

By Shubhendu Parth

NEED FOR Digital Inclusion

‘D’ is a dirty word in India literally; it is also the most dreaded. No, I am not talking about the man who is one of India’s most wanted. Instead it is a reference to the ‘D’ that has made a section of Indians really proud.

I am sure all would agree that the booming ‘Digital economy’ or the Indians’ ‘e’ skills has been at the centre of the activity that has helped the country and many of its countrymen create lot of wealth—except the fact that it has also widened the long existing gap of haves and have nots, not to talk about the urban and rural divide.

Talking about the ‘e’ or the digital age, the Chhattisgarh Special Secretary to CM and CEO of CHiPS

Aman Kumar Singh had once told this author that India presents a unique case of a “cobbler's son without a pair of shoes”.

And his observations were not without reasons. Despite a spate of economic reforms unleashed in the country way back in 1991, the telecom sector reforms and the creation of World Market Policy in 1988 that aimed at improving software exports from the country, ICT has not been able to make a remarkable difference in the lives of the aam aadmi or the citizens in India.

All this, while the country’s IT industry has been reporting spectacular export growth—from Rs 1,405 crore in 1993-94 to Rs 59,671 crore in 2003-04 and 189,792 crore during

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WHAT IS DIGITAL CONTENT OR E-CONTENT?

There are series of ICT tools like TV, Radio, Net, Computers, PDAs, Kiosks, LCDs, CDs/DVDs, iPods, blogs, Mobile, Telephone and so on. The use of ICT tools resulting in impact on ecosystem, could be defined as Digital Content

HIV LIFELINE

This is an electronic helpline accessible to people 24X7 for seeking answers to any query on HIV/AIDS. The helpline is equipped with both - automatic answering machine as well as human voice interaction replying to personal queries.

The Helpline uses a computer equipped with four channel voice card, linked to two telephone lines using customized software.

The project aims at disseminating technically sound information on HIV/AIDS along with details of related health services, to as many people as possible maintaining the anonymity of the caller.

the previous fiscal 2007-08 (see Indian IT's Growth Story).

Unfortunately, the domestic market, that was nearly double that the export market could not replicate the success story that the world had to share about the Indian IT sector. The fact that Indian domestic IT market which was at Rs 3,356 crore in 1993-94-nearly double the size of the exports-could only touch Rs 99.018 crore in the last fiscal clearly indicates that there has been a lop-sided development.

And while there are many in the industry as in the bureaucracy who would like to blame it on the lack of policies, awareness, cost factor and other numerous reasons, it is a fact that there was no compelling reason or the content for the average Indian household to actually try to get closer to the technology.

Talking about the country's ICT or digital prowess and its impact on the socio-economic development in India an Asia-Pacific Development Information Programme (APDIP) report-Empowering the Poor-clearly points out that, "Although India's success is commanding increasing attention and investment, it has yet to result in the distribution of social and economic benefits across a broader base of the population."

IT Infrastructure & Development

It has always been a chicken and the egg story as far as penetration

of a new technology is concerned, particularly in a country like India, where 35% of the billion plus population lives on less than US dollar one per day and around 86% or more than 900 million people manage to survive on income less than US \$2 a day.

However, determined to take the IT-wave forward and to reap its potential as an important development tool, Indian policy makers have, particularly those in the Department of Information Technology (DIT) have been strongly pushing the cause by removing a big bottleneck-that of a unified basic platform for digital service delivery.

On the one hand it is looking at connecting the various state departments and bodies till the block level through the SWAN, it is also optimistic that the CSCs will help deliver citizen services to the common man closer home, in their villages itself.

What this means is that using the government and the various services-both utilities and private sector-one would be able to complete majority of the G2C (government to consumer) and G2B (government to business) transactions using the village information kiosk itself. Add to this the B2B (business to business) approach using the grassroots to global approach as suggested by Prof Gupta, and the circle seems to be complete.

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- APDIP report

The AMC for Milk Collection

The Automatic Milk Collection (AMC) System provides several advantages over the traditional manual method which was time taking and due to that the milk got spoiled.

Besides speeding up the entire collection process, thereby reducing the spoilage of milk, the system also automates the measurement process. What this means is that the system not only cuts down the wait time for the farmers from 45 minute to 10 minutes, it also eliminates the potential for milk purchasers to misrepresent the quality of the milk and cheat farmers out of a fair price.

The automated system is more transparent and minimizes the role of the collection agent, reducing the likelihood of mistakes or fraud. Far from just having economic consequences, automation gives freedom to the farmers from the burden of having to fear cheating or corruption in their daily business dealings.

