INDIA: E-Readiness Assessment Report 2003

For States/Union Territories and Central Ministries/Departments

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Foreword

Information and Communication Technology has made a profound impact on our life and times. The emergence of the Internet has, over the past decade, increased the relevance of these tools in the collection, collation and sharing of information at low cost and lightning speed. Web Technology with multi-media support has assured users anytime-anywhere Internet access and, above all, transparency. The near universal reach of the Internet in advanced countries in less than a decade epitomises the promise that ICT holds out for transforming societies in the developing world. And more is to come.

These technologies promise to accelerate national competitiveness – so vital in this globalised world – by increasing productivity. They also offer a lot to governments. For instance, they can help social sectors – education, health, rural development and other areas – to reach out and deliver their goods and services to distant consumers. We, therefore, need to welcome these tools, technologies, applications and services and build supportive infrastructure.

India has made a mark across the world in IT Software Services, and more recently in IT enabled Services and Business Process Outsourcing. This has helped transform the way others perceive India. For the industry to grow, however, we must multiply applications at home – in our industries, in rural areas, in governance.

It is in this context that the Department of Information Technology had undertaken this useful study on e-readiness assessment of States, Union Territories and Central ministries and departments over the past several months. The study has been done for the first time in a systematic and comprehensive manner through World Bank – *info*Dev.

It should provide valuable inputs to top level decision makers in matters of resource allocation and policy formulation. It should also help nodal ministries and departments borrow or share best practices, put in place effective implementation mechanisms and move up in the realisation of value from technology in tune with the opportunities provided. For the investor community at large, it should act as a pointer to where the gaps and opportunities lie. This Department's hard-working and committed team worked closely with National Council of Applied Economic Research (NCAER) and Indian Market Research Bureau (IMRB) to conduct the study. The value of the study would multiply manifold were discerning readers to share their feedback with us.

Arun Shourie
Minister for Communications and Information Technology
and Disinvestment
Government of India

Date: 15 April, 2003

Message

Information and Communication Technologies have contributed tremendously to the progress of nations over the past couple of decades. Rapid technology evolution and innovative applications have contributed to the benefit of various sectors and sub sectors in many countries. However, achievement of sustainable competitiveness for an economy as a whole depends on the reach of these technologies and the ability of ICT to bring large sections of the population on to the "network". Therefore, understanding and leveraging ICT is critical for nations striving for continued economic progress. Even in respect of social sectors, employment creation, betterment of social delivery system, e-governance etc ICT will increasingly play vital role leading to better quality of life.

I understand that, over the past few years, numerous attempts have been made to measure the comparative levels of ICT development of nations. The Global Information Technology Report, 2002-03, ranks India 37th as opposed to 54th in their earlier report (2001-02). This report cites the large pool of skilled manpower of India and the recent initiatives by the central and state governments in getting their state provinces/countries e-ready as the main factors aiding India's competitiveness. Each ranking/assessment looks at e-readiness from a different perspective. The focus in most cases had been on e-economy. Therefore, the Department of Information Technology embarked on an extensive survey to determine the e-readiness of states and central government departments/ ministries in India. This exercise would also help to establish the facts and perspective from within India about India's e-readiness and would help crystallise the role of ICT in the economic development of the country. I am sure, this report will be discussed and analysed widely and thus help bring about awareness of how ICT can catapult our nation to greater heights.

Su. Thirunavukkarasar
Minister of State
For Communications and Information Technology
Government of India

Message From *info*Dev

In order to respond to the growing demand from developing countries aiming at 'e-readiness', the Information for Development (*info*Dev) Program, a multi-donor grant facility hosted by the World Bank, has designed and started to implement an ***ICT Infrastructure and E-Readiness Initiative***. The goal and rationale of this initiative are to promote action at the local level to formulate and implement national e-strategies and to give priority to eliminating the possible bottlenecks which could prevent such implementation from being fully successful.

E-readiness and national ICT strategies are complex exercises, which must encompass a variety of issues covering many areas such as infrastructure, applications, institutions, people, and policies. If they are carried out with a sense of purpose and an ambition to use globalization as a source of energy for the social and economic development of the country, they can prove to be an effective shortcut to higher levels of equity in the emerging information economy.

