



Year XI, Vol. II, Winter 2010
Managing Change and Beyond...

tapasya



Innovation :
Seeing what everybody has seen;
Thinking what nobody has thought !

Chief Patron :
Mrs. Tarita Shankar,
Chairperson, IGI

Patrons :
Prof. Chetan Wakalkar, Group Director, IGI
Dr. Renu Bhargava, Director, ISBS

Editor : Prof. P. G. Vijairaghavan

Editorial and Advisory Board :
Ms. Rasika Wakalkar, Former Editor-in-Chief

Prof. Bijoy Guha
Prof. Chetan Wakalkar
Dr. Dilip Sarwate
Ms. Manjoo Phadke

**Co-ordinator - Publication and
Circulation :**
Ms. Manjoo Phadke



**Indira Institute of Management – Pune
(IIMP)**
Indira School of Business Studies (ISBS)
Indira School of Career Studies (ISCS)
Indira School of Communication (ISC)

Indira Group of Institutes

Editorial Office : 85/5A, Tathawade, Near
Wakad Police Chowkey,
Pune - 411 033.
Phone : (020) 66739864
E-mail : vijai@indiraedu.com
Website : www.indiraedu.com
www.indiraundergrads.ac.in



This issue of Tapasya is devoted to the world of Innovation, a concept that has defined change in the human existence and has been responsible for all that we are today, in every area of our endeavour. And who better to symbolize this ever present need to explore, improve, improvise, conceive, renew and revise every thing that we do,...than arguably the greatest of Innovators of all time – Leonardo da Vinci! The cover depicts the restlessness and untiring examples of his effort that became the forerunners to many life-changing concepts later!



The news from the economic front, this quarter, is certainly not depressing, if the figures are any indication. Even though they may be encouraging, the question to ask is : Does galloping economic growth mean rising happiness in the country? There is a welcome rise in debates about the utility of mere economic growth as a tool for measuring the progress of a country. Experts, particularly, economists have begun to realize the futility of economic well being if the other aspects of life as it is expected to be lived, do not keep pace. Interestingly, this view was first aired by a tiny kingdom in the Indian sub-continent – namely, Bhutan, which devised its own index to calculate the development of the people of the country. Called the Gross National Happiness, it was supposed to be a supplement to the concept of the Gross Domestic Product as a standard of growth. While GNH as a tool is not yet fully accepted worldwide, it is a sane and reasonable way to aggregate the various levels of satisfaction in an individual's pursuits that go to make a human being happy,

The term was coined by King Jigmi Sangye Wangchuk of Bhutan in 1972 as a commitment to building Bhutan as a centre of Buddhist values, not merely material values. The Bhutanese grounding in Buddhist ideals suggests that beneficial development of human society takes place when material and spiritual development occur side by side to complement and reinforce each other. The four pillars of GNH are the promotion of sustainable development, preservation and promotion of cultural values, conservation of the natural environment, and establishment of good governance. The concept was taken up with a view to build a valid index of values to measure the state of well being of the people. A number of specialists, economists and psychologists have been working on the Index since then Wikipedia mentions the following as indicators of the state of wellbeing of the populace :

1. Economic Wellness: Indicated via direct survey and statistical measurement of economic metrics such as consumer debt, average income to consumer price index ratio and income distribution
2. Environmental Wellness: Indicated via direct survey and statistical measurement of environmental metrics such as pollution, noise and traffic
3. Physical Wellness: Indicated via statistical measurement of physical health metrics such as severe illnesses
4. Mental Wellness: Indicated via direct survey and statistical measurement of mental health metrics such as usage of antidepressants and rise or decline of psychotherapy patients
5. Workplace Wellness: Indicated via direct survey and statistical measurement of labor metrics such as jobless claims, job change, workplace complaints and lawsuits
6. Social Wellness: Indicated via direct survey and statistical measurement of social metrics such as discrimination, safety, divorce rates, complaints of domestic conflicts and family lawsuits, public lawsuits, crime rates

“

The Bhutanese grounding in Buddhist ideals suggests that beneficial development of human society takes place when material and spiritual development occur side by side to complement and reinforce each other.

”

7. Political Wellness: Indicated via direct survey and statistical measurement of political metrics such as the quality of local democracy, individual freedom, and foreign conflicts.

Going by these achievables, it is debatable whether the India of today is really happy after having achieved a near 10 year record of 9% growth in GDP. If the conclusion is that we are not a nation of happy Indians at the end of it all, it remains to be identified as to the areas where we have failed to deliver. The events of the last few months that have thrown up so much muck on us Indians, with a seemingly never ending stream of scams, do indicate the direction our investigation should take.

Incidentally, the growing disparity in the distribution of income and economic progress in the country was what engaged the attention of Mr. B. G. Verghese, writer, thinker and journalist of repute, when he spoke to the students of Indira under the auspices of the Tapasya Gyanganga Lecture Series, on 'Economic Gains with Social Strains : The Way Out'.

The governance in the country has proved itself unequal to the task, and one does not need the CBI to tell us that the political class and its cohorts, have been more than busy building their own nest plundering resources from the tax payer, grabbing land from the common man, selling abroad foodgrains meant for the poorest among the poor, to the highest bidder (and pocketing the proceeds). In short, selling the common man's aspirations to a happy livelihood in the India of his dreams. Where we stand in the Gross National Happiness Index is therefore, anybody's guess. Desperation is writ large on the face of the man-in-the-street. One hopes, for the sake of the country that better judgment will prevail on those who are charged with the responsibility to keep the lowest common denominator in the polity in mind while discharging their duties. The option is chaos at the end of the tunnel, which one sees building up in the distance.

Innovation

This issue examines the need and value of innovation in business. Innovation has become the buzzword for entrepreneurship to flourish, nay, survive, in a competitive world. A cross section of the best practitioners and teachers of the science of innovation, corporates and individuals that have made a name with innovation in product or service have contributed to this issue. Read, enjoy and benefit. And do remember, your feedback keeps us going!

Tapasya wishes you a very happy and scamfree 2011!

“

Desperation is writ large on the face of the man-in-the-street. One hopes, for the sake of the country that better judgment will prevail on those who are charged with the responsibility to keep the lowest common denominator in the polity in mind while discharging their duties.

”



Editorial	- <i>P. G Vijairaghavan</i>		3
tapasya Bears Fruit			
	Profiling <i>Chandrasekhar Hariharan</i> , <i>Eco-entrepreneur Extraordinaire</i>		6
In Focus : Innovation			
	Curtain Raiser : Innovation - <i>P. G Vijairaghavan</i>		15
	The Innovation Imperative - <i>Dr. Ganesh Natarajan</i>		17
	Improving Innovation in Indian Firms - <i>Nirmalya Bagchi</i>		21
	Innovation and Ingenuity - <i>R. Gopalakrishnan</i>		25
	Innovation Gene : Key Growth Factor - <i>Kranthi Vistakula</i>		30
	Innovation and How Best To Manage It - <i>Jyoti S. A. Bhat</i>		34
Miscellanea			
	In a Nutshell		39
	Innovation : A Little World Takes A Big Step - <i>Anurag Gupta</i>		39
	Aravind Eye Care System : Restoring Sight To Millions - <i>T. Ravilla</i>		47
Health, Fitness & Grooming			
	Yajna : Quintessence Of Indian Culture - <i>Sushila Yadav, Shyam Nataraj</i>		49
	Dress Codes and Style Management - <i>Suneeta Sodhi Kanga</i>		56
Events @ Indira			60

*All opinions expressed in the articles are those of the authors.
The Editor, the Institute and the Publisher bear no responsibility for the same.*



This column focuses on and profiles individuals who, through the power of their hard work and the force of their personality have become success stories and have created a niche for themselves in society.

Profiling *Chandrasekhar Hariharan,* *Eco-entrepreneur Extraordinaire :* His Mantra “Environmentally Ethical Living” Is Catching On

Dr.Chandrasekhar Hariharan, CEO, Biodiversity Conservation India P Ltd., is not the quintessential entrepreneur who has struck paydirt with his enterprise. He does not sport the mandatory iPad or the Armani suit that has come to be standard gear to announce your arrival on the business scene. Instead he wears heavily tousled hair, crisp rimless glasses and an ability to conduct clear and direct conversation. In an interview extending over an hour Dr Hariharan explains the rationale for his having taken up environmentally friendly housing as the signature for his life’s work after doing his bit for the less fortunate in society – like in the aftermath of the earthquake in Uttarkashi, or working with Anna Hazare, or driving across the length and breadth of the country “to study the nexus between water and energy and life...”



Dr Hariharan is an economist who turned to business 26 years ago in 1984. He has presided over projects on water, energy and green buildings since 1989. He heads Biodiversity Conservation India Ltd which has, since 1995, created many residential enclaves that have won global acclaim for representing the future of construction. BCIL drives its own projects and offers consulting for green projects.

He has worked with governments of Uttaranchal, Kerala and Nagaland and with Manila-based Asian Development Bank and the Paris-based Architecture and Development and ADEME, on promoting energy efficiency in buildings.

He was the only Indian recipient of the prestigious ADB Water Champion award in 2006 among 9 Asians from 63 nations. BCIL was the only Indian organization ever to be conferred the Ryutaro Hashimoto APFED Award in 2008. The CII Sustainability Award for Excellence also was received in 2008. In Feb 2010, he was conferred the distinguished Udyog Rattan Award for Excellence by the Institute of Economic Studies, New Delhi.

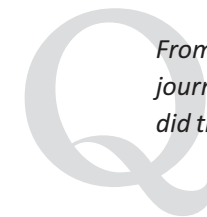
In April 2010, BCIL was conferred the prestigious Realty Plus Excellence National Award for Environment Friendly Project of the Year. In April 2010, San Diego-based CoreNet Global Award for Sustainable Leadership was given – only one among four recipients in the world.

The BCIL T-Zed Homes Project received the world’s first Platinum rating for green building in 2009 in “Post-construction Apartment” category.

He is a core committee member of the CII India Green Business Council and co-author of the Residential Green Guidelines among six experts in India. He is member of the National Advisory Board of the Builders’ Association of India, and the National Committee for EcoTourism of the CII. He is also member of the National Advisory Council of the CII-ITC Centre of Excellence for Sustainable Development, headed by Yog Deveshwar, ITC’s Chairman.

In conversation with P. G. Vijairaghavan

From Chartered Accountant to journalist to eco activist, how did the transition come about?



Many happy accidents of the early 80s. It was thanks to having known good friends, well-wishers and mentors from various disciplines. I owe particular credit to a geologist called Sreedhar whose understanding of many of the issues that plague India’s ecosystems opened my mind to possibilities of offering solutions that could be economically efficient while being ecologically compatible.

The journey was over 10 years before we got to a point in 1994 when we said that there is the glimmer of a possibility that we launch an enterprise to take to the marketplace, concerns on water and energy in a way that we could offer urban customers value with residential properties. BCIL was born in early 1995 with the central plank of bringing reduced dependence on state infrastructure for water and energy.



This was at a time when real estate was not fashionable; this was at a time when land prices were not as forbidding as they are today. This was also at a time when people thought we must be out of our mind, to be actually nursing the hope there is indeed a market for such homes.

But after these 15 years of work at BCIL, close to my heart continue to be those

challenges that are to do with water and energy efficiency not merely in our cities but also in the hinterland. If many thousands of NGOs are striving toward either advocating causes of protection of our ecosystems or actually working on such protection, BCIL turned to the equally serious agenda of reducing abuse of natural resources in our cities. The birth of BCIL signified that transition from donor-based that could not win market acceptance, to a deliverables-based accountable enterprise that offered value for money that clients paid.

Q Why do you think the rest of the world has not yet woken up to the merits of technologies used by BCIL for your projects? Is it too sophisticated for the commercially minded or expensive? Or could it be sheer resistance to change? If anything it is more like going back to nature...

Thank you for indicating where your own personal bias lies! Obviously you approve of these directions that BCIL has driven and directed successfully over the last 15 years of its existence. Mainstreaming these values in the marketplace has admittedly been difficult for us but the challenge has not been so much the green technologies that we employ as much as our own ability to execute with reliability and efficiency, as well as our ability to take the message strongly with brand campaigns to more people. Consistent campaigns will have many more people knowing about what we do, and will prompt them to buy the kind of sustainably created buildings and homes that BCIL has specialized in creating. There is no dearth of market for these homes; it is only our ability to reach out to them that will define growth.

The rest of the builder world has been slow in responding to these challenges more perhaps because of their lack of understanding of what these design directions are about as well as the fact that it requires a certain intellectual capital for

them to be able to design buildings that drive higher energy efficiency.

We believe there is no rocket science involved, but the ability does not seem to lie among architects, service consultants, promoters, structural consultants, energy and water managers. The challenge is twin fold: one that our schools of architecture and engineering have not engendered the need for questioning. Second, the market and end-user customers have so far not sought such a change in what they demand of builders.

But that is in the past. Clearly today customers themselves are asking for greater efficiency in the homes that they buy; they are asking questions on the security of water and energy that they will get in such a place.

It took 15-20 years for people to get there but the change is evident today. What you will see over the next 5 years is a clear shift with all players and stakeholders in the building industry switching to greater efficiency. This is not about going green and ecofriendly, as much as it is about bringing efficiency in the use of every resource. We must remember that the building industry has never traditionally enjoyed professional management. It is in the last 5 years that the industry has come into its own and in the process is slowly acquiring many thinking and educated management professionals who will have the transition happen effectively.

Q Some of your projects like T-Zed, Zed Collective have virtually been self dependent for resources like water, energy, etc. Do you think this is sustainable in the long run?



Indeed it is sustainable. The solutions have been approached and created in every single project with a five-fold objective that offers the customer reliability, efficiency (in terms of post-occupancy maintenance), economy (in terms of cost), function (that it serves the purpose for which the customer buys), and finish (the quality of the final product has to be clean, and aesthetically appealing).

The design of the infrastructure for water, energy, waste, air management, use of materials, and vegetation for each of these residential properties has been achieved with critical attention paid to demand-side management. This means that sizing has been a very major issue when it comes to initial approaches to design and architecture. All we can say is that it's a combination of intelligent approaches to both demand-side and supply-side management in a way that we firmly stick to understanding that no natural resource can be used in excess. The risks are mapped and mitigation is provided for each of those challenges of the future in terms of such infrastructure. The objective is, of course, to eliminate dependence on external infrastructure of the city corporation for such natural resources that are needed. However, what we have achieved is a dramatic reduction in our dependence, if not elimination.

There is really no housing projects that have reached this point where they say a firm 'no' to the city water supply board, to the sewerage board, and to the Electricity Board, and yet achieve comfort for residents.

The other strategic element that offers such sustainability is the linkage that we retain for potentially plugging into external infrastructure in the extreme event of needing such dependence. At BCIL's Zed homes, in every project so far, we have not had to face such an exigency of having to depend on external infrastructure though our design permits that option of having to link with the outside world for water or energy.

The irony today is that dependence on civic infrastructure of the state is less reliable than the kind of internal, local resources that we have built! Whether it is in the area of water or in the area of energy or waste management, clearly the road ahead shows that we will be better off without such reliance on state infrastructure for running our homes, or even offices.

"T-Zed, a campus which has no water supply connection from the outside. We grow our own water with a unique network of shallow, open wells that supply all water needs of the campus, without the need for deep borewells that deplete groundwater resources. There is no sewerage connection for this campus. All waste water is treated and reused for gardens in a way that such water eventually percolates into the open wells and so completes the loop of use, treatment and reuse. We consume only 60 per cent of energy demand of a 100 houses anywhere else. Residents pay 30 per cent less on power and 20 per cent less on monthly maintenance.

This is India's first centrally air-conditioned (with no CFC and HCFC) residential campus. This is the first residential campus in India which is acquiring certification for carbon credits and sequestration for not only the campus but also for its residents. Every resident stands to gain about Rs. 12,000/- on an annual basis, thanks to carbon credit savings in T-Zed."





Q A mission such as the one you have adopted is only possible to realize if the entire team identifies with the vision of the leader and is also as passionate about the environment. How did you manage to identify 200 such committed members to take your mission forward?

It is perceptive of you to have made such an observation! It has indeed been a very long haul over 15 years to find people who will not work merely for a salary. Most often at BCIL we say that we have no jobs; that we don't recruit people; that we recruit attitude; that we invite talent.

It has been an exercise where several times we have happily taken on people even if we did not have work for them at that point of time. It has paid off richly for when they did get to bite into some of the professional work challenges at the company they derived as much joy, as professionals working on an assignment, as

BCIL did in offering something wonderful to our clients.

We often meet to discuss and air our concerns on ecology, sustainability and of course on the concerns of our clients. The effort has been to constantly remind all our colleagues of the end objective of urban sustainability. It is hard for most people to even understand why, for instance, carbon in the air impacts global warming. It is hard for most people to understand that it is not just CO₂ emission but nitrous oxide, methane, halocarbons, carbon monoxide and other gases that contribute to such warming of your immediate environment as well as the globe at large.

So, it's been a combination of reminding people of our Mission objective of mainstreaming sustainability, and the choice of people who have a deeper urge to travel on this journey with us, and not just come aboard BCIL for a job.

Q Some of the biggest problems in undertaking projects like yours could be availability of land at reasonable rates in urban areas; the alternative being land in distant suburbs. This must have been a reason for resistance from customers to your offers – how good is that response now?

There has been an evolution in the real estate sector with sharp monetizing of land values over the last decade. It was so much easier for BCIL to be doing projects of the kind that it does when land prices were much lower than they are today. The pressure on creating more density of settlement obviously is higher today than it was 10 years ago thanks to higher land cost. We cannot afford today, for example, to do a Trans Indus with a 47-acre land sprawl that offers a mere 68 stand-alone homes. We could do it then, in 1995-97, because the cost of an acre was less than 3 lakh apiece

Having said that, one of the subtle changes in our own position at BCIL towards such urban sustainability practices has been that we address the same concerns that any builder has in much the same way as any builder does as far as such density of settlement issues are concerned. What this means is that the effort at BCIL is distinguished from the rest not in terms of

either business volumes or FSI developed for a project. It is distinguished by the nature of design and execution and the features and solutions that these Zed homes bring to our clients. The sharp drop in operating expense for our residents on energy, water, and waste management, as well as on air-conditioning and gardens management is a tangible set of benefits that go to the customer.

