

Sustainability Outlook

October, 2012

Sustainability Reporting

Extended Producer Responsibility

Financing Sustainable Infrastructure

Green Leap needed to shape global leadership



Moving from operating defensively,
to capturing advantage

IT AS AN ENABLING TOOL FOR BUSINESS SUSTAINABILITY



Suparna Shankar,
Senior Research
Scientist,
Sustainability
Business Unit,
Infosys

It does not matter how big or small Indian organizations are, they must learn from the recent power grid failure.

The recent power grid failure in North India exposed the precarious demand-supply imbalance in power and vulnerability of a grid with complex inter-linkages. 610 million¹ people across 21 states were without electricity for hours. Grid failure of such a large magnitude paralyzed the whole nation, disrupting big and small businesses. While the cause of the issue is debatable and a streamlining of the system may avert a recurrence in the future, there is a pressing need for organizations to learn to 'sustain' and lead in such turbulent times.

India still depends on traditional resources like coal and hydro-electric power, which constitutes the lion's share in power generation. These resources are unevenly dispersed and concentrated in a few pockets². Hydro resources are located in the Himalayan foothills and in the North-Eastern Region (NER). Coal reserves are concentrated in Jharkhand, Orissa, West Bengal, Chhattisgarh, parts of Madhya Pradesh and lignite is located in Tamil Nadu and Gujarat. India's unreliable power system has forced businesses to use expensive alternatives like diesel generators³ using precious natural resources, and causing pollution. Therefore, organizations should plan for better 'Resource Use Intensity' by identifying transformational ways to defuse risks and achieve better outcomes using fewer natural resources. The issues resulting from depletion of natural resources are increasingly evident and businesses can no longer afford to ignore these without peril.

Sustainable development is becoming imperative, moving from 'Good to Have' to a 'Do or Die' situation. It does not matter if they are

big or small, organizations must look for various ways to address these challenges for survival.

The current infrastructure catastrophe provides an opportunity for businesses to discover more about the complex systems and improve their longevity by being resource intensive and achieving far more with far less⁴. Diminishing resources, high input costs, and challenges in scaling up will force organizations to take one of the two choices:

Act defensively to avoid damage and minimize risk;

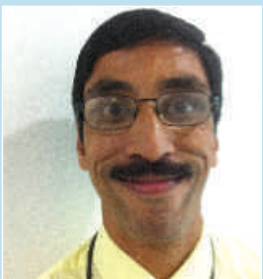
or Create opportunities and capitalize on them.

In the face of accelerated depletion of natural resources, organizations face a very high degree of short term risk, and they look for mitigating risks by incrementally increasing resource efficiencies. However, beyond a point, optimization gets prohibitively expensive. So capitalizing on opportunities will become important. In the last few years, large companies have improved their operations and are now able to drive sustainable behavior. For smaller enterprises the current situation is a wake-up call.

How IT can play a transformation role for business sustainability

Gartner⁵ predicts the Indian Green IT and Sustainability initiatives spend to reach \$70 billion by 2015. This is a very promising trend for India. But won't the IT sector itself add to the energy foot print? Yes, it will.

According to a NASSCOM smart 2020 report⁶, the IT sector will represent 2.8% of the global emissions by 2020; however it will help to remove emissions to the tune of five times its footprint or 15% of global emissions.



Manthripragada
Sridhar,
Junior Research
Scientist,
Sustainability
Business Unit,
Infosys

¹http://zeenews.india.com/news/nation/power-failure-northern-eastern-grids-restored-partially_790904.html

²http://www.indiaworldenergy.org/pdf/T&D%20Report_PGCL.pdf

³<http://www.ndtv.com/article/india/power-grid-failure-indian-businesses-weather-blackouts-but-at-a-cost-250227>

⁴<http://www.infosys.com/sustainability/Documents/infosys-sustainability-report-2011-12.pdf>

⁵http://articles.timesofindia.indiatimes.com/2011-09-19/infrastructure/30175423_1_sustainability-ict-industry-indian-businesses

“ICT has the potential to offer innovations that will capture energy efficient opportunities across industries”

IT has both positive and negative impact on the environment. These impacts can be classified broadly into:

- a. Optimization of business processes through IT (standardization, automation) leads to increase in energy efficiency. For example:
 - 1) Online banking is efficient and reliable,
 - 2) IT embedded solutions in manufacturing increases energy efficiency.
- b. Dematerialization or substitution of physical goods, services and infrastructure with virtual alternatives will reduce resource utilization. For example:
 - 1) Using tele-presence for collaboration reduces travel emissions,
 - 2) Using smart meters in buildings helps in monitoring energy consumption
- c. Induction : IT can change the way business processes are handled and it can influence the demand for other services and products. For example, Internet and mobile technologies create demand for online software and can increase sale of products and goods.
- d. Degradation: Usage of IT and technology products impacts environment negatively. For example:

IT itself adds to energy consumption.

Technology products create e-waste which impacts the environment negatively.