Being or becoming e-ready is not an end in itself. It is at best a tool at the service of a higher set of development objectives. Hence, the best way in which a country can operationalize the concept of 'digital opportunities for all' is to identify the main bottlenecks which, in an increasingly information-intensive economy, stand between itself and the realization of its development strategy.

E-readiness assessments and e-strategies both require that the evaluators and strategists involved should take a horizontal (i.e. cross-sectoral) view of the economy. Moreover, the extensive experience and knowledge currently available from previous similar exercises should allow e-readiness assessments and e-strategies to consider a certain number of macro-economic dimensions as prerequisites for success. Particular and priority attention must be given to the availability of a proper investment climate, the existence of an adequate regulatory framework, and of a competition policy, which have proved important to bring down telecommunications prices and stimulate the growth of networks towards poorer areas. Last but not least, longer-term policies to build local capacities (institutional, human, financial) must be an integral part of e-strategies (and hence of e-assessments), and such assessments and strategies must receive the highest level of local endorsement (from government, business and civil society) before being translated into action.

The *info*Dev e-readiness initiative is designed to provide grant for funding a participatory analysis and assessment of a country's information infrastructure and E-Readiness, with special emphasis on the policy, legal and regulatory environment, and on the availability of qualified human resources. This initial grant funding from *info*Dev is to encourage countries to identify strategic opportunities for progress, and serves as a first step to develop an Action Plan - or national e-Strategies - helping to address the opportunities and bottlenecks identified. Another characteristic of the initiative is to allow interested countries to design their e-readiness assessment exercise as a tool to pursue broader objectives in areas such as fighting poverty, reducing the digital divide or contributing to a truly global information infrastructure. It also dovetails into other efforts and initiatives supported by *info*Dev, such as the 'Network Readiness Index' of the Global Information Technology Report (2002-2003) that has been referenced in this report.

We congratulate the Department of Information Technology for having compiled this report covering the E-Readiness of the Central Ministries and Departments along with an assessment of the States in India. This multi-tiered approach is one of several that *info*Dev has sought to encourage, given the complexities in different countries and the need for adapting the methodologies as needed. It underlines *info*Dev's mission of sharing and disseminating best practices at all levels, and we have no doubt that this report will become a reference in the years to come.

BRUNO LANVIN
*info*Dev Program Manager

VIVEK CHAUDHRY
Task Manager

THE WORLD BANK

Preface

Relationship between Information and Communication Technologies (ICT) and Development is coming to be recognised increasingly world-over. "*Digital Divide*" and "IT for Masses" are some topics which represent some concerns about the opportunities and challenges that lie ahead for countries, societies, donor agencies and stake-holders in each country wanting to leverage this promising technology and industry. Developing countries need special assistance in this respect and India can play a leadership role. Forums like UNICT Task Force, DOT Force have been addressing this area and the exercise presented in this report is one step towards an organised effort to cover the landscape in India.

Use of ICT in economic sectors has been going on for the last few decades but what is significant is the pace of technology developments and increasing convergence of the underlying technology drivers - microelectronics, software, optical fibres, wireless, Internet, World Wide Web, user devices (desktop PC, laptop, PDA, mobile phone, set-top box …), to name a few. Price performance has been constantly going up. Penetration of telephone, TV, Cable TV, PC, Internet, cell phones have become the benchmarks of socio-economic development. Application space has also been phenomenal - from simple voice communication (POTS) to value added services; from batch processing to internet and web applications - e-commerce, e-learning, enterprise applications, tele-medicine to name a few; from wireline to wireless - telephone, SMS, MMS, data / internet with increasingly higher data speeds support, as the service infrastructure promises to move towards 3G and 4G.

In the above context, it has become important to regularly take stock of e-readiness at the country level, States/UTs level and at the level of individual ministries / departments to ascertain the status of underlying infrastructure, human resources, policy regimes, industry and social sectors, investment climate etc. and arrive at what steps need to be taken to optimize investment and blossom to full potential. Globally, many e-readiness assessments have been carried out in the last few years, largely to benchmark / rank countries. This is the first report that attempts to carry out such an exercise at the disaggregated level of States/UTs and Central Ministries/Departments in India. In that sense, it has thrown up useful and valuable insights. It has also been a valuable learning curve and should prove to be very relevant for many people at the Centre and State level. The models used, case studies discussed and outcomes brought out should be of great interest to academia, civil society and researchers apart from decision-makers and implementers. For us in DIT, it has broken new ground and if feedback encourages us, we will try and conduct the exercise on a regular basis. Let me congratulate the team on a job well done and urge the readers to share their views.