On capital cost of project, again, there is no difference in the cost while our dynamic and intelligent approaches to sizing of various project needs ensures that our project capital cost is as efficient as that of the regular builder. What is offered by us as an additional feature of course gets costed separately with transparency in our communicating this to our customers.

The long and short is that the monetizing of land has not affected either the bottom line for the company or the values offered to the customers. We have indeed moved assertively towards now planning to launch residential projects closer to and inside the city, with the primary objective of showcasing our building technologies aggressively to customers as well as to our clients at Zed Consulting, in a way that both individual and corporate clients are inspired to bring a change in their way of life and living, or doing business.



What has been the response of the Government to your path braking achievements in the area of eco conservation, since it is the biggest stakeholder in the fight against degradation of the ecology?

Our position from 1995 when we came into being has been that BCIL needs no support from either the government or from any other quarter for doing what as a company, BCIL knows is necessary for its own long-term consolidation and growth. We believe that every company needs to be doing what we are doing in order to protect their long-term strategic future needs.

You are right in saying that the government is the largest stakeholder in this battle we have before us of reducing degradation of the ecology. We have made it our mission agenda to demonstrate powerful models of economic and ecological sustainability. Our position has been that we don't need incentives, neither does the industry need any incentives.

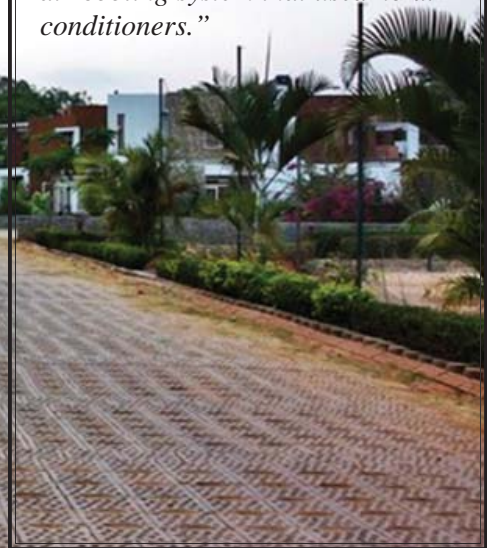
The government has to raise the benchmark to a point where every builder does what BCIL practices, to a point where it becomes the norm. BCIL has always achieved beyond the norm and that has been possible because the government has not paid enough attention to these needs of driving that fine balance between ecology and development. It's about time they did.



“Called TownsEnd, simply because it was at the end of town. That was 8 years ago. Today, this area of Yelahanka in Bangalore, is teeming with activity. We chose the land expanse of 13 acres for it enjoyed a natural backdrop of a hundred acre stud farm which was a hundred years old.

The stately trees that have stood sentinel on this land captivated us. We felled not a tree. We worked our masterplan around these natural elements and invited 51 families to make home here.

We took technologies for water distribution a step beyond builders of that time: there is no monstrous overhead tank in this campus. We tucked our water storage under the ground and drove our water supply to homes with energy-efficient hydro-pneumatic systems. We took responsibility for all waste water in this campus. We built a tertiary sewage treatment plant that could filter and reuse every single litre of water in the campus. We built a leisure amenity that included a restaurant, a conference venue, tennis court, a warm inviting swimming pool, an amphi-theatre for that odd evening of music or the birthday party and a bar that offered, for the first time in India, a natural air-cooling system that used no air-conditioners.”



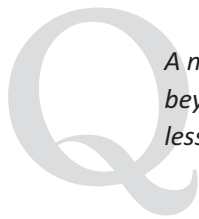


Was there any cynicism from would be customers to the almost dream-like possibility that you have realized from your projects?

Customers in the beginning did not understand many features and benefits that we offered and explained to them. So we had the piquant situation of having the best of such housing products and yet not enough takers for it! Slowly, this has changed. In this year, the profile of our customers at ZedWoods and ZedEarth has shown us that buyers are discerning, that they will buy these zed homes without

hesitation, if only they know about it. The lesson is branding and advertising.

If there is cynicism it is out of their own lack of understanding of the positive implication of such shifts to green buildings and sustainable architecture values. What it also means is that such cynicism or disbelief will die or at least wane as there is higher 'proof of concept'. With every completed Zed project at BCIL, we are finding that there is a rising confidence in people's minds on green buildings and their long-term reliability and benefits.

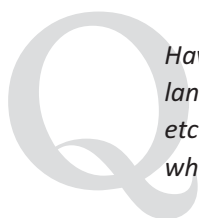


A natural corollary to the success of your programs so far is: why not go beyond Bangalore and Mysore to other parts of India, which can be a lesson in environmentally ethical living for the average individual...

Indeed, we are thinking in terms of how we can make a greater impact across the country. The purpose that we define for such a spread beyond Bangalore and Mysore, is for us to make more demonstrated projects at these higher levels of sustainability. With the grim threat before all our cities of a breakdown in services over the next decade, urban India needs as many such housing projects as can showcase the how-to's of such autonomy on energy, water and waste. This will perhaps inspire other builders in the region to make the technology and design transition to decidedly green buildings beyond merely the standards that are set by rating agencies.

BCIL is looking at making such enclaves in Tier 2 and Tier 3 cities. Pune and Thane are on our map, and can happen soon if we secure the land and requisite permissions. We are also looking at Chennai and Coimbatore in the south. Kochi is ripe for such a development. The company has a property in Goa but we are evaluating the market prospects for us to be launching a residential enclave project there. Vizag is another city that will be part of such plans into the future.

Yes, it will of course offer what you phrase as 'environmentally-ethical living' for a few people who choose to participate in such communities that we will create in these towns. We're too small to make a significant change. There are 3600 urban agglomerations spread over about 150,000 sq km in India against the backdrop of 2.8 million sq km of India's geographic spread. We need many more BCIL's!



Have you approached the local Government for assistance – in allotting land for your projects, or concessions and property taxes for the residents etc? What do you think the Government can do to help pioneers like you who are bringing about greater awareness in saving the environment?

There are two issues that you have raised, both significant. One is about encouraging the building industry to move towards the directions that are absolutely

essential if we want urban India to not breakdown under the sheer burden of its own unsustainable demands. The second aspect that you have raised is one of good governance.



We have believed for all our years of existence that the government does not need to offer any incentives or concessions for the industry to do what it ought to be, in any case, doing in terms of moving away from destructive conventional building processes. Companies need to move towards such 'natural resource-efficient' ways more in their own interest to survive the long-term implications of extensive abuse of natural resources. Limestone for cement, ores for steel, wood for carpentry, marbles and stones for floors ... are all exhaustible resources; we'll run out of them in the next 40 years.

As for good governance, the government has to see what it can do to enunciate policy that will bring about either voluntary compliance or mandatory compliance of some of the very fundamental thresholds of good building management. Building management practices are not so difficult to implement if only the government sets legislation at the basic benchmarks of water management, energy management, and waste management. All government agencies must try to see how all public constituents and consumers look for less and less dependence on such agencies for critical resources like energy and water.

This means the government must encourage autonomy as much as it can among consumers in a way that end-users



Responsible tourism is a much used word these days by tour operators, Government agencies, and even eco evangelists like you. Could you tell us what exactly you promote through responsible tourism that can be of concern to the ecology?

Tourism is set to double in the next 15 years from its existing base of 100,000 rooms created over 50 years. The per capita consumption of water and energy in the tourism sector is three times the domestic average. Visitors to hotels tend to spend more water and energy. The other big challenge that the tourism industry throws up is one of the lack of good management practices on waste.

The tourism industry needs to bring a greater sense of self-governance and greater responsibility on how it looks at the need for doing things voluntarily on these three aspects of energy, water, and waste, specially in far-flung places where resorts are run. The government cannot be expected to police and monitor such compliance. That's not its role.

Besides, hotels in all cities should be mandated by law to treat all wet waste they generate. That'll help urban local bodies with the burden of collection reduced dramatically.

Water heating needs, for example, in hotels need to be

take ownership for energy generation at the local level for water heating or for lighting requirements in a house or in an office building. Similarly the government can set very simple regulatory measures for ensuring that builders use only five-star rated appliances for electrical and water needs of a building.

As years pass by, the shift in benchmarks will ensure that there is enough learning among all constituents – from architects and service consultants to promoters of buildings – to a point where compliance is a given for achieving energy efficiency. The government can, of course, spend some money or run campaigns to bring greater awareness on saving the environment, but I believe that that is not going to help as much as compliance norms that will make the difference to how a builder approaches services planning both in terms of capital costs that he incurs in terms of natural resources as also post-occupancy efficiencies in water and energy.

addressed sensibly. Air conditioning is a big energy guzzler and there is not much compliance norms for responsible use of these systems in hotels.

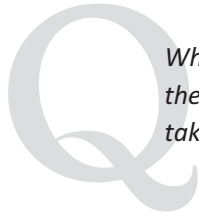
The hotel industry has to not nearly look at financial cost in offering services that define higher convenience levels for its customers. They need to shift the conversation in a way that they are exciting their guests as well as their own staff to bring about rational management systems in the use of such vital resources.

If you extend this precept of responsible tourism to sensitive ecological sectors like the rainforests of our country, then you will see the need for them not leaving a large ecological footprint in places where they run such resorts and jungle



lodges. The promoters of such tourism have to be extremely conscious of the need for protecting the natural resource—the hills and the forests—as an asset for it is the beauty of the landscape that often brings those guests to their resorts. They can't afford to damage these verdant ecosystems irreparably in the long term.

All this needs mentoring. All this needs sensitizing of promoters as well as the staff of such resorts and, of course, the tourists themselves to knowing that they are only hosted by these forests. It is up to every stakeholder to see that they don't damage the environment so badly that they don't leave a legacy for others who will visit such places in the years to come.



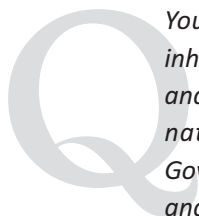
Who or what has been your inspiration in taking up the task of saving the environment, any role models or a specific trigger that made you take up this vocation as a challenge?

That's a difficult question to answer! In the early 80s I saw the tremendous change that people like Aldo Leopold, Rachel Carson in the 60s, Henry David Thoreau in the 19 century, Alvin Toffler in the 80s, Bahuguna and Joshi who worked on the Chipko movement in the early 70s and then Baba Amte in his own ways through the decades of the 70s and the 80s, as well as Anna Hazare who powerfully demonstrated one model of how a village could be transformed into model of good governance.

travel between the late 80s and the early 90s. In one year alone I had traveled over 90,000 kilometers visiting many different organizations and understanding the nexus between water and energy and quality of life; and also understanding the complexities of how governments, communities, and markets have become intertwined over the last 200 years of our market-led development in a vicious spiral that is stripping people in our ecosystems of their dignity and depleting our natural wealth with the greed of industry and contractors feeding the spiral.

I had the privilege of working with Anna. I had also the rare pleasure of working among many voluntary organizations in the hills of the Satpuras, the Vindhya, the Aravallis, in the shrub forests of the Dahod region of Gujarat and in the Araku valley of the Eastern Ghats, close to Vizag. It was a combination of things I read, heard, and experienced in those years of

I saw the sore deficits in such directions and approaches. We realized we can't change the world! We could only demonstrate models that can inspire others to do more. I also saw that as an organization, or as an individual, there is little to achieve if we are donor-based. I began to see that accountability to a specific defined constituent or community is an essential element of any initiative that you want to launch. I was restive in the early 90s to want to do things which would impact, tangibly, beneficiaries in communities at large. I began to understand the significance of human settlements and human ecology. It was a churn of many of these things that led to the birth of BCIL.



You have mentioned in one of your features that of the 8 million species inhabiting the planet it is only the homosapiens that are intent on destroying and degrading their living space. This cynical attitude to the beneficence of nature can only lead to laying the coffin of civilization as we know it. Governments acknowledge this, yet are slow to react, having their own concerns and interests. What is the way out for the thinking man, then?

You couldn't have said it better! Sure, it sounds grim to be articulating such a doomsday thought. The bad news is that in reality there is indeed no other way of

looking at it at all if you take a span of a 1000 years from here on. If we look back over the last 5000 years of organized societal existence with humans creating settlements, you can see that every civilization that was born lived no more



than 2500 years before its own momentum and growth spelt its decline and death. From the Sumerian and Mesopotamian, to the Egyptian and Greek/Roman, every civilization died for want of respect for its natural resources. The Indus valley died for much the same reasons. What is amazing is that each of these civilizations has recorded some of the most profound thoughts on the reverence that we need to offer Nature. The Hammurabi code of the Babylonian civilization had capital punishment for felling a tree as one of the codes! The Indus Valley itself offers some of the most moving poetry that signified their respect for nature and the elements. This Christian civilization which is about 2500 years old now, is also headed for such a demise. But that is only natural. Rivers are believed to have a 'lifespan' of 2500 yrs just as we have about a hundred years, and a butterflies have from 2 to 14 days!

In the cosmic scale of change, birth and death are inevitable and only natural for every living species as well

as for the entire system of Life that the planet and the Universe nurture.

It should not be surprising for us to acknowledge such inevitability of death for a civilization including our very own, if you only understood the enormity of flux and change that earth is constantly experiencing. In the vast canvas of the universe, we can only do what we can and keep offering sanity checks within the time spans of our own existence as a race.

I have found it amusing that most often we talk about 'earth-friendly' or 'planet-friendly' initiatives. The planet will survive; we only have to look at how we can extend our lease of life on this planet which is the only home that humans have!



Have you tried to persuade Government/defense organizations to adopt all/some of the features from your designs?

I appreciate your concern for the sort of change that we all need to bring about in every pigment of activity in the government or in the more destructive sectors of such government activity. We continue to make our effort to seek such change and to persuade stakeholders in various Governments and Government agencies to make such policy shifts in a way that they reduce their eco footprint on

processes that they implement. These are extremely slow processes; size is a big deterrent for decisions to be made. Any such change will only happen with greater commitment that comes from a few unsung heroes from within the Government; it can't come from a few organizations alone.



How about knowledge sharing with individuals the world over who would like to build environment friendly home?

We do our best to make all our knowledge and techniques and technologies an open source option for just about anyone to pick and learn and emulate. There is so much as information that we offer on our website. There are many members at BCIL who blog regularly and share thoughts, perceptions, strategies, and insights in a way that others can be encouraged or inspired into taking to these directions. Our technologies, for example, in areas of water management or air management are open for just about anybody to pick up. Most of what we do is application-driven and not patent-driven. Most of these ideas are not even the exclusive preserve of one BCIL. Our strength comes from

the constant acceptance of traditional knowledge and wisdom and blending it with contemporary engineering understanding. This is something that just about any player anywhere in any segment can do just as well at BCIL today does. The key is engagement; the key is the focus and effectiveness that any organization wants to bring in its effort to go natural resource-efficient; and the key is the implicit reverence we want to bring to Nature in all that we do for a living.



What is next for BCIL?

We can see the need for replicating our processes in a few more cities in a way that we don't achieve scale as much as showcasing these values for others to be inspired. BCIL can see itself making more residential projects as well as a few commercial buildings which will be resource-efficient in dramatically significant ways. We want to see how we can offer our knowledge and expertise in areas of creating eco-conscious tourism infrastructure. We can also see the need for enabling, training, and facilitating many worker skills in the construction and engineering sector. We also see the need for training architects and service engineers into these sustainable directions. BCIL is set to launch this year The Zed School of Environics which has an ambitious agenda, of training over 10,000 people in an array of 12 to 15 critical building industry skills over the next three years. This will be the

first batch of such people who are drawn from the smaller towns and offered proficiency and work ethic.

BCIL also sees the need for structured documenting of many of these processes, so we simplify the challenge for the conventional building industry. We have been working on such documentation of building management systems in collaboration with institutions in Paris, in Seoul and in Manila. We have also been working on policy recommendations to be offered to the Government at the central or state levels in Karnataka in a way that there are efficiencies imputed in the energy and water management areas.

There is a long way to go, we are only one organization however committed our people are. If it has to acquire the form of a movement it will need active engagement from consumers. When consumers begin to say no for buildings that are not efficient on energy, business and markets will be driven to make changes and to raise the benchmark. The story of how Nike had to move swiftly to ban child labor in their factories in China because their customers refused to buy shoes halfway across the globe is an example of such market activism.

The problem is never how to get new, innovative thoughts into your mind, but how to get old ones out. Every mind is a building filled with archaic furniture. Clean out a corner of your mind and creativity will instantly fill it.

- Dee Hock

CHALLENGING THE STATUS QUO : “I HATE YESTERDAY”

The quote about symbolises the need for change. Not for its own sake but to make life a little better for us. A rebellion against the status quo. Better known as Innovation. It has been widely accepted that in the globalised set up today, innovation is the most valuable input enabling a business to stay afloat – let alone thrive. In other words, innovation has to be a continuous process for an organisation to retain its identity and foothold in the world of business. Put differently, innovation may help you stay in business, but the level of innovation is crucial to ensuring that your business remains continually relevant to the consumer and to your business. This relevance alone will decide whether the business will thrive or merely exist.

Innovation is a function of not just the decision maker, but every stakeholder in the activity. That is why, it is recognised universally that it is important to create an environment that is pro-innovation in the organisation. Organisations may provide various enablers to give innovation a leg up. In fact, it is also understood that monetary incentives alone do not ensure realisation of the business objective – as man does not live by bread alone. An enabling atmosphere, that empowers the ability to innovate in the employee by providing him the wherewithal through positive feedback, appreciation, appropriate infrastructure, recognition and nurturing of talent. Motivation needs to be driven by the creative engine in the individual and the ever present need to deliver products and services that add value – through reduction in cost, or improvement in quality, or attending to a latent need in the consumer, which had remained unnoticed.

Management gurus have many interpretations of the origins of the innovation experience. To some it is the consumer’s need that a product or service could attend; to some, it is attending to a need the consumer did not even realise existed which brought the market closer to the business and enabled the bottomline to zoom.