The simple technology used in this product has enabled the timely collection of milk and thus, generated higher profits for the producer, now paid well in time. A basic milk collection transaction done by Akashganga includes, measuring weight of milk with electronic weighing scale, fat testing using Milk-o-Tester, capture of unique member ID by the PC software and finally handing over the printed pay slip to the seller.

The MS DOS based system offers scalability for the AMC system which looks like an information-kiosk meant for citizens services.

To avail these services, citizens can opt for one of the 100,000 broadband enabled Internet CSC's (total outlay for Common Services Centres is Rs 5,742 crore) to be installed across the country's rural areas by paying a nominal fee.

To make this vision a reality, the government of India launched the National Common Minimum Programme according high priority for improving quality of basic governance and thereby proposing to promote e-Governance on a massive scale.

In accordance with this mandate, the Department of Information Technology on June 14, 2006 unveiled National e-Governance Plan (NeGP) covering 27 Mission Mode Projects and eight support components to be implemented at central, state and local government levels, at an estimated cost of Rs 23,000 crore over the next five years.

At the state level, the Mission Mode Projects (MMP) would focus on road transport, land records, commercial taxes, employment exchanges, agriculture, civil supplies, treasuries, land registration, policy and education, while at central level, it will cover areas such as insurance, central excise, national ID, pensions, e-Posts, banking, passport, visa and others.

According to DIT Special Secretary R Chandrashekhar, "The major con-

tribution of NeGP is the creation of a shared digital service delivery platform, including CSCs, which can be leveraged by the social sector departments and agencies to significantly improve programme delivery." However, he cautions that induction of technology alone will not help.

Despite the massive spending by Union and the state governments in India on e-Governance in the last two years, the country has suffered a major jolt in the overall world e-Government Readiness Index 2008 prepared by the United Nations—down 26 notches to 113th, from number 87th position in 2005.

In the web measurement assessment index too, India ranks 54, much below China (47), Singapore (25) and the US (3).

The e-Government readiness assessment looks at how governments are providing e-Government policies, applications, and tools to meet the growing needs of their citizens for more e-information, e-services and e-tools.

It also measures the online presence of national websites, along with those of the ministries of health, education, welfare, labour and finance of 192 UN members.

According to the infrastructure data presented by the UN survey, out of 100 users in India, 5.44 are Internet users, 1.54 are having PCs, 14.83 are

The Indian government has developed a comprehensive national portal that promotes and highlights e-Governance as an important national policy and strategy

Tune AIR for Public Grievances Redressal

Jansamvad, the weekly radio programme that enabled the citizens to directly reach out to senior government officials of the Sagar District administration in Madhya Pradesh is a unique initiative to address public grievances using the traditional Radio.

The initiative rolled out by the then Sagar Collector Sheo Shekhar Shukla (now Ujjain Collector) in December 2004, which is also available on the web, enables live phone-in dialogue with people of the district on every Monday for an hour using the All India Radio (AIR).

As the grievances aired on the program were sorted out in stipulated time frame, the initiated became very popular within a short period drawing appreciation from all walks of life. Many of the problems discussed turned out to be solutions for others. The response was so good that the district administration had to increase the number of telephone lines to receive phone calls, recalls Shukla.

The program is also used as a means to inform the masses about the various flag schemes of the state and central government-so much so that the program even catapulted the district among few top ranking districts achieving the ambitious Total Sanitation Campaign launched by the Government of India.

cellular subscribers, 3.64 are having main telephone lines, and the last but not the least 0.21 are broadband subscribers.

The intention of the government is clear but in 2008, the state as well as the central government has to speed up its implementation process to generate enough G2G, G2C and G2B transactional contents so that India moves up in the e-Government Readiness Index 2009 prepared by UN.

The Content Issue

According to Prof Anil Gupta of IIM Ahmedabad, it is an irony that a country which claims to be a world leader in IT today and provide services to the top companies of the world, is unable to provide content in the local languages for its children in government schools, community schools, village schools. "While computers are reaching, the content is not reaching," he says.

While Prof Gupta goes ahead to explain that the D-power can itself become the biggest equalizer to bridge the digital divide if efforts are made at generating content for knowledge dissemination, cultural enrichment, inclusive human resource and even traditional food, he is confident that the grassroots to global or gLocalisation approach is the key to the change.

Not that the country has not taken initiatives to build ICT infrastructure or the vehicle essential to make

content available digitally, however, there seems to be a basic disconnect in the approach as suggested by Prof Gupta and that adopted by many in the country.

