities in knowledge based industries. To use the words of a community member "I am blind but I am not the one without vision", Enabling Dimensions is committed to pursue its vision. We will continue to open doors for a bright and better tomorrow for the people with disabilities.