How good is the Indian record in innovation? The Indian market has seen a flood of innovations in the last twenty years or so. It is not a coincidence that the unexploited talent in the Indian entrepreneur to create new products and services has come into the open with the coming of the liberalised economic scene. These years have seen fiery competition from not just Indian entities, but global with the floodgates having been opened by the Government, leaving little option for the business but to

VG's 10 REASONS WHY INDIA CAN INNOVATE

Freedom of speech and willingness to disagree foster creative solutions

Very **high-calibre** human capital

Diversity in the true sense of the term, the key to stimulate intellectual discourse

Functioning capital market and venture capital sector to fund new ideas

Young population is more rebellious and wants to challenge the rules of the game

Entry of **global competitors** into India threatens the status quo

Lack of legacy technologies, which offer leapfrogging possibilities

Unique market structure, customer needs and affordability

Excellent Institutional Infrastructure such as MBA programmes, legal framework, market research firms, etc.

Stress on **science and technology** education

innovate or perish. And the examples of innovation in Indian business are not few. If anything, they have exploded onto the scene with a Tata Ace, or the Nano, or even the humble vada pav that has revolutionised the eating habits of the young generation, which enjoys the taste and the price, and the lowly worker – whose quest for cheap food it meets - all in one stroke! Not forgetting one of the 20th Century's greatest innovative business models – the humble Dabbawala of Mumbai, which has had Management icons wondering why they could not have thought of the errorless supply chain model!! Tuck School's Vijay Govindarajan believes India is ideally suited as an Innovation hub for various reasons like the presence of global competitors with the liberalisation climate, relative young age of the Indian citizen etc. (see box inside)

Yet, the potential for innovation is yet to be fully exploited, if the World Bank report on Innovation released in 2007 is to be believed. It also has recommended a three pronged strategy to achieve its potential and to catch up with the rest of the world :

i) increased competition; ii) better dispersion of knowledge
iii) improve existing pro-poor initiatives in R&D; improve ability of informal enterprises to exploit knowledge. (See Executive Summary elsewhere inside). Others have tremendous confidence in the ability of India to match up to the world in this area and for good reasons.

To take a look at innovation as an inalienable factor of business in India today, and to recollect their experience, we requested some of the best practitioners and academics to put it together for us. From the veterans to the refreshingly young in the team of performers, they have come up with some refreshing insights into the art and science of Innovation, interspersing it with their own reflections and of course their prescriptions for a better Innovation climate.

Curtain Raiser



The Innovation Imperative

Dr. Ganesh Natarajan
 Vice-Chairman and CEO,
 Zensar Technologies Ltd. and
 Chairman of CII's National Committee on IT and ITES

Ganesh has been a reason for many turnarounds in the Indian IT industry, some of which have been the then little known education and training companies Aptech and NIIT. During his ten-year stint as CEO of Aptech he grew the company's revenues fifty times and listed it on the Indian and London Stock Exchanges. His next move was when he was invited by the RPG leadership to take on the reigns of Zensar - the legacy of a hardware company with lack of strategies to take on a market that had completely transformed by light years now! Ganesh yet again under his leadership metamorphosized Zensar into one of the Top 20 IT companies in the Indian software industry in a span of less than ten years.

As Chairman of NASSCOM, he has led this USD 73.1 billion industry in 2008. He has also been the driving force behind the vibrant Innovation Forum at NASSCOM for the past three years.

A Gold medalist in Mechanical Engineering and Industrial Engineering, Ganesh has a doctoral degree in Knowledge Management from IIT Bombay and has authored books McGraw Hill Books on Business Process Reengineering and Knowledge Management. Ganesh has won numerous awards and international recognition for his stellar leadership role in the IT industry.

Innovation is the watchword for all high growth industries today. In an environment of intense global competition, companies that do not have a differentiated value proposition and a unique "point of view" will lose out to more nimble competitors in the race for supremacy. One industry sector that has demonstrated its ability to morph its own business model and succeed against all odds is the Indian IT sector. This industry in India has achieved nothing short of a miracle over the past twenty years and the acceleration of growth in the last decade has been a matter of pride to all industry participants and the Government. What was once the core strength of the Indian community – intelligence, quick learning and assimilation capabilities, comfort with the English language and the aspiration and willingness to build careers in any part of the globe, has been converted into a significant value proposition of quality and innovation that pervades teams and organisations. The result has been the creation of an industry that stands head and shoulders above all the contenders for delivering any technology or process solution from an offshore location.

The development of this defensible position of supremacy has been achieved in part through capabilities at the individual and firm level and to a large measure through the early recognition of the potential of this industry by the Government and its support to enable the industry to convert its early promise and potential into winning performance. The early beginnings of the industry which saw early players like Tata Consultancy Services (TCS) sending bright Indian engineers on projects abroad created the beginnings of what would become a world beating capability in the eighties and by the early nineties, other firms like WIPRO and Infosys had joined the party with the seeds of what would become India's top three multibillion



dollar firms firmly sown on global soil.

During the eighties and right through the nineties, the Indian contribution to the global Information Technology sector was primarily in the area of onsite professional programming services particularly in the US and UK where the shortage of technical manpower led to Indian visa entrants being welcomed with open arms. During the nineties, project management responsibility also was taken up by Indian firms with Indian companies opening offices in the US and UK and scaling their presence in client engagements in these countries. Other markets like Japan, continental Europe and South East Asia became new frontiers for exploration by the Indian IT sector though the willingness to get work done offshore was still weak in most of the countries.

The turning point which tipped the scales in favour of the Indian offshore development and support industry came in the late nineties with the fear of catastrophe over the Year 2000 problem. Predictions that the date change from 1999 to 2000 would create major problems with all computer systems where a two digit date field had been used sent American and European CIOs scurrying to look for alternative locations which could take on the gargantuan task of fixing multiple millions of lines of legacy program code which became the great millennium bug opportunity for Indian firms. The quality and speed demonstrated by Indian majors like TCS, WIPRO, Infosys and Satyam in deploying large teams of competent analysts, designers programmers and testers offshore gave confidence to the world that serious technology projects could be undertaken and completed at offshore locations by Indian firms.

The Dot Com revolution that was spawned by the rapid proliferation of the Internet also created a series of

opportunities for Indian firms as young entrepreneurs flush with venture capital funding gave projects of high levels of complexity to be developed offshore. This combination of legacy systems through the Year 2000 problem and advanced technology development for the Internet generation gave Indian firms a well rounded capability and reputation that would truly signal the march of the industry to its position of supremacy. The brief hiatus caused by the collapse of the Dotcom economy at the dawn of the millennium was overcome by the new confidence that Indian companies displayed in engaging with global clients and the industry was now on a roll.

If it was the legendary F.C.Kohli, the founder of TCS who could be credited with the creation of the IT Services industry, it was a young firebrand called Raman Roy who used his credibility in the American Financial Services industry to create the Business Process Outsourcing industry in India. The creation of Spectramind which was later to be bought by WIPRO and the discovery of Indian capabilities in a host of business process areas like Financial Transaction Processing, back office accounting and human resource processes and other business and IT enabled services gave momentum to a new arm of the industry. IT services too spread during the decade to embrace new opportunity areas beyond applications development and maintenance. Infrastructure support leading to Remote Infrastructure Management, Independent testing services, Engineering services and advanced skills in embedded systems and hardware programming have enabled Indian firms to increase their portfolio of services on an ongoing basis.

One area where Indian firms have lagged behind their counterparts in Silicon Valley and even Israel and the Nordic region of Europe is the development of products. Apart from success stories like iFlex which was created out of Citibank and eventually acquired by Oracle Corporation and smaller startups on one hand and product initiatives of large services firms like Infosys, the segment of products lagged behind services and continues to do so to this day.

And who were the partners that have supported the industry through its success journey of the last twenty years or so? The Government has played its role, initially by just leaving entrepreneurs like Kohli and Ramadorai of TCS, Azim Premji of WIPRO and Narayana Murthy of Infosys alone to build their global companies and then coming in with central policies like the STPI (Software Technology Parks of India) scheme which gave the right boost through tax incentives



to make this industry an aspiration point for young professionals as well as entrepreneurs. Venerable industry associations like NASSCOM (National Association of Software and Services Companies) and CII (Confederation of Indian Industry) have given a collective voice to the industry in domestic and international forums and the abundance of talent being trained in engineering and IT schools provide the fuel that feeds the Indian IT and BPO engine with talent and skills for new challenges in the global marketplace.

The learnings from the story of this industry are simple. At the industry level, business model innovation is of paramount importance as political and economic compulsions drive predominantly on site staffing models to become more offshore centric and will now move into multi-shore models where collaborative working relationship with clients and countries will become the order of the day. The industry is also moving towards a much more product and intellectual property centric model and extensive innovation is happening in project delivery processes to ensure that profitability levels can be maintained in spite of cost increases in our fast growing economy.

THE ZENSAR EXPERIENCE

The success story of Zensar is a classic example of innovation at all levels that has helped a small 500 people company in 2001 to transform itself in ten years to a 7000 people, 1500 crore organisation which is what we expect to be by end of 2011. In three stages the company has spread innovation everywhere in its operations, initially as a strategy to win clients through a differentiated story and today as a way of life. Key areas that stand out are

1. Innovation in Service Development – From a traditional on site and off shore staffing company, the company has embraced new services every year – package deployment, infrastructure management, testing, consulting and in the recent recession in the US and Europe, new services like First Time Offshoring and Impact Sourcing which enabled customers to get guaranteed outcomes from an engagement with Zensar.

2. Innovation in Marketing – The company was one of the first to extensively use a variety of channels, from telemarketing to internet based marketing to social networks with the use of Facebook, LinkedIn, YouTube and even Second Life to attract both potential customers and employees.

3. Innovation in Sales – Early on in its transformation,

the company committed itself to globalizing its sales force. One of the few companies in the industry to have over seven percent of its employees who are not from India, the global sales teams are made up of Americans, Europeans, Japanese, Chinese, Arabs, Singaporeans and South Africans and enable the company to think global but act local in all its markets.

4. Innovation in Service Delivery – The first to acquire the prestigious SEI CMMI certification for its delivery processes, Zensar today is widely seen as one of the highest quality providers that still prides itself on its flexibility and customer orientation in all its service areas.

5. Innovation in Talent Management – Much has been written about Zensar's unique initiatives in this area which has enabled single digit attrition of its critical talent through the years. The Vision Community process of Zensar which integrates the voice of all levels of associates into Zensar's strategy formation process is the subject of a recent case study by Harvard Business School.

Zensar is one of a few companies which have truly chosen the path less traveled and innovated at all levels to succeed in the brutally competitive global marketplace. As India moves towards a tryst with a truly global destiny, relentless innovation supported by an eco-system that all the players – Industry, Entrepreneurs, Financing agencies, Government and Academic institutions must participate in, will be the reason for success of the visionary players. With innovation as our watchword, there will be no stopping India!

Creativity is allowing yourself to make mistakes. Art is knowing which ones to keep.

- Scott Adams (1957 -),
'The Dilbert Principle'



*If things seem under control, you are just not going fast enough.
- Mario Andretti*

The Webster's dictionary defines 'innovation' as a new idea, method or definition. Peter Drucker defines innovation as 'a change that creates a new dimension of performance'. In today's business environment, innovating effectively is a tool for achieving competitive advantage. Yet, only a few Indian organizations are able to generate creative ideas and effectively move them to market regularly. Management of innovation and ushering in an environment conducive to innovation, changes the way people think about their business, giving them a deeper understanding and means of implementing change to remain competitive.

Innovation is all about taking an idea and converting it into value, most often measurable in terms of some numbers (financial or otherwise) for someone (if possible everyone). Hence both the idea and the use of the idea (commercialization) are important for any successful innovation. Some Indian organizations have lately realized the importance of innovation for sustaining high rates of growth and pursue an innovation strategy. However, not all Indian firms have tasted success in their innovation endeavors. Some have succeeded while most have failed. Some organizations also confuse improvisation with innovation. The short term focus on quarterly results is another reason for their failure to innovate.

People often site Tata Nano as a example of Indian firms growing innovativeness, but the success of Tata Nano car is more of an exception than a rule, when it comes to innovation from Indian firms. One must realize and appreciate the efforts of Tata Motors and understand that the success of

Improving the Environment for Innovation in Indian Firms: Prescriptions and Industry Trends

Dr. Nirmalya Bagchi

Associate Professor

Administrative Staff College of India, Hyderabad



Dr. Nirmalya Bagchi is Ph.D in Business Management from University of Calcutta and an M.B.A. He has also been trained at the Indian Statistical Institute, Calcutta on Statistical Methods and Applications and by SAS on Data Analysis. He has also attended training programmes by UNAPCICT and UNICEF.

He has completed consultancy and research assignments for several governments (both Central and State Governments), international organizations like European Commission and business organizations.

He has about 10 years experience of teaching, training, consultancy and research in various management capacities. He has also authored several academic papers and books.



innovation in Tata Motors did not happen overnight. They have been at it for a long time now having faced many failures in the past 20 years (problems with Tata Sierra, Tata Estate, IndicaV1) and learning from them all along. Very few Indian companies have shown this kind of vision and patience.

Organization Factors that Need Change to Promote Innovation in Indian Firms

To grow through innovation, Indian companies must first accept the fact that to be innovative also means embracing failures as they come, to take risks and move on. Most companies are risk averse and hence are not inclined to try new ideas. Also one must appreciate that not all innovative ideas will succeed as innovative products or services in the market. There will be failures and the Indian firms must accept it as part of the package. All major innovative companies have gone through this churning of failures and successes and only those have come out winners are those that have not lost faith in the pursuit of innovation.

The other aspect of ushering in an environment of innovation is to have a long term focus. Most Indian firms especially listed firms have a tendency to focus exclusively on quarterly financial results as an indicator of the health of the firm. Too much focus on quarterly result makes the firm short term in its focus depriving innovative projects of the much needed dollops of cash.

Another misconception in Indian firms is that innovation ideas /efforts are restricted to R&D departments. Studies

have shown that when it comes to ideas, anyone can come up with an innovative idea. Even customers come up with innovative ideas. Indian firms have to learn and perfect the technique of harvesting innovative ideas from all stakeholders. Some of the great innovator companies like 3M and Google regularly harvest innovative ideas from their customers and other stakeholders. 3M in fact, has a very successful methodology of developing innovative projects in which it shares its innovative project ideas with its lead users, who in turn develop it further into a

“

To grow through innovation, Indian companies must first accept the fact that to be innovative also means embracing failures as they come, to take risks and move on.

”

functioning innovative product.

The organization culture of Indian firms needs to change. Indian organizations must now promote

- greater risk taking,
- encourage employees to have greater entrepreneurial alertness,
- encourage projects to have cross functional teams,
- create the right measures and metrics for measuring innovation and link it up with reward management,
- exert strong leadership on innovation Strategy so that innovation is integrated into the organizations' basic mentality,
- manage the healthy tension between creative people in the organization and control people,
- neutralize organization antibodies – who only have a pessimistic outlook, and
- recognize that the basic unit of innovation is a NETWORK (encompassing people from both inside and outside the organization)

Innovation Trends in the Indian Entertainment Industry : A Case

Entertainment is an industry that thrives on creativity and ideas. Hence it would be fair to imagine that the entertainment industry is full of innovations. But, contrary to expectations, it is not so. The industry is traditional in its structure and business models, managed mostly by people with rigid ideas and run by family owned business houses. The same studios churn out movies by the dozens; the same broadcasters continue to hog TRPs, the same guys make blockbusters, and the same themes rule the roost. Take for instance the Indian movie industry. The same production houses are churning out the same pseudo-emotional (girl meets boy, marriage video, NRI comes home, etc.) big



budget movies from the time Eros found out that there is good money to be made abroad for such films. The herd mentality in this industry is endemic. Only once in a while do we get a “Chak De” or a “Page 3”. New entrants only make an impact at the tail (of the normal curve) instead of the head as would be expected in a vibrant high technology industry. Rarely do we get to report a case like the latest blockbuster Paranormal Activity <http://www.paranormalactivity-movie.com/> which had adopted an innovative strategy of using the Internet only (for marketing etc.) from a traditional approach of Internet too, in the Indian entertainment industry.

Broadly speaking the industry can be segregated into two parts; the content developers and the content disseminators (media/medium owners/distributors). Barriers to innovation exist in both parts. However, some recent trends in the industry are encouraging. First, movies with hackneyed plots, 40+ heroes starring with 20 something heroines running around trees, NRI plots, remake of Hollywood movies, and big budget hype generating movies with moronic plots are getting thumb down in the box office, Second, saas-bahu serials are having low TRPs and third, the convergence happening in the media space. All these trends are forcing the industry to innovate. Here I have listed a few of the business innovations that the Indian entertainment industry has taken to.

Biz Innovation in the Content Generation:

New Offering: Indian Premiere League

It is very difficult to define the Indian Premiere League. It can at best be defined as a bhel-puri product with the ingredients (in order of) high-octane drama, rivalry, personalities, fashion, pelvic gyrations, spicy commentary, gambling-match-fixing, and also cricket. The last time someone came out with an offering like this was Emperor Vespasian for the Colosseum in Rome. It

truly is a Blue Ocean product.

Business Model Innovation in Television:

From Saas-Bahu soaps to Reality Television – From Advertisements only to Advertisements, promotions, and voting revenue.

Reality television is exploitation, voyeurism, and drama at its best. This new kid on the block has already replaced sentimental drama serials with predominant saas-bahu plots. Even though the idea is from US, reality television has a good future in India. The producers have quickly found out that making serials will get them only ad revenues but making reality shows will get them, ad revenues, voting revenues (from all the millions of fans who send SMS to vote in a reality show), promotion revenues, endorsement revenues and more.

News as Entertainment:

The channels have figured out that this new product actually sells. Who cares for corruption or displacement, when one can watch a child being rescued from a tube well? This new product is gradually becoming so popular that the real news channels have also diluted their content and focus more on sensationalism and entertainment. Leaders with high EnQ (entertainment quotient) are therefore in high demand.