While all may agree that "content is the king" in this whole gamut of development, technology enthusiasts-the flag bearers of ICT for development-despite all their good intentions have made the mistake of putting the cart before the horse by focusing more on the technology solution rather than the content itself.

Take for example the case of e-Education. While numerous attempts and crore of rupees have been spent by technocrats in creating platforms and content management systems to disseminate course material and impart knowledge, not much effort has been made at using the Web 2.0 concept to create a knowledge repository of the User Generated Content (UGC).

It is strange that while the use of ICT has opened up new vistas of learning, especially for those studying at "resource constrained" schools to access the best of breed content through online learning modules, access to digital library and e-tutoring and mentoring, none of these content come free.

The mere fact that these students come from government and government aided institutes with minimal fees that suit their economic condi-

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English learning goes on air in Jharkhand

The Jharkhand Education Project Council (JEPC) in collaboration with All India Radio, Ranchi has launched a 150-lesson program-Aao Angrezi Sikhein-to make English language learning a fun for beginners.

Initially, the program will be available for listeners of Ranchi, Hazaribagh, Jamshedpur, Chaibasa and Daltonganj. The JEPC is planning to extend its reach to other districts also.

The program has been divided into two segments. The first will be for students of Class I, while the second will cover those studying in Classes III and IV.

The 30-minute program is being aired on radio at 12.10 pm every day starting October 2, 2008. JEPC is also making radio sets available in each classroom, with the teachers monitoring the proceedings of the session.

The students will also be offered tips on basic etiquette and manners during the program. "They will be given five minutes to memorize the lesson. The entire lesson will be noted down by the teachers and will be revised later," JEPC officials said.

tions, itself indicates that ICT as an equalizer is a myth in the given scheme of things. The other missing link in the chain is the regional language content.

The option: aggregation of digital content generated by students and teachers of schools in both rural and urban India, especially those where the availability of computers and ICT Labs have created huge enthusiasm among the school community to produce digital content.

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Besides, there is a need to explore other ICT options-radio, television and even mobile for effective dissemination of knowledge across the various segments and strata of the society. Remember the advertisement of a telecom service provider that has the punchline "what an idea sir ji?"

The IT Mindset Issue?

The various ICT for development tools can be broadly classified into two broad categories. One, the IT driven online or world wide web tools and, two, the communication driven traditional radio, television and telephone tools. Add to this the fairly new mobile phone and we have at hand three fairly interactive outreach medium with huge penetration cutting across various sec-

tion of the population in the country.

It is also interesting to note that although IT and Internet are formidably interactive, they suffer from a perennial lack of bandwidth, content, and local-language enablement. They also necessitate a certain degree of training and literacy.

The second set of ICT tools, however, has a remarkably higher penetration and user-base. Although telephones, radios, TVs, and mobiles have limited interactivity, they offer a better reach than the cutting edge technology as these tools do not require much training or education or literacy.

Better still these tools are audio-visual and oral in nature and are entirely affordable. Unfortunately, however, Internet, computers, and IT continue to drive most ICT interventions at the grassroots.

It would be worthwhile to mention the initiative of the Jharkhand Education Project Council (JEPC) officials in using radio to make English learning a fun for students till class four in the state (see English learning goes on air in Jharkhand).

The JEPC has tied up with the All India Radio, Ranchi, to put together a radio program-Aao Angrezi Sikhein-aimed at teaching English language to students of class one to four. Similarly, the Indira Gandhi

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National Open University (IGNOU) has collaborated with the Commonwealth Educational Media Centre for Asia (CEMCA) to offer a six month certificate program using the community radio.

Talking in terms of the Millennium Development Goals (MDGs)-an all inclusive growth including one that provides opportunity for livelihood to enable poverty eradication, education for all, and healthcare-there are, if not many, some initiatives worth mentioning.

An interesting project in the e-health space-HIV/AIDS Helpline-set up by Health and Social Development Research Centre in Rajasthan is one such initiative worth talking about. The bilingual-English and Hindi-help desk is provides 24X7 information using Interactive Voice Response (IVR) system over the traditional telephone network (see Info at a Call).

Another non-Internet but IT-enabled initiative that has changed the lives of the farmers and cattle in Gujarat is the Automatic Milk Collection System implemented by the milk cooperatives in Gujarat. Besides speeding up the entire collection process, the automated system also eliminates the potential for purchasers to misrepresent the quality of the milk and cheat the farmers.