IT should go hand-in-hand with alternative, innovative and environmentally friendly technologies to ensure that its negative repercussions on the environment are minimal. India's challenge lies in achieving economic goals without sacrificing the environment. IT can redefine and improve processes across sectors and functions like logistics, transport, power generation, healthcare, retail, etc., leading to superior business performance.

According to the Co-Founder and Executive Co-Chairman of Infosys Limited, S. Gopalakrishnan (Kris), “ICT has the potential to offer innovations that will capture energy efficient opportunities across industries”⁷.

Smart solutions and analytical insights can help companies navigate the challenges of sustainable growth. In the context of the recent power grid failure, a smart power grid⁸ could be used to avert blackouts. Per a recent article in ‘BusinessWorld’, the average national efficiency of power plants in the country is only 76%⁹. More than 20% of the power is wasted due to under capacity. IT can help to improve efficiency enormously.

One such innovative use of IT has been an indigenous device, HameshaOn¹⁰, a smart grid system, piloted by Reliance Energy-managed NESCO, which tracks and prevents electricity theft. It monitors every junction or overhead electrical line across the power distribution network. The device is Wi-Fi enabled that can pinpoint the quantum and the place where energy is getting leaked in real time. Distribution losses in India were assessed at 35% last fiscal and the challenge for distribution companies is unauthorized power consumption and HameshaOn has the potential to bring down distribution losses by upto 8% at Indian power utilities.

Speaking of power shortages, one area which is strongly affected across the country is the agricultural sector. With the monsoons playing truant regularly, small farmers have become increasingly dependent on electricity for irrigation. India being second in the world agricultural production, is prone to significant threats to agricultural output livelihoods of farmers from the vagaries of nature. IT systems help in predicting the natural disasters directly alerting and warning these farmers through mobile phones, helping them prepare with risk mitigation plans.

Another innovative use is the solar-powered micro grids introduced in Uttar Pradesh by ‘Mera Gao Power’¹², a company set up by a pair of US-born entrepreneurs (Nikil Jaisinghani and Brian Shaad). The company has created a new model for energy delivery to villages far from the grid – they build and operate solar-powered micro grids to provide low-cost lighting and mobile phone charging option to village houses, giving many rural people access to electricity for the first time.

⁶ http://www.nasscom.in/sites/default/files/researchreports/TERI-NASSCOM_Green ICT_Executive%20_Summary_Dec2011.pdf

⁷ <http://southasia.oneworld.net/special-events/dsds-2012/interviews/ict-industry-has-key-role-in-enabling-a-low-carbon-society-kris-gopalakrishnan-of-infosys/>

⁸ http://articles.economictimes.indiatimes.com/2012-08-02/news/33001268_1_smart-appliances-home-appliances-power-generation

⁹ <http://www.businessworld.in/web/guest/storypage?CategoryID=37491&articleId=445557&version=2.3&journalArticleId=45013>

¹⁰ http://articles.economictimes.indiatimes.com/2012-08-06/news/33065585_1_power-distribution-distribution-losses-smart-grid-system

¹¹ <http://www.treehugger.com/renewable-energy/solar-powered-micro-grids-light-indian-villages.html>

¹² <http://www.treehugger.com/renewable-energy/solar-powered-micro-grids-light-indian-villages.html>



“Emerging environmental issues are increasingly hampering businesses’ capacity to ramp up quickly, create value for clients, to differentiate among competitors and also make a positive impact on its stakeholders”

Business sustainability these days is increasingly driven by demand and consumption. There is a focus on social and economic inclusiveness. Internet and mobile telephony are helping in improving the purchasing power of rural masses by allowing easy access to safe and secure financial transactions.

Various examples reflected upon in this article indicate that Business sustainability is an emerging mega trend. IT can enable organizations to tackle environmental challenges and tap into immense opportunities innovatively. Every organization can ponder over a thought ‘Why operate defensively, when businesses can capitalize on opportunities.’

Conclusion

Emerging environmental issues are increasingly hampering businesses’ capacity to ramp up quickly, create value for clients, to differentiate among competitors and also make a positive impact on its stakeholders. While many organizations around the world are rising to the situation, there are numerous businesses in India and abroad still grappling with ‘Business Sustainability’ as an unprecedented challenge.

There is a shift today in the way sustainability initiatives are being viewed in India. Businesses today need to adopt sustainability as an opportunity for increasing bottom line. One way of doing it is using IT as an enabling tool.

Suparna Shankar is a Senior Research Scientist in Sustainability Business Unit of Infosys. In her current role, she and her team have goals to identify critical technological gaps from business sustainability perspective and lead development of problem solutions. Suparna holds an Engineering degree in Electronics, and has completed an executive general management program from IIM Bangalore.

Sridhar is a junior research associate in the research group of the sustainability unit of Infosys. He is a biomedical engineer with an MBA from Symbiosis Institute of Management Studies in Pune. His current role involves researching to help solve specific business issues in the sustainability space.