Biz Innovation in the Content Dissemination:

TV on the Net: Nautanki TV (<http://nautanki.tv/>) - is a service available on the Net. One can watch all the soaps on this site.

Release of Music in SD Cards, USB drives etc.: The case of Blue (<http://contentsutra.com/article/419-star-channels-on-mimobi.tv-simultaneous-digital-music-release-for-blue/>) is another innovation in this space.

Direct to DVD & DTH release – more and more movies are being released simultaneously on DTH and DVD along with their theatre release to cater to a wider audience.

Direct to Movie Theatres - aimed at limiting piracy, the producers are directly beaming the movies (digital) to small town theatres from their servers.

“

Broadly speaking the industry can be segregated into two parts; the content developers and the content disseminators (media/medium owners/distributors). Barriers to innovation exist in both parts.

”



Merchandising: Kris has shown that there is potential in this idea. To do a Jurassic Park level merchandising in India will obviously take time, but the beginning has been made.

Innovation Trends in the Indian Pharmaceutical Industry

The Indian pharmaceutical industry was over US \$ 20 Billion (Rs 95,000 Cr) in the year 2008-09, made up of US \$ 12.2 Billion (Rs 55,454 Cr) domestic market and US \$ 8.8 billion (Rs 39,537 Cr) exports market. The industry has been showing a Compounded Annual Rate of Growth (CARG) of 14 % over the last 3 years.

The Indian pharmaceutical industry is highly fragmented with over 20,000 registered companies. The number of active companies is about 6,000. The largest company in Indian market controls only 7 % market share and the top ten accounts for 30 % market share. The top 250 companies in the organized sector account for 75% of the sales. The MSMEs fulfill a large part of the market.

The Indian pharmaceutical industry is building up world-scale capabilities in pharmaceutical manufacturing. Indian capabilities in manufacturing stem from a strong knowledge base in synthetic chemistry, process innovation, low-cost manufacturing and a deep understanding of the patents. In other stages of the pharmaceutical value-chain, namely discovery, development and marketing the industry is slowly building competencies.

Process innovation is prevalent widely in the bulk drug industry to develop a non-patent infringing process of manufacturing a drug. India in general and Hyderabad in

particular is strong in process innovation. In formulations, Indian companies undertake innovations in novel drug delivery systems, by developing innovative methods of drug release, dosage forms etc.

The innovation in the pharmaceutical industry can be in many forms.

New Drug Development – this is the main innovation for the pharmaceutical industry as it enables them to come out with improved drugs for diseases. Indian companies are in this race too but have not met with any success yet. However, several

molecules are in different stages of trials and development and some successes are expected. This route of innovation is primarily taken up by big pharmaceutical companies.

Novel Drug Delivery System – is the type of innovation that is used in the formulations of drugs to enable the drug to remain within the human body for longer or shorter duration. Also, the different forms of delivering the drug into the human system fall under this category. This kind of innovation is pursued by both small and big companies and some major successes have been achieved so far.

Process Innovation – this is very important for India as most bulk drug companies undertake process innovation for reengineering a drug. This type of innovation is most prevalent in India and almost all pharmaceutical companies have to resort to it to remain competitive.

Business Innovation – is the type of innovation that companies in this industry undertakes to improve their business processes for better margins. Some mid sized and big India pharmaceutical companies are toying with this concept with mixed results.

Packaging Innovation – in this type of innovation, the drug is packed in an innovative manner. In regulated markets, it is sometimes mandatory to have drug containers like bottles etc. to have child lock and other such requirements so that the drug is not accidentally taken by anyone. This type of packaging requires a lot of innovation in packaging.

“

Process innovation is prevalent widely in the bulk drug industry to develop a non-patent infringing process of manufacturing a drug. India in general and Hyderabad in particular is strong in process innovation.

”

Training is everything. The peach was once a bitter almond; cauliflower is nothing but cabbage with a college education.

**- Mark Twain (1835 - 1910),
Pudd'nhead Wilson (1894)**



Innovation can happen better in an unstructured rather than a structured architecture, says Mr R Gopalakrishnan, quoting the Tata Experience.

I have always been deeply respectful of innovation and ingenuity in management. Individuality matters when it comes to create innovations. When we say innovation, we come up with names like I-pod, Google, etc. Innovation broadly means, some invention that has changed our life. However, that's a wide perspective. A pin pointed approach would throw focus on a small thing like a tribal boy taking to management studies as a case in innovation. Anna Hazare developing his own village ecosystem entails innovation. With no set boundaries and plans, innovation needs the right mindset and the context in which it takes place.

Before I joined the Tatas, I was with Hindustan Lever for 30 years, where I had developed a habit of training myself on using products made by my company. I used to brush my teeth after every meal with an HL toothpaste. Once, an American classmate came and complimented me for this habit and yet put forth a different perspective on what I was doing. There it dawned to me that life is too programmed if it goes through the rigours of strategic management. A disciplined approach towards management is required, albeit in a different perspective.

STRATEGY VERSUS INGENUITY : Generally, in management schools, analytical skills are imparted and students emerge after two years thinking there is plenty to take away. Even if these institutes impart a great deal, they teach analytical skills that are applied for obtaining solutions. This is a strategic way of tackling a management process. However, nowhere are students taught to innovate and create ingeniously. That has to be learnt by oneself.

Let me dwell upon the difference between strategic management and innovation. The difference is akin to that of between a biological and a physical system. Biology

INNOVATION AND INGENUITY: THE TATA EXPERIENCE

R. Gopalakrishnan,
Executive Director,
Tata Sons Ltd.



R Gopalakrishnan worked for his first 31 years in India's most Indian multinational, Hindustan Unilever. Since then, he has worked for India's most multinational Indian company — Tata.

Currently, he is the executive director of Tata Sons. He is also the chairman of Tata AutoComp Systems, Rallis India and Advinus Therapeutics, vice chairman of Tata Chemicals, and a director of Tata Power and Tata Technologies.

He also serves as an independent director on the boards of the Indian subsidiaries of Akzo Nobel and BP Castrol.

Gopal studied physics at Calcutta University and engineering at IIT. The recent senior appointments held by Gopal were: Chairman of Unilever Arabia (based in Jeddah), followed by managing director of Brooke Bond Lipton India (based in Bangalore), followed by vice chairman of Hindustan Lever.

He joined Tata Sons in September 1998 as executive director.

Gopal is involved with education through his board memberships of a school and two management institutes. He is a past president of All India Management Association. He has delivered guest lectures in India and abroad. His articles have been published in management journals and financial newspapers.

In 2007, he authored his first book, The Case of the Bonsai Manager, published by Penguin India. In 2010, his second book titled When the Penny Drops: Learning What Is Not Taught has been published by Penguin India.



teaches us so much of management and especially botanical systems do so. In a botanical system, there is a flexible architecture that caters to the canopy of the plants first. There are aligned aspirations where the roots or senior most parts of the plant agree to the distribution of food where the juniors in hierarchy are catered to first. The biological world has a management system which does not have a critical set of rules of operation like that in a physical system. Also, in these systems, there are permeable boundaries.

Management is generally taught as a rational and analytical subject. Principles in Physics demand that any repeated physical experiment yields the same result. However, biology has multiple pathways. I marvel at how much managers can learn from biological systems rather than physical systems. A part of management curriculum should include the biological or botanical point of view of the world.

INNOVATION FRIENDLY ATMOSPHERE AT TATAS : As Ratan Tata rightly says, "In many cases I find there is no innovation. My concern is innovation should not be evolved because it is necessary. It has to be part of the DNA of the structure of a company...The company should never put down an employee when he or she comes up with an innovative idea. A company should create space for leading innovation differently. There has to be an atmosphere conducive for innovation. In a global environment, we cannot be leaders unless we innovate."

In a strategically planned and designed management system, there is little scope for innovation as everything is planned and devised to operate in a certain fashion. There are patterns of operation and solutions to be had. There are

quick fix solutions for everything and things are done in a step-wise manner. Even after all this there are questions to be answered. Here comes in innovation. As, in an innovative system, things happen naturally.

Rather than treading upon a set blue print for operations, it is important to go about it naturally. In my career of 42 years, almost everything that happened, happened so without planning. I have deduced the same about the Tata group, which I think believes in creating an innovation friendly management structure for its companies. My perspective on Tatas is different than the others.

“

The biological world has a management system which does not have a critical set of rules of operation like that in a physical system. Also, in these systems, there are permeable boundaries.

”

Many of Tata enterprises are a result of successful innovation strategy, fluid pattern of management and setting up of permeable boundaries.

Like in the biological systems, you have to create permeable boundaries, aligned aspirations and a flexible architecture, one needs to create fluid organizations. In reverse, in physical systems, there are physical boundaries drawn. One closes the debates on innovation too soon as the set of critical rules don't allow thinking beyond the 'plan'. For instance, the country's bureaucracy. Having permeable boundaries implies that having organization structure is not always necessary. In terms of innovation, we have to give up on a routine approach. At Tatas, we have achieved it through various endeavours.

THE TATA FAMILY : Tata is a large organisation... There are many organisations under its fold at various levels of hierarchy. If one draws an organogram, there are the great grandfathers, the grandfathers, the fathers and the grandsons. This is in reference to very old and foundation companies of the group like the Tata Trusts which include the owners (nearly 18 trusts), then Tata sons and Tata industries, followed by companies like Tata Motors and Tata Steel etc. The latest entrants in the family are like the canopy of a tree – companies like Infinity Retail and 8 O'Clock coffee etc. The Tata empire works like a tree where the sunlight and all the photosynthesis first benefits the newest entrants. This is the relevance to a biological system. In this eco-system, the scope for innovation is very high.

SOME CASE STUDIES : When it comes to a subject like innovation, we land in a complex jungle. To wade our way through this intricate and most debated topic, let me elucidate a few case studies, in which the Tatas have proved that innovation matters.

TATA SALT : The case study that immensely interests me is the brand - Tata Salt. The world's largest packaged salt company. The tag line "Desh ka namak" entails feelings of



patriotism. How did Tata salt happen? This was a country with no super markets! In a country where people bought things loose, there was no concept called packaged salt. The idea of Tata Salt came up innovatively. This is the best form of intuitive innovation. Tata Salt happened as a different idea was floated. It has a very young history. Tata salt was launched in 1982 and portrays the best form of intuitive innovation. In less than 30 years it has become a big brand.

It so happened that Tata Chemicals, the company that makes this product, is a group company involved in making chemicals needed water for its operations. It has its factory in the drought prone Mithapur, near Jamnagar, on the coast. The company started pumping sea water that was evaporated and loads of common salt was left behind. Along with the salt also come other chemicals like sodium and bromium. It was decided to offload the salt that came out from the sea, for free. An enterprising distributor intervened. He came up with an innovative idea as he suggested, "Why don't we sell the common salt under the Tata brand name? I shall do the entire packaging, distribution and invoicing. Let the Tatas do the marketing?" Till then, the country was used to buying only loose salt.

This was happening in the land where Gandhiji had led the Dandi March 50 years ago. This was the world's purest salt – vacuum dried. It was decided that the distributor would take the lead in distributing it. "Let's call it Tata Salt", it was pronounced. Thus, the entire process of invoicing, distribution and packaging was outsourced and the marketing activity was retained with the Tata Group. With innovative marketing, Tata salt penetration in the market went up tremendously after the launch. Without attacking the basic products of Tata Chemicals, a bye product, as pure as god-made was sold and soon it became history in the world's food industry. We created a product out of waste. Tata chemicals managed the marketing as the Tata name was in use..a consumer product was created. This product was launched

with effortless ease. Isn't it an excellent case in innovation? To talk of permeable boundaries, the company worked with the distributor, without critical rules or stringent guidelines. The company concentrated on building the brand but the distributor did the operations..Under the head of aligned aspirations, I can say that this breaks all the rules of marketing. The entire senior management co-operated and agreed to the process. This model defied all the principles of strategic management. If we go by the 4 Ps and 7 Ps and the marketing strategies, everything was defied here. India's most trusted food brand happened out of innovation.

OTHER EXAMPLES : How Benetton built a clothing empire by using mere instinct and intuition to make a global brand is interesting. Also, the hotel Chain Ginger, from Tatas, is an excellent case in innovation.

Ginger Hotels is a novel case in innovation. This is the country's largest chain of economy hotels under the Tata banner. There is no staff to carry luggage. There are no frills. Only basic hotel facilities. There is no billing - one needs to use a credit card and walk out. This idea came out from C.K.Prahlad. With very low costs of investments and operations, these hotels charge one third lesser than regular hotels. The outsource ratio is high. With 14 hotels in the chain initially, now it has grown to big proportions. The biological architecture that I refer to realized early on, one needed a mindset. People with a different mindset carved out a different company with a flexible architecture. A flexible architecture was allowed. The business model was developed with minimum critical rules. This was an innovative step. The burden of the brand 'Taj' was not tagged along as this hotel didn't give any luxury service. When I talk of aligned aspirations, my colleague Vice -Chairman Krishnakumar and Prahlad participated in the evolution of this model. Most of the things were outsourced.. Therefore there was the lowest number of staff. I think, an intuitive way is thus the most innovative.

TATA ACE : The Tata Ace is another case study in the transport segment that has revolutionised transport systems in the country. The Tatas have to be credited with great innovative business ideas indeed.

“

With innovative marketing, Tata salt penetration in the market went up tremendously after the launch. Without attacking the basic products of Tata Chemicals, a bye product, as pure as god-made was sold and soon it became history in the world's food industry.

”



Before Henry Ford invented a motor car, it was difficult to imagine a carriage sans a horse pulling it. When Ford's first car came out, the tag line that was pressed into service was, "World's first carriage without horse". It was a major innovation at that point of time. Similarly a major turnaround in the transport segment came about when the Tatas introduced the Tata Ace, a four-wheeled mid-size transport vehicle with great capacity. Easy for short and long hauls for cargo that is small for truck loads, Ace came as an innovation over the traditional three-wheeled-tempo. This came about as an ideal vehicle for cargo loads up to three tonnes. In a short span, the vehicle has become an ideal example of intuitive innovation to create market space for a hitherto unknown product and create a niche for it.

Innovation can be broadly categorised as product innovation, service innovation, process innovation, business model innovation and social applications innovation. Management literature places a thrust on holistic innovation. The rampant use of mobile phones in India is such an innovation over the regular traditional telephone in India. The revolution brought about by Dr Kurien at Amul is a pathbreaking business model innovation. It changed the lives of millions of people in India. The offshore delivery model that TCS invented in software sector was a major innovation. It was the first time that this was developed in India. The Ginger Hotels are a service innovation and Tata Salt is a case in process innovation.

The concept of innovation at Tatas has been there all along. In the nineteenth century, the Tatas brought home the technology of ring spindles in textile industry. This was a

revolutionary equipment deemed to be highly risky elsewhere as it had driven millions jobless. But in India, when Tatas leapfrogged to ring spindles, they built a successful empire based on textiles which became a base to other businesses eventually. In 1982, Jamshetji Tata established the J.N. Tata Endowment Fund, which was the world's first and largest charitable trust for public use. Later he went on to create the iconic Taj Mahal Hotel in 1903, as he was refused entry to Hotel Watson. At a fare of Rs 8 per day, anyone could enjoy the luxuries of a five star stay, which was restricted to 'whites only' then. It was a curious case in innovation

“

...the Aravind Eye care technique where cataract operations are done for 4 to 5 dollars is a huge context based innovation that affects lives of millions.

”

indeed.

In 1951, the country's first cosmetic company was created by Tatas. Indira Gandhi who was a leading Congress leader then was approached by some women when the entry to foreign companies was restricted in India. She approached Naval Tata and requested him to set up a cosmetics company for India's women. Eventually, in a trip to Paris, Naval once saw a French play based on a tribal girl called Lakshmi. The French version of Lakshmi was called Lakme. He instantly decided that he would call his cosmetics company as Lakme and launched it. Lakme, soon became the country's largest cosmetic company that was later taken over by Hindustan Lever.

The launch of Nano has caught everyone's attention in the world. A dollar 2500 car is an innovation that wouldn't have been thought of by anyone else in the world. Nano is an example of context based innovation, where the context demands innovative ideas. Similarly, the Arvind Eye care technique where cataract operations are done in 4 to 5 dollars is a huge context based innovation that affects lives of millions. The meticulously operated system of Mumbai dabbawalas is a case in ingenious innovation. For us Indians, innovation is natural to us and is part of our DNA. We must capitalize on this and go ahead. I advise the younger generation to go by this and keep the innovative spirit alive at all times, because now the survival of Indian business depends on it.

(This is an edited transcript of the address by Mr Gopalakrishnan under the Tapasya Gyanganga Lecture Series. Transcribed by Ms. Surhuda Kulkarni)

You will find that the State is the kind of organization which, though it does big things badly, does small things badly, too.

- John Kenneth Galbraith (1908 - 2006)



India is increasingly becoming a top global innovator for high-tech products and services. Still, the country is underperforming relative to its innovation potential— with direct implications for long-term industrial competitiveness and economic growth. About 90 percent of Indian workers are employed in the informal sector, and this sector is often characterized by underemployment, as well as low-productivity and low-skill activities. Although India has the benefit of a dynamic young population—with more than half of the country’s population under 25 years old— only 17 percent of people in their mid-20s and older have a secondary education. To sustain rapid growth and help alleviate poverty, India needs to aggressively harness its innovation potential, relying on innovation-led, rapid, and inclusive growth to achieve economic and social transformation. One of the unique features of this book is its focus on inclusive innovation— that is, knowledge creation and absorption efforts most relevant to the needs of the poor in India. This is in addition to the book’s emphasis on how faster growth can be facilitated by promoting “new to the world” knowledge creation and commercialization—the traditional understanding of the term innovation—as well as through often underappreciated but even higher-impact “new to the market” diffusion and absorption of existing knowledge.

To unleash its innovation potential, India needs to develop a three-pronged strategy:

1. India would benefit from increasing competition as part of efforts to improve the investment climate, supported by stronger skills, better information infrastructure, and more finance—public and private.