Rajeeva Ratna Shah
Secretary
Department of Information Technology
Ministry of Communications and Information Technology
Government of India

E-Readiness and E-Governance

The assessment of e-readiness of states and central ministries has particular significance in the context of the ongoing e-governance programmes of the Central and State governments. Theoretically an e-governance project can be launched in any environment given adequate financial and technical resources if there is clarity regarding the outcomes being targeted. However, in practice, the level of e-readiness of the environment in which such a project is undertaken has an enormous bearing on the likelihood of success as well as the cost of the project. Globally, the accent in e-governance today is on the value proposition to various stakeholders involved. Hence it becomes even more important to maximise the probability of success and minimise the cost of specific initiatives.

In an environment that is more "e-ready", people in general are more comfortable with the new technologies, have a broad understanding of how they work or can be made to work for their benefit. There is also a ubiquitousness of ICT based applications in and outside the government as well as the general infrastructure required for this purpose. An e-governance project consequently requires less effort to convince people of its utility, requires less funding because there is already significant infrastructure that can be leveraged for the project and is less likely to encounter difficulties in implementation or be buffeted by aberrations introduced in the course of complex approval processes that characterise government decision making.

Hence for most states and ministries, an e-governance programme today has to consist of a judicious mix of general and specific initiatives, the former aiming to enhance e-readiness in a broad sense and the latter aiming at very specific targeted outcomes through concerted, time-bound projects. In general, it is not easy for key decision makers to strike the right balance or indeed to have the right perspective in the absence of adequate information and proper analysis of such information.

This study represents the first systematic effort in that direction for the country at a level of disaggregation (individual states and central ministries/ organizations) useful to key decision makers connected with operational decisions regarding e-governance initiatives. We hope this report will enable them to make the right decisions and strike the right balance between targeting e-readiness in general and specific projects with identified, pre-defined outcomes. It should also be of use in prioritising possible initiatives in either of these dimensions and optimising usage of budgetary resources.

R. Chandrashekhar
Joint Secretary, (E-Governance)
Department of Information Technology
Ministry of Communications and Information Technology
Government of India

Message from Mr. Suman Bery, Director General, NCAER

For growth to be sustained, societies need incentives and technology to encourage the accumulation of the factors of production (essentially skilled labor, knowledge and capital). What is even more important is to facilitate continuous increases in the productivity of these factors. This is where ICT can emerge as a new techno-economic paradigm. Besides improving productivity, it has the ability to bring large sections of the population onto the 'network' thereby making it a potentially useful technology for governance.

With the advent of liberalisation, almost all Indian states, which are the size of nations, are actively competing with each other to attract domestic and foreign investment through the provision of incentives, infrastructure and better governance which of late includes e-governance. Information Technology in the developed economy context is associated with capital deepening, increased labour productivity and spill over effects due to network externalities. In the developing country context, ICT is viewed as a tool to improve human capability, integrate marginalised sections of the society, modernise provision of services, reduce rent seeking activities due to increased transparency and process efficiency. Research on the new economy as well as ICT for e-governance and e-commerce have become important and relevant theme areas in today's context. The National Council of Applied Economic Research (NCAER) has in the recent past analysed issues affecting the "New Economy" as well as comparative studies of IT clusters in India and abroad.

NCAER is pleased to be associated with this important research area and hopes to continue the association with the Department of Information Technology.

From the Desk of IMRB

When the esteemed Department of Information Technology, Ministry of Communications and Information Technology, Government of India, decided to assess the e-Readiness within the central government departments and ministries, the **eTechnology Group@IMRB** was privileged to be a part of the exercise.

Considering the fact that this was the first time that the exercise was to be carried out in India, it was indeed an uphill task, defining parameters, building criteria, designing forms, etc. Our experience in the government sector combined with specialization in researching technology markets indeed came to our rescue.