And while the bureaucrats across the country were busy rolling out complicated IT solutions to handle some really simple G2C service delivery mechanism, the Collector of Sagar district in Madhya Pradesh decided to use the simple telephone and radio network to launch Jansamvad program to solve the problems of the citizens (see Tune AIR for Public Grievances).

However, it would be grossly unjust

not to mention some of the Internet-enabled initiatives that have really made a remarkable difference in people's lives through their innovative approach towards defining the meaning of digital content, unlike the popular belief of an online content (see What is Digital, What is Content)

The ToeHold website set up by the Asian Centre for Entrepreneurial Initiatives (ASCENT) is one such project that clearly fits in the bill of an e-livelihood project. The initiative aims at helping the traditional Kolhapuri footwear makers to sell their products to the global market through a supply change management system that uses the www as the buyer interface.

On the health front, the two initiatives that have come out of the content and technology churn to really help those in need of blood are the initiatives of Khushroo and Fermin Poacha, the founders of IndianBloodDonors.com and the other by S K Shareef and Ramesh Susarala called Friends2Support.org. Both initiatives aim at connecting the needy with the donors through a voluntary registration process.

The New Age Market

Digital content is an increasingly major part of the world economies that are shifting from manufacturing of physical items to high value intangibles. According to the Organisation for Economic Co-operation and Development (OECD) report, digital content will increasingly become the basic creative infrastructure underpinning the knowledge economy and be at the centre of health, educational, and cultural activities.

Indian IT's Growth Story

Year	Revenues (In Rs Crore)			Growth		
	Export	Domestic	Total	Export	Domestic	Total
1993-94	1,405	3,356	4,761	51%	33%	38%
1994-95	1,882	4,959	6,841	34%	48%	44%
1995-96	2,681	7,032	9,713	42%	42%	42%
1996-97	4,847	8,587	13,434	81%	22%	38%
1997-98	7,180	10,835	18,015	48%	26%	34%
1998-99	10,752	13,204	23,956	50%	22%	33%
1999-00	16,050	17,002	33,052	49%	29%	38%
2001-01	29,896	24,670	54,566	86%	45%	65%
2001-02	37,846	24,288	62,134	27%	-2%	14%
2002-03	47,835	26,952	74,787	26%	11%	20%
2003-04	59,671	33,896	93,567	25%	26%	25%
2004-05	79,977	44,028	124,005	34%	30%	33%
2005-06	108,511	56,141	164,652	36%	28%	33%
2006-07	153,744	73,135	226,879	42%	30%	38%
2007-08	189,792	99,018	288,810	23%	35%	27%

Source: DQ Top 20

The Content Conundrum

Media and entertainment applications	Non-entertainment applications	Government	Network users
Publishing (books, magazines, comics, etc)	Industrial and Visual design	Public sector information for commercial re-use	Web sites
Film / Motion Pictures	Software Design & Development	Research & Science	Blogs & Podcasting
Animation	Business & Professional Content	Education	Virtual Communities
Music	Advertisement	Culture (Digital Library)	Digital Photos & visual Files
Broadcasting / Digital Radio / Cable / Interactive TV and other Interactive Media	Fashion/ Design	Health	Art Works
Software / Computer & Video Games	Architecture/ Professional Services	Training & Adult Education	
	Training & Adult Education		

Source: OECD based on various government publications. The list of examples in the four content categories is illustrative and in no order of priority.

“Convergence of networks and increased diffusion of high-speed broadband is focusing policy attention on rapidly developing broadband content and applications (new demand pull for the digital economy) which promise new business opportunities and impact on growth and employment,” the report says.

However, it also cautions that the development of digital content and services and the diffusion of high-speed broadband raise new issues as rapid technological developments challenge existing business models and government policies.

Advocating that the public policy needs to acknowledge these changes and adjust the policy and regulatory environment, it also suggests that there is a need to recognize the role of governments as content creators and users.

The study also indicates that the content transmitted over electronic networks comes from traditional publishing and entertainment industries and these sectors are experiencing significant transformations in established business models and practices-with new products such as interactive digital television, network games, online music gaining ground (see The Content Conundrum).

Besides, convergence of media and sectors are also creating new products, distribution channels and revenue streams. Also, the study on Digital Delivery in Services Industries indicates that non-entertainment service sectors are important producers of digital content.

Not to talk about the fact that digital content is moving into core government-related functions including science, research, health, culture

and education-the trend clearly indicates that much like the economic liberalization unleashed in early 1990s, the new age content has the potential to create new means of livelihood as also enable the country meet its MDG objectives.

The experience spread across India also clearly shows that ICTs can help us to leapfrog in the areas of knowledge and skill empowerment of the rural poor.

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