- Competition is vital to unleash innovation. India must encourage stronger competition among enterprises. Since the Indian economy was opened up in 1991, the private sector has invested the most in research and development (R&D) in the

Extract from the Executive Summary, World Bank Report on Unleashing Innovation in India

sectors most open to competition. In 2004, enterprise R&D was more than seven times higher than in 1991. Recommended actions to spur competition include removing nonessential regulations and applying essential ones more transparently in product, land, labor, capital, and infrastructure services markets—for example, easing limits on small industries, restrictions on foreign direct investment (FDI), and barriers to import competition, as well as introducing bankruptcy reforms and modernizing the Industrial Disputes Act.

- Limited skills and training are a major bottleneck. Only 16 percent of Indian manufacturing firms offer in-service training, compared with 92 percent in China and 42 percent in the Republic of Korea. The Indian firms that provide in-service training are 23–28 percent more productive than those that do not. Moreover, gross enrollment in higher education is only 12 percent in India, compared with 90 percent in Korea and 68 percent in the Russian Federation. The skills bottleneck could be unblocked by providing public matching funds for firms to invest in training, increasing the fiscal and managerial autonomy of universities and colleges, and increasing private participation in higher education.

- Better information flows are needed. India is already the world’s fastestgrowing market for mobile phones, with the number of wireless subscribers jumping 55

“

Competition is vital to unleash innovation. India must encourage stronger competition among enterprises. Since the Indian economy was opened up in 1991, the private sector has invested the most in research and development (R&D) in the sectors most open to competition.

”



percent in 2006. However, disparity persists between rural and urban areas: teledensity is 40 percent in urban areas and just 4 percent in rural areas. And while high-speed national research and education networks accelerate the pace of new discoveries and the expansion of knowledge, India's connectivity is less than 1 percent of China, Korea, the United States, and European Union countries. Information-related actions could include expediting the allocation of radio and wireless broadband spectrums, increasing targeted subsidies for rolling out rural mobile and broadband, and agreeing on an organizational structure to deploy and manage a national research and education network.

- More early-stage funding is needed. In 2005, just 13 percent of deals by venture capital and private equity providers were for early-stage funding. In dollar terms, early-stage deals accounted for even less of such investments: 4–6 percent. Cumulative start-up capital provided for seed financing in India is estimated to be \$25 million–\$35 million—enough for 75–100 start-ups, many fewer than the 450–600 start-ups needed. Finance-related actions could include facilitating regulations for early-stage venture capital investments, and government provision of leveraged returns for private investments in innovation areas overlooked by the market (such as rural industry and pro-poor, grassroots innovations) by creating a fund of funds—with distinct windows for pro-growth innovations and inclusive innovations—with venture capital funds managed by the private sector.

2. India would benefit from strengthening efforts to create and commercialize knowledge, as well as better diffuse existing global and local knowledge and increase the capacity of smaller enterprises to absorb it. If all enterprises could costlessly achieve national best practices based on knowledge already in use in India, economic output could more than quintuple.

- Variations in productivity highlight the need for better knowledge diffusion. Average enterprise productivity in finance, insurance, and real estate companies is nearly 23 times that in agriculture. But these industries account for only 1.3 percent of employment, while agriculture

accounts for 60 percent. Actions to better diffuse existing knowledge could include increasing openness to trade and FDI, coupled with strengthening and expanding public support for technology at the cluster level and modernizing infrastructure for metrology, standards, testing, and quality (especially metrology). India could also consider strengthening its support infrastructure for technology licensing by creating a public-private technology acquisition fund, building on intellectual property that is already locally available.

- Private enterprises need to increase R&D spending. Aggregate domestic R&D spending has never exceeded 1 percent of GDP, and 75–80 percent comes from the public sector. However, between 1998 and 2003, multinational corporations spent \$1.3 billion on R&D in India—showing that its valuable assets could be exploited more effectively. Actions to spur private R&D could include consolidating and expanding public early-stage technology development programs, as well as developing a policy and action plan to use public procurement to promote innovation. Reforms to existing early-stage technology development programs could include establishing a streamlined matching grant program building on India's Sponsored Research and Development program and Small Business Innovation Research Initiative—targeted mainly at smaller enterprises and promoting more collaboration.

- New domestic knowledge needs to be converted to commercial use. Of the top 50 applicants for patents in India between 1995 and 2005, 44 were foreign firms. Only six were Indian; three of these were public institutions and one, a public corporation. Just two were private Indian firms, both in the pharmaceutical industry. Actions to promote commercialization and strengthen links among industry, universities, and public laboratories could include providing support to technology transfer offices, creating a patent management corporation, developing technology parks and incubators, and improving India's regime for

“

Private enterprises need to increase R&D spending. Aggregate domestic R&D spending has never exceeded 1 percent of GDP, and 75–80 percent comes from the public sector.

”



intellectual property rights. India should also consider enhancing support for higher-risk technology R&D and commercialization by strengthening its New Millennium Indian Technology Leadership Initiative — including by opening the program to international collaboration and giving grants to both research institutions and private enterprises, with sharing of any resulting royalties. To further spur international collaboration, India could create a Global Research and Industrial Partnership program to promote advanced R&D and commercialization efforts conducted jointly by domestic and foreign enterprises.

- The diaspora needs to be tapped more effectively. About 2 percent of India's population—20 million people—live abroad, where they earn the equivalent of two-thirds of India's GDP. Actions to more effectively tap India's overseas talent could include supporting a larger diaspora network, building on existing groups that aggregate this population's talent and capital for use in India.

3. India would benefit from fostering more inclusive innovation—by promoting more formal R&D efforts for poor people and more creative grassroots efforts by them, and by improving the ability of informal enterprises to exploit existing knowledge. Existing pro-poor initiatives need to be scaled up. Inclusive innovation can play a critical role in lowering the costs of goods and services and in creating income-earning opportunities for poor people. The Council of Scientific and Industrial Research has developed technology applications for rural India, and university and formal private initiatives (such as e-Choupal and Amida's Simputer) have delivered benefits. The National Innovation Foundation has a repository of more than 50,000 grassroots innovations and traditional knowledge practices.

And a number of initiatives exist to help the informal sector better absorb knowledge. More favorable matching grant support for

pro-poor early-stage technology development could significantly increase collaboration among public R&D entities, universities, nongovernmental organizations, national industries, and global networks. Increased support for grassroots innovators could be provided to the National Innovation Foundation to scale up impact. To leverage traditional knowledge into revenue, a policy-oriented intellectual property rights think tank could propose how to implement a cheaper intellectual property regime. Finally, successful technology upgrading programs could be extended to help informal and rural enterprises make better use of existing knowledge.

The action-oriented recommendations that form part of this volume's threepronged innovation strategy require a realistic, time-bound implementation plan.

This may best be accomplished through a consensus-building process that includes a task force of Indian policy makers working with business and social leaders—who would be in the best position to set priorities among the recommendations and develop an appropriate sequencing of activities. To help capture the nation's imagination, it may be desirable to focus on “grand challenges” such as access to clean water throughout the country or mitigating road congestion in cities. A light-touch public-private oversight mechanism may be required to evaluate and address the fragmentation of India's current innovation system; encourage collaboration and facilitate streamlining of the system's constituent programs, using public-private partnerships wherever appropriate; and monitor the achievement of realistic targets, with periodic international benchmarking as India's innovation potential is unleashed. India's successes with inclusive innovation will be of particular interest to other developing and emerging market economies also seeking to harness innovation for poverty reduction and economic development.

Who says nothing is impossible. I've been doing nothing for years.

Author Unknown



Innovation Gene: Key Growth Factor

Kranthi Kiran Vistakula

Founder and CEO, Dhama Innovations Pvt Ltd.
Hyderabad



Kranthi Kiran Vistakula is the founder and CEO of the innovation & technology venture Dhama Innovations Pvt. Ltd. Kranthi is the inventor of the breakthrough ClimaCon technology, that went on to secure a patent and win numerous international awards and accolades right since its conception. ClimaCon technology is a unique technology incorporating novel heat transport mechanisms that can be readily embedded into apparel and accessories to provide heating/cooling on demand.

Kranthi has also been the Co-Founder and Co-Managing Director of Intact Labs, Cambridge. He was the Co-Principal Investigator leading a research team in a NASA project to create a mechanism to generate electricity using proteins for space applications.

The prestigious Massachusetts Institute of Technology, Cambridge was where Kranthi pursued his Masters degree in 'Mechanical Engineering and Technology Policy Program', after having completed B.Tech in Biomedical Engineering from the Jawaharlal Nehru technological University, Hyderabad. Despite having acquired his learning in internationally renowned institutes halfway across the globe, ultimately it was the love for his motherland that drew him back to India. Today, Kranthi nurtures a passionate dream, a vision to create a technology that is "Made in India" and to make Dhama Innovations Pvt. Ltd a global icon in technology and innovation.

Kranthi has won several laurels for his contributions to the field of innovation, science and technology. He has been a Gold Medalist at Lockheed Martin India Innovation Growth Program's Innovator's competition and been a winner of NASA grant for bioelectricity generation. He has won India Innovation Pioneers Challenge in Champion of Champions category and has been the winner of MIT 1K Warm up Business Plan Competition. 2010 has so far been a milestone year in Kranthi's journey with the Business World Magazine crowning him 'Entrepreneur of the Year 2010' and the MIT published Technology Review Magazine applauding his achievements with their 'Innovator of the Year 2010' title.

Nature is the greatest innovator of all which has enabled the process of evolution. While nature has hard-wired the intelligence of "innovating to adapt" into the animals it has given another gift to human beings -the human brain. The human brain unlike other animals is capable of free thinking. This has allowed humans to seek knowledge, discover phenomena, create new things and transform and control the world around them.

India has had a 2500 year old enlightening history of innovation. Albert Einstein once said: "We owe a lot to the Indians, who taught us how to count, without which no worthwhile scientific discovery could have been made." India is the cradle of world's greatest innovations like zero, decimal system, ayurveda and has made invaluable contributions to the field of mathematics, astronomy, architecture, navigation, space science, medicine and surgery since time immemorial. Indus Valley Civilization is the world's oldest civilization. Perhaps, what made it called a "civilization" was the innovative DNA of the people who realized the most inventive town planning, water storage and food storage facilities and gave a halt to the nomadic life allowing people to settle down at one place. Unlike other nations, innovation in India is sporadic, widespread, spontaneous and derived out of local contextual needs. This has been suitably called as "Jugaad" which is to make do with what you have in order to make more than what you have. This culture of





“jugaad” has sustained and nurtured India for years through tough times. Today, initiatives like National Innovation Foundation and Gian are giving a voice to such grass-root innovations giving them scope for commercialization and recognition.

United States is the world’s greatest superpower today. U.S. is the home to the world’s most major innovative corporations like Apple, Google, IDEO and 3M which are driving its rapid economic growth. On the other hand is the USSR, an erstwhile economic superpower, has now been thrown into economic crisis caused by political turmoil and the ensuing lack of innovation. Clearly, the global economic scenario today is driven by only one

buzzword and that is “innovation”. India is a rising superpower with the IQ of an average Indian far exceeding that of an average American and with Indians leading most of world’s top organizations. This clearly shows that the path for India to become a superpower is through innovation.

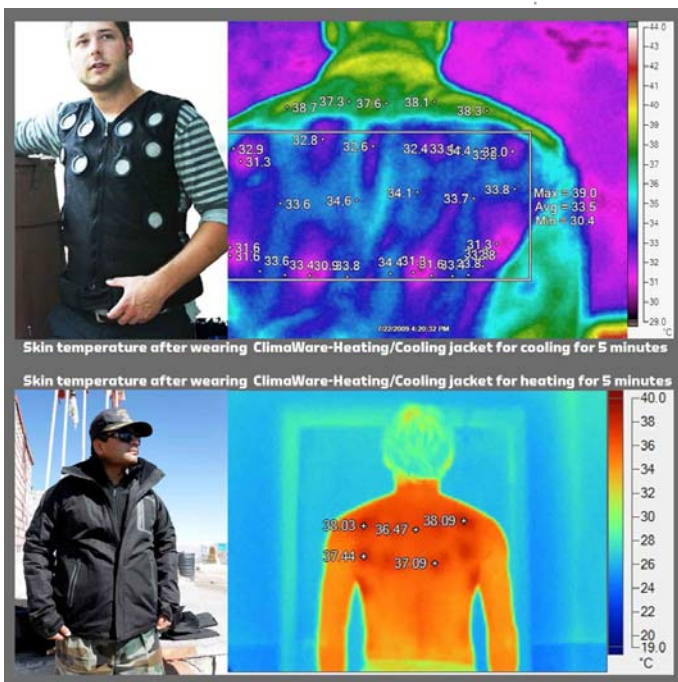
Innovative corporations inspire delight in their consumers at all touch-points through innovative products, processes, business models, marketing, promotions and experiences. Since, innovation is no longer limited to creating a new product /service but extends to the entire value chain it is

imperative that organizations constantly innovate just to remain in business. So what is the DNA of innovation inherent to Apple, Google and 3M? These organizations effectively channelize the group intelligence of their teams. They are able to get the multiple perspectives on an idea/ problem rather than individualistic single-minded perspective. Academic System in India builds an attitude of individualism and threat perception hindering team work. This indifferent and selfish attitude “It doesn’t bother me as long as it doesn’t affect me” is carried on in adult life.

Channelizing group energy and intelligence is a lesson Indian organizations should learn in order to innovate and lead the world.

Dhama Innovations is one such innovative organization built around this ideal of sharing and team work. Dhama is a flat organization where everybody is given a voice and everyone is listened to. Ideas and suggestions coming even from the tailor are seriously considered and implemented. The company faces new challenges as it is a first without any parallels. Therefore, the company respects and welcomes all innovations coming from all directions as it prepares the technology for the market launch. Moreover, the credit is not held by one individual but is shared among all. The key force driving the company is innovation and I am making sure that it is embedded into the gene of every employee. These are the values and

“
Innovative corporations inspire delight in their consumers at all touch-points through innovative products, processes, business models, marketing, promotions and experiences.
 ”





“

.....the *ClimaCon technology which works in synchronization with human body's natural temperature management systems and enhances them to heat or cool the body on demand.*

”

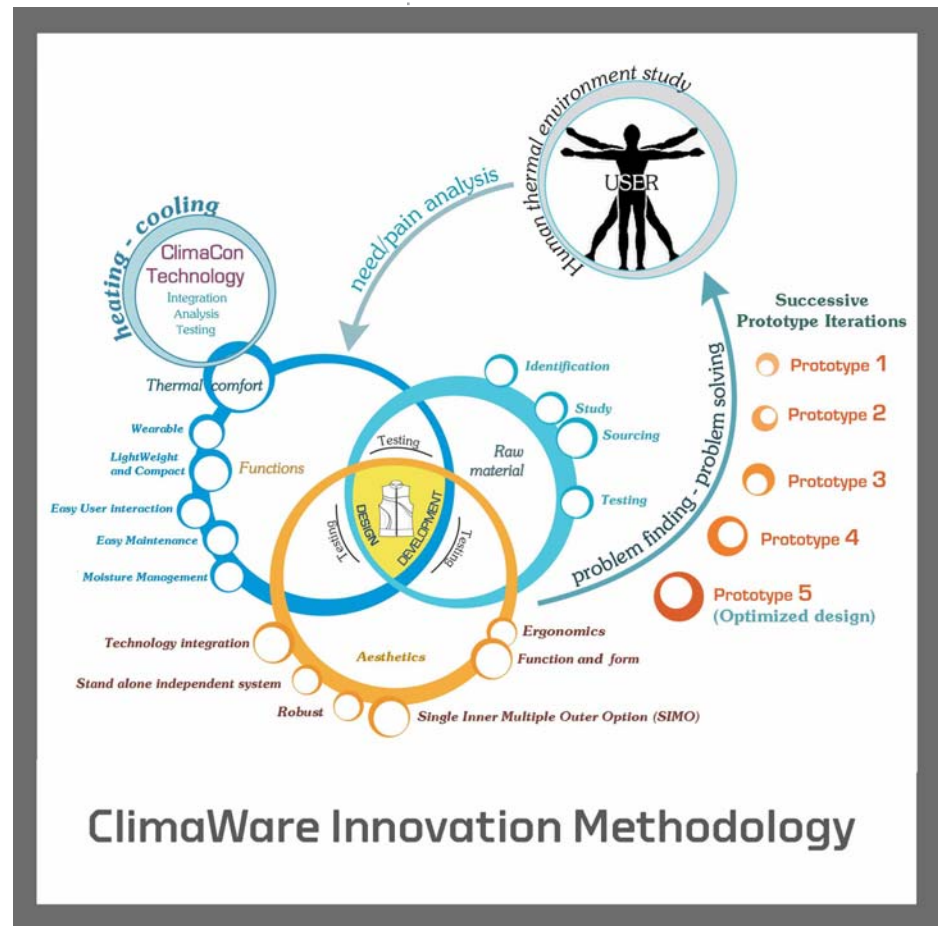
My childhood laid the foundation and created the drive within me to transcend the boundaries and make new connections. I remained ever-hungry and ever-curious to know more, learn more and create new things. As a student of MIT Boston, I came across a rather inconvenient and mundane problem. I repeatedly had to remove and add layers of clothing as I stepped in and out of my university classes in response to the contrast between the centrally heated indoors and chilly outdoors.

Prompted by my own thermal discomfort, I asked myself why not create a lightweight wearable heating/cooling system which the user can wear just like a garment. I made a jacket with heating/cooling functions but it was heavy (5 kg in weight) and had very basic technology. My idea and prototype were laughed at and were

vision encouraged by me as the innovator of technology and the founder of the company.