The IMRB taskforce experienced a mix of highs and lows. Of course, we had this perception that the cooperation on this task would be very difficult, but we were more than surprised to find the enthusiastic response. While there were usual delays in filling up the forms, but there was always a sense of exigency within the departments / ministries. A few of them went to the extent of sharing their website CD-ROMs, project reports, etc. And finally even the findings of the exercise surprised us.

We opened our eyes to the fact that a few of the departments and ministries have even out-performed the businesses in installing IT infrastructure. And IT was not limited to infrastructure only, it was deep-ingrained in their functioning as well.

We realized that the Indian Government has actually taken many initiatives to meet the challenges of the networked world. There are many examples of electronic governance some visible, some not, for example, online railway reservations, online submission of utility bills, online tracking of speed posts and money orders. Governance is no longer the way it used to be. The face is changing, the attitude is changing and most importantly there is an air of urgency – to deliver what they are expected to … and that too as quickly as they can.

At the end of it we are proud to be a part of this national cause and IMRB would continue bringing out the true picture of Governance in India.

Bhupendra Mathur
Sr. Vice President & Country Manager
IMRB International

From the Editorial Desk

Think Globally, Act Locally – combining global efficiencies with local responsiveness is no more the exclusive strategy of Trans National Corporations; Indian NGOs, State Governments and Central Ministries/ Departments are increasingly using liberlisation and globalisation as a source of energy for the social and economic development of the state/province. E-readiness and State/National ICT strategies, carried out with a sense of purpose, helps facilitate this complex process. Till date, no exercise has been carried out on the extensive experience gained, knowledge available at the Indian State/Central Ministries levels. We decided that an analytical enquiry based on primary data is overdue. This study portrays a cross- sectional view of the impact in terms of not only the output (in terms of indicators) but also the outcome (in the form of case studies). It is expected to fill up the void in the measurement of e-readiness assessments and e-strategies adopted by Indian states, some of which are nation like and various central ministries/departments at the National level.

The entire process of putting together this report was an interesting exercise. A lot has been done in one-year time from knitting together a multi-agency team, carrying out surveys across all states and central government ministries/departments through various steps of review and stake-holders' participation to bringing out this volume in print.

Restrictions of time meant, the exercise had to be limited to the headquarters of ministries/ departments and not inclusion of the operational units at the field level or the public sector units or even further, sectoral coverage. Future studies will hopefully overcome these limitations. Similarly commissioning of periodic, say annual, exercises will help regular stock taking and corrective action by concerned stakeholders - besides stimulating healthy competition.

All in all, nation building can be fun too!

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The comprehensive study of e-readiness within the specified time frame would not have been possible but for the cooperation of a number of people and organisations.

This study was set in motion with the grants received by Department of Information Technology from World Bank - *Info*Dev and the need for such an exercise was also underlined by the then Minister of Communications & Information Technology, at the ELITEX 2002 exhibition held at New Delhi. Generous funding apart, the World Bank contributed substantially to the actual formulation of the report through its representatives, Mr. Vivek Chaudhary, Task Manger, E-Readiness Project and Mr. Shashank Ojha, Informatics Advisory Service, South Asia Region. We gratefully acknowledge their contribution to this effort.

The Department of Information Technology team guided by Secretary, DIT, Mr. R.R. Shah and consisting of Mr. R. Chandrashekhar, Joint Secretary, Dr. Vijayaditya, Director General, NIC, Mr. S.Ramakrishnan, Sr. Director, Mr. S.S. Grover Sr. Director, Mr. Ashis Sanyal, Director and Ms. Renu Budhiraja, Additional Director, have put in a great deal of effort to give this study a final shape.

The Department of Information Technology appreciates the valuable inputs and suggestions received from the IT Secretaries of Maharashtra, Andhra Pradesh and Karnataka during the initial conceptualisation stage and the cooperation received from them and all other States/UTs in the course of the assessment exercise. Special thanks go out to the APEX committee members from government, industry, academia and NGOs for their contribution and also to the very enthusiastic members of the Steering Committee for their valuable inputs. We also thank Shri. Jayakumar, Director, DAR&PG, for his contribution in the Central Ministries/Departments level modelling.

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We also thank the entire team of National Informatics Centre (NIC) for their contribution during the workshop with Central ministries/departments and perspective comments.

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