As a child, I never accepted anything on face value and had to find things out for myself. This curiosity often led me to into trouble but it also allowed me to study and understand the principles of nature and science by first-hand observation. I would save pieces of waste and later experiment with them to create new things. Nature survives on cycle, recycle and regeneration where nothing goes to waste. My childhood laid the

branded impossible by many but I remained persistent and convinced about the potential and possibility. I remained undisturbed by all the mockery and returned with the first prototype to India and started my own company Dhama Innovations Pvt. Ltd. The company was incubated at the National Design Business Incubator, National Institute of Design, Ahmedabad. During the course of development, I studied several other heating/cooling systems in nature and in other applications and studied alternative technologies. I made several other prototype iterations with the help of another product designer and a tailor in a small incubation room with a few materials and a single human dress form. Our efforts resulted in the creation of a sleek and lightweight jacket which weighed only 800 g (84% lighter than the first prototype) run with the help of efficient lithium polymer batteries.





Thus was created the ClimaCon technology which works in synchronization with human body's natural temperature management systems and enhances them to heat or cool the body on demand. The technology can be seamlessly integrated into the clothing of the user and becomes like a second skin. The technology is unique and one-of-its-kind in the whole world with no parallels. The technology has widespread applications across diverse sectors. In an attempt to diversify its product range, the company has conducted successful experiments ranging from cattle cooling systems to increase milk yield to pain relieving medical products and products for enhancing thermal comfort.

The technology has now been successfully extended to other heating/cooling products like Neck-Wrap, Helmets, Shoes and Gloves for the Military, Industrial and Retail/Sport

market and also for Pain-Relieving Heating/Cooling products for healthcare.

The technology has gone on to secure patents and has won numerous international awards and recognition like:

- Business World Young Entrepreneur of the Year 2010.
- Innovator of the Year 2010 by Massachusetts Institute of Technology published in "Technology Review Magazine."
- Winner of gold medal at Lockheed Martin Innovators' Competition in 2008.
- First prize winner at India Innovation Pioneers' Challenge, Champion of Champions Category in 2008.
- Recognized as "Top 100 Most Promising Technology Companies" in Asia and "Top 200 Most Promising Technology Companies" in the Globe by Red Herring, 2009
- Awarded TePP (Technopreneur Promotion Programme) Grant from Department of Science and Technology, Government of India 2008.
- Winner of MIT 1K Business Plan Competition 2005.

Next, I envision Dhama to create more world-class products and technologies and lead the global and Indian innovation markets to make human life better.

(Co Authored by Sachita Agarwala, and Umang Shah)

I don't make jokes. I just watch the government and report the facts.

Will Rogers (1879 - 1935), quoted in Saturday Review, Aug. 25, 1962



“Every organization has to prepare for the abandonment of everything it does.”

Peter Drucker

Innovation and how best to manage it

Dr. Jyoti S. A. Bhat

Adviser in the Ministry of Science and Technology,
Department of Scientific & Industrial Research (DSIR),
Government of India



J. S. A. Bhat has been an active researcher in the Bhabha Atomic Research Centre, Department of Atomic Energy, Trombay, Mumbai and later as a senior industry executive in Enfield India Limited, before joining the DSIR. She has been a Visiting Scholar at MIT Sloan School of Management under the Fulbright Fellowship Program. Her research interests are innovation management and technology transfer.

1. INNOVATION

Innovation refers to the application of new knowledge or the recombination of existing knowledge in order to improve or create, as for example to enhance productivity or to create a new product. The dictionary meaning of innovate is to change something that is established leading to something new that adds value to the customer. Innovation is hence not merely the conception of a new idea, or the invention of a new device, or the development of a new market. Innovation means all these things acting in an integrated fashion, and could mean none of these things unless the customer benefits in some way. Also, innovation need not only result in a new or improved product, but also in a new or improved process, or a new or improved service. It is important to note that innovation is not the prerogative of only an industrial unit. An academic institute or a research organization, a government agency or a philanthropic organization, all need to be just as innovative as an industrial unit to remain relevant to the user over time.

Every organization knows that innovation is important. With globalization having set in, the need to make world-class products or services that meet the needs of diverse customers is being emphasized. As customer needs as well as technologies are continuously evolving, it is imperative for organizations to create value that is continually relevant to the customer.

In India, as elsewhere in the globe, organizations are devising strategies to cope with these requirements.

2. THE NEED

As seen, innovation is the mechanism by



which organizations produce new products, processes and services required for adapting to changing markets, technologies and modes of competition, which in turn leads towards enhanced growth and job creation prospects. Therefore, innovation is the fundamental source of growth in business and industry, and overall economic growth of a nation. In the effort to meet market needs, new businesses get created, leading to new jobs. Jobs in supporting industries also get created. New jobs in turn lead to rising incomes, which result in better standards of living for society at large. Thus, another important outcome of innovation is societal well-being.

From a business perspective, firms use innovation to acquire competitive advantage. The ability to introduce new or improved products, processes and services ahead of competition gives a major edge to the innovative organization. Of course, innovation that is continuous or incremental, leading to continual small improvements is anyway essential to simply continue to exist and remain in business. Such innovation leads to more efficient work processes resulting in lower costs and improved quality. But, businesses constantly vie for higher revenues. Innovation alone can lead to the generation of new products, processes and services that can impact sales significantly. Also, it is through innovation that organizations can widen the scope of opportunity. New opportunities and unheralded areas of operation open up as an outcome of innovation paving the way for diversification into totally new businesses.

Obviously, innovation can be of various kinds. The introduction of a new product, process or service which has unprecedented performance features can surely create dramatic changes and transform markets or industries. However, there is enormous scope and a driving need to bring about incremental changes resulting in product or

process or service improvements that add value to the customer continually.

3. TOOLS FOR INNOVATION, BRINGING TOGETHER VARIOUS CONSTITUENTS OF BUSINESS

As seen, innovation is not the mere creation or improvement of a product or a process or a service; rather the manner in which it gets used through diffusion and adoption that really matters. Obviously, innovation is a complex process that involves not only an innovative individual or firm, but also a system of interactions and interdependencies between that individual or firm and other people as well as organizations and institutions.

The Government plays a significant role in the establishment of such an environment that is supportive to innovation activities. An appropriate institutional and business milieu that supports the creation and demand for innovation, as well as its diffusion and absorption in business activities, is to be nurtured. Policy measures of various kinds can provide a facilitating environment for fostering innovation. In India, science and technology have always been accorded high priority, thus promoting a strong foundation for innovative activities; nevertheless, more initiatives are called for to knit together an integrated approach to innovation that brings together all stakeholders. Some of the key measures that are prevalent, those that need be strengthened and other new initiatives that are relevant in this context are as follows:

- Research and development (R&D), both basic as well as applied, is fostered through different governmental initiatives and institutional mechanisms. Besides providing direct support, and apart from fiscal structures, investment in R&D is being stimulated through several incentives by way of tax and duty concessions. These initiatives have been motivating industry to invest substantially in technology creation exercises.
- Small and medium enterprises (SMEs) have an important role to play in the commercialization of indigenously generated technologies created in research and academic institutions. Several policy measures to address the

“

...innovation that is continuous or incremental, leading to continual small improvements is anyway essential to simply continue to exist and remain in business.

”



concerns of SMEs have been instituted, that need to be availed by this industry sector.

- To encourage industry to invest in innovation in a more proactive manner, executive training programmes on various aspects of innovation management are being organized. These initiatives need to be stepped up.
- In order to create an innovation movement, it is desirable to create different kinds of forums that are spread in different parts of the country to allow the participation and involvement of different kinds of stakeholders from diverse backgrounds in innovation exercises.
- Academic institutes are required to necessarily have strong linkages with industry in terms of courseware that is tailored to meet the needs of specific sectors. Steps in this direction initiated in respect of information technology, biotechnology and pharmaceuticals, for example, have been able to create the vital human resources to help these industries grow.
- Industry-institution linkages on innovation, science and technology areas must necessarily be strengthened. Some steps have been taken in this regard. Public-private partnerships for fostering innovation have been initiated. However, this needs to be strengthened.
- Financial support is being provided for R&D investments through grants for early stage ideas and matched funding programmes for technologies. Funding of knowledge transfer networks that link broad groups of organizations having a common interest in a particular set of

technologies that are targeted to yield large societal benefits, for example water related technologies, is perhaps the need of the hour.

- The approach towards innovation protection and appropriation of benefits needs to be improved. Steps have been initiated in this regard at the policy level and industry needs to enhance its preparedness to respond in an effective manner.

4. INCENTIVES AND FORMS OF ENCOURAGEMENT

In order to create a facilitating internal environment that is

vibrant and responsive to innovation, organizations need to initiate some important steps:

- It is necessary for organizations to ensure market demands are being tracked continuously, so that product and service offerings satisfy customer needs.
- Organizations need to adopt different innovation approaches, by balancing incremental and radical innovation efforts.
- While a totally risk-averse approach would not encourage innovation, suitable efforts to assess the risks involved in innovation projects must preferably be made while embarking on these projects.
- Efforts to enhance the pace of innovation may include strategies such as internal restructuring, creation of innovation teams, use of a central innovation fund and forging of innovation partnerships.
- Open innovation programmes may be judiciously opted for, in order to benefit from a wide range of ideas from sources external to the organization.
- Organizations do need to take proactive efforts to enhance their internal skill base for promoting innovation.
- It must be recognized that innovation is a product of synergy. An idea, even though crudely spelt, by someone in the organization may end up in a major innovation if the organization has systems in place that encourage idea sharing, experimentation, and a fair reward administering mechanism. Building a synergistic work environment in which different stakeholders of the organization, including customers, suppliers and service providers take part, is required to be given top priority.

5. HOW TO IMPROVE INNOVATION PERFORMANCE

How do some organizations seem to be

“

An idea, even though crudely spelt, by someone in the organization may end up in a major innovation if the organization has systems in place that encourage idea sharing, experimentation, and a fair reward administering mechanism.

”



performing better than others when it comes to innovation? Are there some best practices? How organizations can improve their innovation management capabilities is perplexing indeed, as far too many factors vie for importance. Each organization has specific business targets emerging out its vision or dream for the future. Four broad areas of focus to best manage its innovation efforts help realize these targets may be spelt out. Firstly, it would be called upon to think of ('define') a suitable technology strategy that is well aligned with its business goals. This is of vital importance. Next would be the design of organizational systems and procedures that are in fusion with this alignment. Following this stage, would be the development of various activities that make up the system designed for innovation. Finally, seamless implementation of the various processes designed and developed for innovation is called for ('do'), with provision for generation of a suitable feedback towards business targets and innovation strategy, leading back to the first stage. A recent research study that looked into the innovation efforts of 150 top performing Indian companies concluded that the following measures are amongst the most important that need to be instituted in this four D cycle of innovation, in order to foster innovation and help firms improve their innovation performance.

Define :

- It is vital to enunciate the innovation strategy clearly, by defining what exactly needs to be done and what would not be done within a timeframe. All parameters need to be spelt out; taking major risk factors that can be visualized into account.
- One of the important requirements for successful innovation is top management commitment to innovation. A classic example of a visionary leadership style that has been

different and innovative compared to conventional leadership styles is that set by Mr Ratan Tata in Tata Motors. By communicating his vision to his top management team, the company directed its efforts towards building a next-generation car that was affordable to the common man.

- The innovation road-map needs to be made specific and measurable, with defined limits and expectations, giving due justification of alignment with business goals. This would need to be revisited periodically in step with the pace of change of the organizational focus and would need to be effectively communicated across the organization.
- Focus on, and awareness of the core competence of the organization, are called for. Efforts are required to be continually taken, to further sharpen this core competence in alignment with growing and changing business needs.
- A flexible strategy is required to be adopted, allowing for sufficient freedom in work allocation and adequate resources, for meeting innovation goals.
- Care is required to be taken, to ensure innovation leadership of individual projects is acceptable, is inspiring and is sufficiently enabled, to ensure speedy decision-making and implementation.

Design :

- Managerial systems are required to be continually tweaked for greater efficiency. Several aspects such as intellectual property protection and knowledge caching are also required to be appropriately dealt with.
- Appropriate tools and systems need to be inducted to ensure employees remain in tune with the fast pace learning needs of technologies and processes it deals with.
- Use of advanced information technology techniques and other sophisticated tools for enhancing innovation capabilities, which have been introduced in many industries, may be useful. However, it would be desirable

“

How organizations can improve their innovation management capabilities is perplexing indeed, as far too many factors vie for importance. Each organization has specific business targets emerging out its vision or dream for the future.

”



to exercise caution before making continual use of such tools, without ensuring alignment with the real environment.

- Targeted quantifiable innovation goals and changes in strategy are required to be effectively communicated to all stakeholders, through different mechanisms, to enable effective and wholesome participation in innovation.

Develop :

- Effective procedures, systems and routines are called for, to promote overall employee involvement. A supportive organizational culture that motivates innovation is to be nurtured.
- New project selection techniques need to be perfected and great emphasis needs to be placed on ensuring well-rounded participation in ideation exercises, ably complemented by efficient research, screening and analysis.
- Customer orientation is required to be the goal of new product development exercises undertaken.
- Proactive use of external expertise is desirable and partnerships with external firms and agencies are required to be expanded to leverage the impact of ongoing innovation exercises. Most organizations find it difficult to change routines and get into the innovation mode. External interventions can act as effective change agents in enhancing organizational preparedness and response to innovation.

“

For successful innovation, the most important ingredients are clarity in terms of end objectives, and awareness of scope and risks, apart from conviction and commitment.

”

Do :

- Systems and procedures are required to be implemented through appropriate routines and managerial focus.
- It would be important to keep a close watch on frontier technology related developments that are external to the company.
- Market perceptions and customer needs are required to be tracked regularly.
- Linkages with academic and research institutions may be cultivated. This is a key beginning to mould a firm's innovation focus

as it paves the way for fresh perspectives to emerge. An academicians way of examining technical functions from original theoretical lines can add value to a practitioners view and provide immense opportunity to challenge and improve the manner in which technical functions are executed.

- Involving lead users in product development exercises is likely to be highly beneficial. Such users provide valuable inputs that can be very useful to product development teams.

6. CONCLUSIONS :

It may be summed up that innovation is an imperative and is no more a choice. For successful innovation, the most important ingredients are clarity in terms of end objectives, and awareness of scope and risks, apart from conviction and commitment. Innovation enables an organization to achieve its business targets, leads to creation of new businesses and hence more jobs, and also results in the customer having a wider choice of products at more affordable prices. When businesses grow and people have a better lifestyle, a country also flourishes. Thus, it is important to make innovation grow in every organization to make India progress.

(The views expressed are those of the author and not of the organization she represents.)

Happiness is having a large, loving, caring, close-knit family in another city.

-George Burns (1896 - 1996)



Lets face it. Entrepreneurship is the fire that burns inside telling you to take the road less travelled... because you do not want to be 'employed', but 'self-employed'; where you want to direct your future with your own two hands and of course, you have seen a unique business opportunity! More importantly, it is also a desire to farm out on a road that is uncharted, at least by you and to taste the waters of the untested market to come out pumping the air saying, I did it!!! It is not surely about chance or pure fortune. While many young entrants, even under 20, have turned out to be successful CEOs, many late entrants have failed. What could have they done wrong, or the younger lot, right? Authors have tried to look into the keyhole and have come up with the essentials of entrepreneurship; but it is not physics or nuclear science and it can only evolve in sync with the market which is nobody's slave. Below is an excerpt from New Venture Creation : Entrepreneurship for the 21st century by Jeffry A Timmons and Stephen Spinelli

Demystifying Entrepreneurship

Entrepreneurship is a way of thinking, reasoning, and acting that is opportunity obsessed, holistic in approach, and leadership balanced.



In a Nutshell

Entrepreneurship : A Global Movement

The evolution of entrepreneurship in America over the past 35 years has had an extraordinary impact on the cultural and economic landscape in the United States. While there will always be opportunities for improvement and innovation, America's entrepreneurial revolution has become a model for business people, educators, and policymakers around the globe. For example, as part of a goal to "make the EU the most competitive economy in the world by 2010," in 2000, an action plan was derived with the following broad objectives:

1. Fueling entrepreneurial mind-sets.
2. Encouraging more people to become entrepreneurs.
3. Gearing entrepreneurs for growth and competitiveness.
4. Improving the flow of finance.
5. Creating a more entrepreneurial-friendly regulatory and administrative framework.

These goals mirror the factors that have been critical in advancing entrepreneurship in the United States. In July 2004, an EU commission followed up on these goals with recommendations for fostering entrepreneurial mind-sets through school education. These too are reflective of the American experience:

- Introduce entrepreneurship into the national (or regional) curriculum at all levels of formal education (from primary school to university), either as a horizontal aspect or as a



specific topic.

- Train and motivate teachers to engage in entre-preneurial education.
- Promote the application of programs based on "learning by doing," for instance, by means of project work, virtual firms, and mini-companies, etc.
- Involve entrepreneurs and local companies in the design and running of entrepreneurship courses and activities.
- Increase the teaching of entrepreneurship within higher education outside economic and business courses, notably at scientific and technical universities, and place emphasis on setting up companies in the curricula of business-type studies at universities.

Entrepreneurship is exploding in countries like India, China, and in the former Soviet bloc-and affecting positive social and economic change in such diverse countries as Korea, Mexico, South Africa, and Ireland. The Global Entrepreneurship Monitor (GEM) 2004 study found that in the 34 countries surveyed, 9.3 percent (73 million) of the 784 million people composing the population of 18- to 64-year-olds either were nascent entrepreneurs or were the owner/manager of a new business. 1 Significantly, 41 percent of these entrepreneurs were women.

In our roles as student, researcher, observer, and participant in this revolution, we can honestly say that global adoption of the entrepreneurial mind-set appears to be growing exponentially larger and faster. In our assessment, we are at the dawn of a new age of entrepreneurial reasoning, equity creation, and philanthropy, whose impact in the coming years will dwarf what we experienced over the last century.

Entrepreneurship: Innovation + Entrepreneurship = Prosperity and Philanthropy

Surely one of the most promising recent developments in the entrepreneurial revolution is entrepreneurship becoming a central, nonpartisan cornerstone in America's policy debates. Beyond the political rhetoric, which exploited the e-word in the last three presidential elections, the relevance and economic import of the entrepreneurial phenomenon have recently legitimized entrepreneurship as vital to any debate on our social economic policies. The creation of the National Commission on Entrepreneurship

in 1999 launched an awareness of building educational initiative to assist legislators, governors, and policymakers to understand the contributions and potential of the entrepreneurial economy.

In addition to its numerous white papers and gatherings, the commission's efforts culminated in the Policy and Entrepreneurship Conference at the John F. Kennedy School of Government at Harvard University in April 2001. There was consensus among the attendees and speakers, including governors, congressmen, senators, entrepreneurs/CEOs, and academics, that entrepreneurship deserves a central presence in the policy agenda. Even more encouraging, in June 2001, the long-standing U.S. Senate Committee on Small Business changed its name to Small Business and Entrepreneurship, sending a very significant message. The National Governor's Association is also including entrepreneurship in its meetings and policy discussions.

The formidable link between public policy and entrepreneurial activity in the United States has become increasingly important. Politicians are now aware of this link and have begun to emphasize the ways entrepreneurship leads to greater national and global prosperity.

In every neighborhood in my hometown of Memphis, and all across America, I see young people tutoring and mentoring, building homes, caring for seniors, and feeding the hungry I also see them using their entrepreneurial spirit to build companies, start nonprofits, and drive our new economy.

Harold Ford, Jr., United States Representative 2000 Democratic National Convention Speech

Job Creation Twenty years ago, MIT researcher David Birch began to report his



landmark findings that defied all previous notions that large established businesses were the backbone of the economy and the generator of new jobs. In fact, one Nobel Prize-winning economist gained his award by "proving" that any enterprise with fewer than 100 employees was irrelevant to the study of economics and policymaking! Birch stunned researchers, politicians, and the business world with just the opposite conclusion: New and growing smaller firms created 81.5 percent of the net new jobs in the economy from 1969 to 1976.² This general pattern has been repeated yearly. Since 1980,

for instance, America has created over 34 million new jobs, while the Fortune 500 lost over 5 million jobs! Who creates these jobs? According to the U.S. Small Business Administration's Office of Advocacy, small businesses (those with fewer than 500 employees) represent more than 99 percent of all employers and provide about 75 percent of all new net jobs. Inc. magazine estimates that small companies employ somewhat more than half of the U.S. workforce. Entrepreneurial firms account for a significant amount of employment growth (defined by at least 20 percent a year for four years, from a base of at least \$100,000 in revenues). These "gazelles," as David Birch calls them, make up only 3 percent of all firms but added 5 million jobs from 1994 to 1998. When one considers the history of Microsoft, a startup in the late 1970s, these job creation findings are not quite so surprising. In 1980, for instance, Microsoft had just \$8 million in revenue and 38 employees. By the end of 2004, its sales were \$21.8 billion, it had over 31,000 employees, and the total market value of its stock was \$362.3 billion.

One can readily see the far-reaching change in employment patterns caused by this explosion of new companies. In the 1960s, about 1 in 4 persons worked for a Fortune 500 company. As recently as 1980,

the Fortune 500 employed 20 percent of the workforce. Yet by the late 1990s, that number is just 1 in 14! This same pattern tells the story of the explosive growth of new regions and centers of technology and entrepreneurship throughout the country. It is impossible to name a new high growth area-starting with Silicon Valley and Boston, and extending to the Research Triangle of North Carolina; Austin, Texas; Denver/ Boulder, Colorado; Indianapolis, Columbus, and Ann Arbor; or Atlanta, Georgia-without observing this same job-creation phenomenon from new and growing smaller companies.³

Twenty years later, innumerable research studies have examined and reexamined the job-creation statistics. The ultimate conclusion is the same, as reported in the most comprehensive study as recent as 1997:

Small firms are generally the creators of jobs, as almost all firms begin small (because of resource constraints) and often need to grow to compete. Small firms create about 75 percent of the new net jobs.

(For more insights, readers are encouraged to read New Venture Creation : Entrepreneurship for the 21st century by Jeffrey A Timmons and Stephen Spinelli published by Tata McGraw-Hill 7th edn 2009)

[Humor is a rubber sword - it allows you to make a point without drawing blood.](#)

- Mary Hirsch



INNOVATION : A LITTLE WORLD TAKES A BIG STEP

Anurag Gupta,
CEO, A Little World



Anurag Gupta, 49, graduated in architecture in 1982 from SPA, Delhi. Anurag disseminated disaster vulnerability, low-cost building materials and simple construction techniques, through documentaries, publications and exhibitions in India and abroad. In 2000, Anurag set up A Little World, to attempt the creation of India's first payment system, focused on small value transactions and the bottom of pyramid. Anurag has led initiatives with Banks, regulatory institutions, universities, standards bodies, government and industry to support standardization, enhanced security and policy support as the basis of mass deployment in the Indian environment. In 2003, Anurag started a collaborative research and documentation process with IIT-Bombay and the IDRBT-Hyderabad to pilot new generation technologies for small value payment transactions. He started the Go-Mumbai initiative for Automatic Fare Collection (AFC) in Mumbai buses and local suburban railways in 2004 and built the mChek mobile payment product in 2004. He has built the ZERO technology platform for branchless banking, and has worked extensively with key banks like SBI and industry majors such as Nokia and NXP to support the implementation Financial Inclusion in villages. In 2007 Anurag founded the Zero Microfinance and Savings Support Foundation – a not-for-profit Section 25 Company which functions as a Business Correspondent to extend the outreach of State Bank of India and 21 other banks in 18 States across India.

WHY INNOVATE

There are many problems which will not be easily solved by remaining with the tried and tested. In the wake of problems caused by population, poverty, unemployment, diseases, hunger, the world is innovating at a furious pace.

The problems that face us Indians are probably greater than those faced by the ones living in the developed world. It is therefore no surprise that innovation is visible everywhere in everyday life - food, clothing, shelter, health, education, transport.

Large research and development budgets are not available to the common man - therefore everyday innovation may not be presented in designer packaging and finish - but there is no denying the spirit of innovation. This spirit is seen in a makeshift baby swing, in poor people's shelters cobbled together by themselves from discarded waste, the creative use of 'missed calls' the list is very long, and the use of innovation is most diverse... it is quite apparent that no PhDs are needed to innovate.

What are the facilitators of Innovation

Necessity is the mother of innovation, just as it is of invention. Of the twin sons of mother necessity, invention is more pure, holistic and formal in nature. Something entirely new in form, concept or utility is created in an invention. Innovation does not need to create anything new. Innovation is usually a new spin on something that already exists - otherwise it may be in danger of becoming an invention. Innovation is the elder brother of improvisation - which is more temporary and maybe less scaleable than innovation can be. Ranji's leg-glance was an innovation, while Gambhir's slash over the slip cordon is an improvisation.

A Little World's first attempt at setting up a micro-Bank

Enough generalities. I will attempt to



go into some details into the first time we needed to innovate due to necessities that arose in the course of going about our business in A Little World.

A brief background on A Little World (ALW) and Zero Microfinance and Savings Support Foundation (ZMF):

A Little World Pvt. Ltd. provides front-end and back-end technology as well as last-mile operations support for micro Bank branches under the Business Correspondent model. The ZERO micro-banking platform of A Little World utilizes low-cost mobile phones; biometric authentication; an easy-to-use front-end software interface in multiple local languages. These micro Bank branches are focused on bringing the vast unbanked population of almost 600 million persons (both rural and urban unbanked) into mainstream banking.

A Little World has helped set up ZERO Microfinance and Savings Support Foundation (ZMF - a not-for-profit Section 25 Company) to manage field operations for the ZERO platform as a Business Correspondent to multiple Banks (ZMF is presently a national level Business Correspondent to SBI). ZMF manages the field force and last mile franchisee network, account opening, transactions, management of cash and other logistics at the last mile. ZMF also engages with strongly placed local organizations, district and State administration to ensure smooth deployment and operations.

Our primary business focus is to set up very low-cost micro-Banks in unbanked villages on behalf of Public Sector Banks and Regional Rural Banks. These have to be low-cost to set-up, low-cost to operate, must provided automated book-keeping (instead of paper based books).

The first such micro-Bank was set up by ALW and ZMF as a pilot in 2006, when RBI for the first time published guidelines for Banks to extend their reach in unserved rural areas through Business Correspondents. ZMF became the first

Business Correspondent in the history of Indian Banking, with State Bank of India adopting it as its first BC. We started operations on a trial / experimental basis in far off Mizoram, in a village called Seiling, 42km away from the nearest branch of any Bank, with very pro-active support of State Bank of India as our Sponsor Bank.

About Seiling

Connectivity / communications in Seiling were poor - to say the least. There was not even one connection available for broadband / DSL. The only available mobile service was from BSNL. No data service (GPRS) was available then. Even the mobile service was most unreliable - it was difficult to get a voice call through in the first couple of tries, or to keep a call going for even 2 minutes at a time. SMS was about the only service we could rely upon. Reliance CDMA data card was available in Aizawl - more than 40km away.

It was a steep, mountainous terrain. Public transport (buses) were scarce. The nearest source of cash - SBI's branch in Aizawl, was 42km away, which was more like 150km in the plains, given the hilly terrain that separated Seiling and Aizawl. Availability of power supply was most inconsistent.

Boundary Conditions

The non-negotiable boundary conditions for our technology decisions were:

Customer's biometric (fingerprint) authentication is a must.

SBI's risk management team has rules out offline transactions. All transactions must therefore go online to our system.

SMS is the only practical means of communication with the external world.

Technology Choices Made

I was sure that we need to use a mobile for transactions (did not need a PHD to figure that out). I chose an experimental mobile introduced only a few months ago by Nokia* - which was the first ever NFC (Near Field Communications) phone in the world, even though it was not commercially available (it is now, in 2010, that Google has introduced Nexus II, which is the world's first commercially available phone with NFC built-in. We were using NFC quite ahead of times). A huge benefit of NFC was that we had a built-in hardware secure authentication module (SAM) within the phone itself - this made the Nokia 3220 NFC the first true banking grade security phone ever. This was the only mobile I have ever seen which had 4 huge multicolor LED lights, two on each side panel of the phone - these would light up and dance when the phone took various



actions. The lights looked positively outlandish / gaudy / overdone when we first saw the phone, but we were able to make great use of this very peculiar feature of this specific mobile phone in our project.

*(Footnote): Nokia was very kind to us, and gave us great support in solving all our problems with NFC, even though we were a minuscule customer. Without such support, we would have never managed to crack the code. As a result of that experience, we have never strayed from Nokia in the last 4 years. We have used up over 12,000 Nokia phones in our micro-Banks so far.

So we cobbled together an unlikely mix of a Nokia 3220 phone with 4 dancing lights, a custom-made experimental NFC back-cover from Nokia, an optical fingerprint scanner, a thermal printer, and a Mifare 1k RFID card from NXP.

We decided we would open a no-frills 'biometric' bank account a person by registering 2 fingerprints and photograph, in addition to normal name, address etc., that is required.

The photograph will be printed on the RFID card, and the two fingerprint templates will be stored on the RFID card's memory.

For every transaction that needed a debit of the account, we will require the person's presence and fingerprint authentication (the live finger of the accountholder will be compared with the stored fingerprint template created at the time of account opening).

It became obvious that the fingerprint will have to be matched offline at the location, instead of at the back-end, as a single SMS (160 bytes) was incapable of carrying the data of a fingerprint template (256 bytes) to the back-end (today GPRS makes it very easy to match fingerprints online - which is why UID has become a reality now, without needing a smart card. Even far-off Seiling in Mizoram now has GPRS and EDGE from 3 mobile operators).

Limitations

The phone that we chose had the ability to read the RFID smart card (though very slowly). This was the first mobile that could read a smart card. But it had no method of directly communicating with the fingerprint scanner or printer. The only way for the printer to communicate was through a serial port, and the phone did not have an available serial port (it had a slave USB port which was only useful for synchronization with a PC).

The phone had no mass storage (no micro-SD card slot) and no bluetooth - features we take for granted today. It had a really poor quality VGA camera.

The very important factor that would determine our future success was our ability to build hardware – complete with electronics, plastics, lights, switches, usability, serviceability – within absolutely record deadlines (less than 8 weeks). Most sane manufacturers would not even entertain thoughts of making hardware within such deadlines. We had no manufacturing facilities ourselves – everything was outsourced to small, but very brave little companies.

The Solution: 3 Independent Boxes

Our first micro-Bank took shape as 3 completely separate self-contained independent boxes, with no wires to connect them - the phone, the fingerprint scanner and the printer. Each of the 3 were independently powered by their own batteries and had one common feature which made them an integrated system - each of the three had NFC built into them. The Nokia came built-in with NFC, and we built our own tiny NFC board (with the help of NXP Semiconductors and a few bright minds in Mumbai). This NFC board was attached inside the printer, with its antenna just below the top surface of the printer. A similar board was attached to the serial port of the fingerprint scanner, with a slot for the RFID card built next to the antenna.

Customers were enrolled using a PC - for fingerprints, photos, and required text data. Data came to our system in Mumbai, based on which accounts were created in SBI's account management system. ALW issued an RFID card with the customer name, address, photo printed on the card, fingerprint templates embedded in the card's memory and a simple file system to manage the customer's latest balance and last 5 transactions stored on the RFID card. The sequence of customer operations was as follows:

Customer card will be first inserted in the FP scanner Box. The two fingerprint templates embedded in the card will be copied to the fingerprint scanner memory, and the live finger of the customer matched



against the stored templates. A positive match will show a green light on the FP scanner box, and will light a flag (Yes/No) on the card's memory.

The card with the Yes (fingerprint validated) flag will be now touched to the Nokia 3220 phone, which will read the flag and the last balance from the card. Orange light will indicate a successful card read. A menu driven application will control the selection of transaction type and amount. The new balance and last 5 transactions log will be updated on the phone, and the phone's lights will turn green to indicate the completion of a transaction.

The phone will be momentarily touched to the printer to print a receipt. It will be touched once again to the printer to print a second receipt. One for the customer and one for our operator.

Each of the choices we made was designed to overcome the limitations of the devices we had. However, things worked out very neatly and the end result and user experience were very satisfying.

We were able to convince SBI and RBI that this was worth scaling up.

Change

Soon, Nokia came with a new NFC phone model - Nokia 6131 NFC - which had bluetooth, micro-SD card and a usable camera. With upto 2GB local memory now available on the phone, we were soon able to convince SBI to allow us to use the system offline. We now built the entire village branch's general ledger on the phone itself, using the 2GB memory card to write a Java micro-database, using the NFC SAM for foolproof security. This helped greatly in making sure that no transactions were denied due to non-availability of the network. In the bargain, we were able to get rid of the smart cards, as all customer data was now available on the CSP's phone itself. Doing away with the smart card was a huge saving, without any compromise on security. The system was now lightning fast in response and was quite unique, very easy to operate and very customer friendly.

Very soon, we were able to dump the PC for enrollments, and were able to open accounts with the same basic equipment that was required for transactions. This saved costs and made logistics much simpler, and made our system far more scaleable. The fact that we were in control of application development using Java did matter to our customer Banks, who were able see value in the speed at which we could convert feature requests into actual application updates in the field. The fact that we used mobiles had become a big asset for us and a defining feature of ALW's technology.

We went live with the first ever micro-Bank outlet of SBI at David Lalmalsawma's little shop in Aizawl on 6th November.

Present Scale

In November 2006, State Bank of India set up India's first Business Correspondent outpost in Seiling village, 42km from Aizawl in Mizoram, at David Lalmalsawma's little shop, with technology from A Little World and with ZMF as the BC. This has now grown to over 8500 BC outlets, with presence in all states. Most of these outlets have been set up with SBI as a sponsor Bank, and bear a signboard with joint branding of SBI and ZERO. Over 6 million customers have been enrolled for no-frills Bank accounts at these locations. The ZERO platform is also used to disburse small cash benefits from the Government to citizens, such as Social Security Pensions and the payment of wages under the National Rural Employment Guarantee Act.

Future

India's largest Bank State Bank of India has recently picked up a strategic equity stake, amounting to 20%, in A Little World Pvt. Ltd. The investment from SBI demonstrates its deep commitment to Financial Inclusion, and will be utilized for a large-scale expansion of SBI's micro branch network based on the Business Correspondent model, with a target to set-up over 60,000 micro branches and to provide basic banking services to 50 million customers in the next 2 to 3 years.

*For further details: Anurag Gupta, CEO, A Little World
+91.98924.88882 anurag@alittleworld.com
www.alittleworld.com*

*Don't worry about the world coming to an end today.
It is already tomorrow in Australia.*

- Charles Schulz



Aravind Eye Care System - Restoring Sight to Millions

Thulasiraj Ravilla,
Executive Director, Lions Aravind Institute of
Community Ophthalmology, Aravind Eye Care System,
Madurai



Armed with an MBA from IIM-Calcutta, Thulasiraj Ravilla has brought in a refreshing professional approach to the medical care sector in India. An active member of Aravind Eye Care System's leadership team known for its sustainable, scalable and replicable model of service delivery to all rich and poor, he brought in the management competence through systems and processes to the organization. With a focus on enhancing the throughput of eye care through capacity building, training and consultancy the team led by Thulasiraj has worked with over 270 hospitals across the globe. He has served as an Advisor on several national and international bodies; he was South East Asia's Regional Chair for the International Agency for the Prevention of Blindness (2000-2005) and was the founder President of Vision 2020 The Right to Sight: India. He has been a Technical Advisor to India's National Programme for the Control of Blindness and to the World Health Organization. He was named as a Social Entrepreneur in 2005 by the Schwab Foundation (World Economic Forum) and adjudged the "Hospital Administrator of the Year in 2008" by Modern Medicare and GE Health Group.

In the recent years Aravind Eye Care System won the Gates Award for Global Health, the Champalimaud Award for eye care services and most recently the Conrad Hilton Humanitarian Award. Aravind was also listed amongst the top 50 most innovative companies in the world by the magazine Fast Co. He has authored a number of papers and articles published in peer reviewed journals and book chapters across the world.

This is the story of an experiment to alleviate one form of human suffering – the loss of sight. It is also the story of a man called Dr. Venkataswamy, his mission and his message. It is about Aravind Eye Hospital which grew from an eleven-bed eye clinic to become the world's largest provider of eye care, giving sight to millions each year.

Blindness in India

First it is important to understand what it really means to be blind. It is beyond just a disability; it deprives one of their livelihood and independence. It strips one of their self-esteem and status in the community.

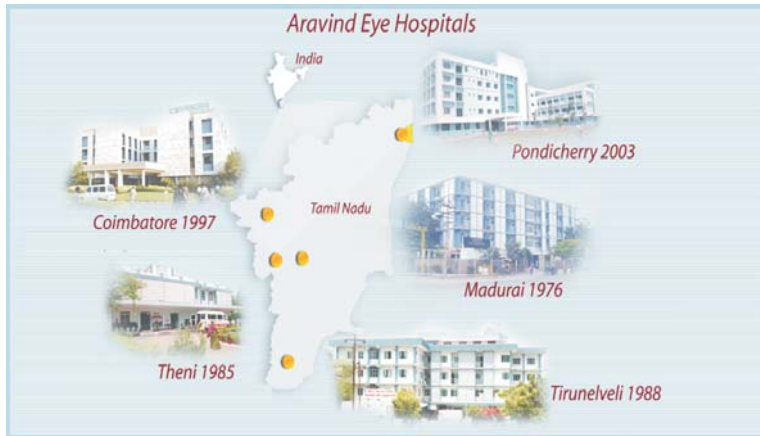
A simple surgery can restore sight to millions who are blind due to cataract. Even simpler, a pair of glasses can make another two millions Indians see again. Yet, 12 million Indians remain blind. If we include the many others who other forms of eye care, one in five Indians – a staggering 200 million would need of eye care. Today we have barely reached 10% of them.

Aravind Eye Care System

This is the background in which Aravind Eye Clinic as it was then known, came into existence in 1976, as a post retirement project of Dr. Venkataswamy (or Dr. V) – beginning a saga of innovation and scaling up. It now is a system of 5 base hospitals spread across Tamilnadu and Pondicherry supported by 33 primary eye care centers and a growing network of managed hospitals in other parts of the country.



Dr. Venkataswamy



During the last three decades sight has been restored or preserved in over 3.5 million people. Over 60% of them received it either free or at a steeply subsidized rate. Currently Aravind performs 300,000 surgeries and handles over 2.5 million patient visits a year. This makes Aravind not only the largest provider of eye care worldwide.

Aravind is also the largest trainer of eye care personnel – providing training for clinical, paramedical and managerial personnel. Annually regular classes are held for over 400 trainees who either become the future staff of Aravind or will carry forward elsewhere this spirit of working.

It requires constant inspiration and a lot of perspiration to make this happen, and happen well day after day. This has been possible thanks to the building blocks that



The Camp site

Dr. V put in place: a strong value system that shaped the culture of the organization, an efficient delivery process and the culture of fostering innovation.

Innovations for better accessibility

Aravind’s commitment to do the best for the patient and not betray the trust, led to the development of a highly ethical and patient centric organization and systems that reflect it. On a more practical level the services had to be

delivered efficiently and, odd as it may sound, the inspiration came from McDonalds! How can we deliver eye care with the efficiency of McDonalds? In the words of Dr. V, “If I am able to produce eye care with the same techniques and methods and make it available in every corner of the world then the problem of blindness is gone”. After all, eye balls are the same world over and so are the ailments. Why then, should there be such disparity in the availability and quality of treatment?

By the community, for the community

How does one address, a large population in need – a population that is difficult to access and cannot pay much – with limited resources? This challenge required continuous innovation. The early innovation, which continues even today, was to create community ownership to the problem of blindness and partner with them to reach into rural and poor communities.

Aravind conducts around 2000 outreach camps per year, and for each camp, a group from the community helps to publicize the camp, organize the venue and volunteer with registration and other activities. Great effort has gone into making the screening camps as comprehensive as possible. A team of nurses check the vision, and the doctors do preliminary examination to determine what further tests need to be done. Refraction is done and prescriptions for glasses are given. The eye pressure is measured to screen for glaucoma. With all the results on hand the doctors do the final diagnosis and decide on the line of treatment.

Those requiring glasses can get them immediately in frames of their choice. This is important since spectacles are also a fashion statement. These are made available at a reasonable price. Those requiring surgery are counselled accordingly and these patients are



Screening after surgery...

transported to the hospital in buses. Such people would never have received eye care if one didn't create these necessary support systems – screening, transportation, accommodation, food, surgery and medications all arranged and provided free of cost to the patient. They receive the surgery the next day. After a day of recovery the whole batch is transported back to the campsite where their family members await to take them home.

In 2009-10, Aravind screened 455,378 patients and performed surgeries on 76,056 patients through 2,148 camps.

Improved Primary Care

However impressive the screening camps may seem, an evaluation done by us a few years back revealed that these eye camps reached a mere 7% of those in need. To address this, Aravind started primary eye care centres (called Vision Centres) which are located in rural and sub-urban areas – each serving a population of 50,000. The Vision Centres are connected to a base hospital in a hub-and-spoke model.

All 33 Vision Centres are equipped for comprehensive preliminary examination – a trained senior paramedic performs all routine tests and procedures while a senior counsellor takes care of the administrative and counselling. Each centre is connected to the

base hospital through a wireless link or broadband internet. This enables the ophthalmologist to view the details about the patient including images of the eye and to communicate to each patient via webcam.

Aravind's Vision Centres perform 500 to 600 tele-consultations daily. In a fully operational year, these centres see over 104,000 patients, of which over 5,200 patients undergo sight-restoring surgery and over 22,450 receive spectacles.

Providing specialty services

While those who need glasses or cataract surgery were being addressed through this outreach programme, those with more advanced eye care needs were not adequately served.

The detection and treatment of eye diseases like diabetic-retinopathy (a degenerative condition that affects those with diabetes) requires a retina specialist. Early detection and treatment is the only way to deal with this – unfortunately the condition is symptomless in its early stages. Though diabetics are concentrated in the urban areas, a significant number are in the villages. The challenge was one of providing advanced diagnostics in the rural areas.

There are very few specialists whose services are required in the hospital where the patients are seeking them out. Only a small number would be requiring such



Training for Aravind paramedics...

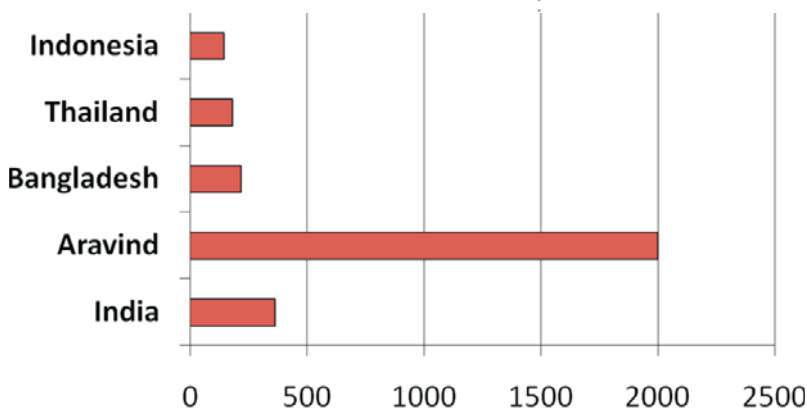


services in any given area. Thus it is counterproductive to take all super specialists to rural areas. Once again technology was deployed to bridge this gap – a mobile screening unit, equipped with V-SAT, advanced imaging systems and high end telemedicine was designed. Images of the inside of the patient’s eyes are captured and transmitted to a specialist using a custom-designed software developed by Aravind. The specialist makes the diagnosis, if necessary interacts with the patient and sends the report back which is printed out and given to the patient with appropriate counselling.

The overall impact of these innovations has been one of growing the market by reaching the unreached and creating awareness and access, which has led to a change in the health seeking behaviour of the rural community.

Meeting the resource challenge

Another large challenge was to deal with the huge volume of work with



very limited resources – especially ophthalmologists. We designed a process that eliminates wastage of time and thus enhancing productivity. To build a compassionate workforce to support the ophthalmologists we started recruiting girls from the villages. Today we select about 300 to 400 girls each year. They really are the backbone of the organization, carrying out

all of the repetitive skill-based tasks – they are trained to do one thing and to do it well, resulting in high quality & productivity at significantly lower costs. This new career has also impacted the lives of these young women and their families in a positive way, ensuring a constant supply without having to advertise. The impact of all this has been high output of the surgeons at Aravind.

Fig 1. Surgeon Productivity: A comparison

Adverse Events During Surgery	Aravind, Coimbatore N=22,912	UK National Survey N=18,472
Capsule rupture and vitreous loss	2.0%	4.4%
Incomplete Cortical Clean up	0.75%	1.00%
Iris Trauma	0.3%	0.7%
Persistent Iris Prolapse	0.01%	0.07%
Anterior Chamber Collapse	0.3%	0.5%
Loss of nuclear fragment into vitreous	0.2%	0.3%
Choroidal Haemorrhage	-----	0.07%
Loss of intra Ocular lens into vitreous	0.01%	0.16%

All this has to be done at no compromise to quality. Extensive quality assurance systems have ensured very low rates of complications. The table below shows that Aravind’s complications are just 40% of that reported in UK.

Affordability vs. Sustainability:

The final piece of the puzzle was to make the services affordable to the community in a situation where most of them cannot pay but also need additional support to access the care. And how to do this in a self-sustainable manner?

Aravind achieved this by giving away most of it for free while the paying clientele pay no more than the market rates, often a lot less than the rates in bigger cities. Of course the cross-subsidy model requires a mindset and this is part of the value system in place – a mindset that allows the surplus generated from the paying patients to be utilised to serve the needy.

The financial results showed that expenses increased with volumes but so did the revenues, at a higher level and



widening margins even while serving most of them free. In absolute terms the revenues last year was US\$ 22 million while the total expenditure was US\$ 13 million – an EBITA of 39%. This surplus finances the capital expenses, growth and other developmental activities.

Fig 2: Financial Results: Through a unique fee system & effective management,

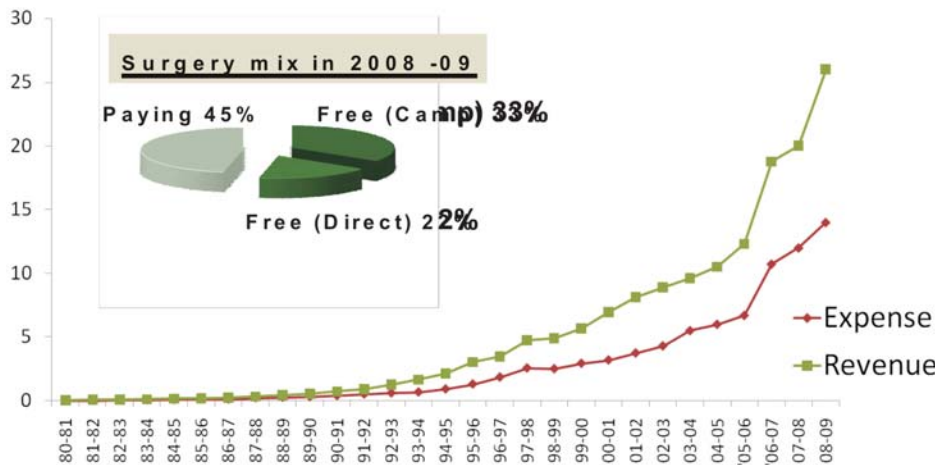


Fig 2: Financial Results

Aravind provides free eye care to 60% of its patients

Soon it was realised that achieving Dr. V’s vision for Aravind: “eliminating needless blindness” could not be done singly – it required going beyond Aravind.

Creating competition

Aravind proactively and systematically promoted best organizational practices to several eye hospitals through its training and consultancy arm, LAICO (Lions Aravind Institute of Community Ophthalmology) through consultancy, teaching, training, research, publications and advocacy in eye care. Till date, LAICO has worked with over 270 eye hospitals from India and other developing countries through a collaborative process of consultancy and capacity building. Over 1,800 eye care professionals from 70 countries have been trained in the management courses and other more specific task-oriented training programmes. LAICO has also developed

several need based management tools in eye care that help assess, plan, implement and manage high quality, efficient, and sustainable eye care programmes in the developing world.

Making eye care affordable worldwide

When our attempts to negotiate affordable prices from multi-nationals companies failed we set up Aurolab, a non-profit to produce and sell lenses that are implanted inside the eye – intraocular lenses, sutures and pharmaceuticals.

The cost of an IOL was upwards of \$100. Today the lenses cost a small fraction of what they used to. At \$2 an IOL, cataract surgery has become extremely affordable worldwide. Aurolab now has 7% of the global market share and exports to over 120 countries.

Learning from Aravind

In developed nations like the US, the already high healthcare costs are escalating even further, making it unaffordable to even those with insurance and a significant population remains uncovered.

Again, in countries like UK & Canada where the state provides the healthcare, the costs are becoming unaffordable to the governments. Aravind’s unique eye care delivery model has demonstrated the provision of high quality, high volume eye care that is affordable and yet delivered in a sustainable manner. While many eye hospitals in the developing world have been inspired by this model and have adopted Aravind’s principles of eye care delivery, today this model is receiving increasing attention from hospitals in developed countries as well.



Vision building workshops for foreign participants...

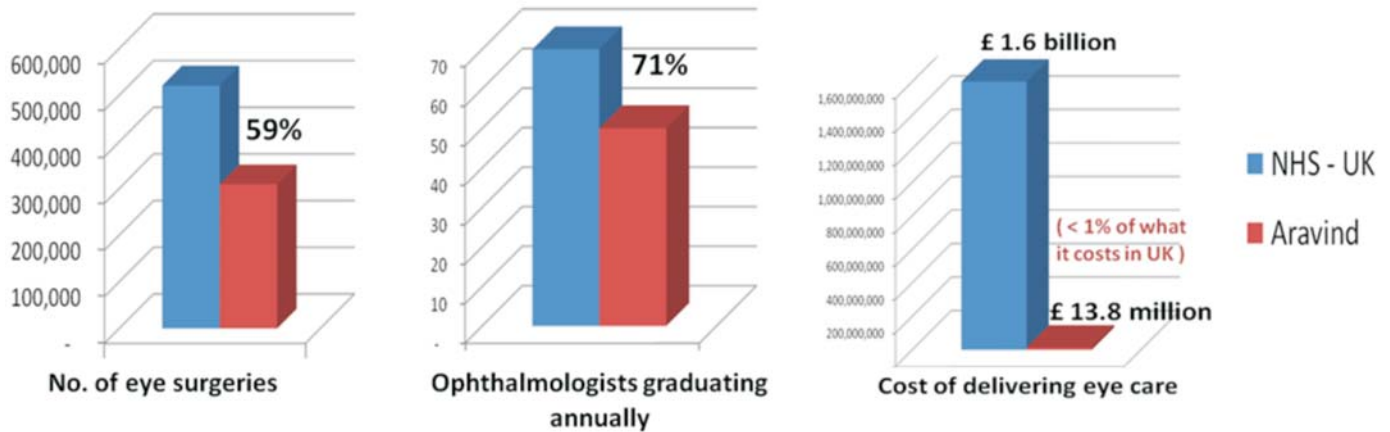


Fig 3. UK Vs. Aravind: A Comparison

Comparison of Aravind’s performance with that of the work done by the NHS in all of UK shows that Aravind performs 59% of the annual number of eye surgeries done in the UK and it has been shown that surgical complications at Aravind are only 40% of those reported in UK. Besides, Aravind graduates 45 ophthalmologists each year which is about 70% of the number graduating in UK. Aravind has been able to do this at less than 1% of the cost in UK. It is recognized that this cannot be explained away simply by labour arbitrage – other factors such as cost of supplies, efficiency, clinical processes, regulations and the extent of defensive medicine have also to be considered.

Teams from eye hospitals from USA, Singapore and Finland have visited Aravind to learn how they can improve coverage, quality and efficiency of their services. Aravind receives more and more enquiries

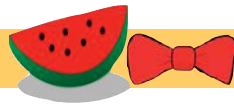
from developed nations as well as organisations that work in other areas of health care, who are interested in adopting the Aravind model.

Beyond Eye Care

Aravind’s model can ideally be applied to conditions where many are affected cutting across all economic strata with equity and coverage issues and where proven cost-effective interventions are available. The principles behind the Aravind model of productivity, quality, patient-centeredness, efficiency, cost-control and achieving scale could provide the solution to areas such as dentistry, obstetrics and gynaecology. However, the pre-requisite for these solutions to be deployed appropriately are the softer aspects of compassion and ownership of the problem.

Say what you will about the Ten Commandments, you must always come back to the pleasant fact that there are only ten of them.

- H.L. Mencken



Yajna, or sacrifice is the voluntary foregoing of a valued possession with the sole intention of achieving solace and peace. It has a number of connotations in the context in which it is practised and therefore, allows for generous interpretation. Here, the authors discuss the spirit of the Yajna, or sacrifice and its place in Vedic literature. More importantly, the symbolism of Yajna, is addressed along with its relevance to the modern world of management.

YAJNA - Quintessence of Indian Culture

Ms. Sushila Yadav & Mr. Shyam Nataraj

The authors are attached to the Vedanta Cultural Foundation (A Scientific & Industrial Research Organisation (SIRO) recognised by the Ministry of Science & Technology, Government of India.)



Ms. Sushila Yadav

Sushila Yadav is a disciple of internationally renowned Vedantin Swami Parthasarathy. She has completed a masters degree in science from Mumbai University. After a brief stint with a leading multinational Sushilaji decided to give up a flourishing career to pursue spiritual knowledge under the guidance of Swamiji. She has devoted over two decades to full time study and research of Vedanta.

Her exposition of philosophic truths is logical and systematic, yet simple, practical. This approach has endeared her to audiences both in India and abroad.

Sushilaji is a trustee of the Vedanta Cultural Foundation that runs the Vedanta Academy, a unique institution of higher learning near Mumbai.



Mr. Shyam Nataraj

Shyam Nataraj is a commerce graduate from the Madras University and – Grad CWA.

During his professional career, he pursued his interest in Vedanta by applying the principles of Vedanta at work. To further his interest he took to fulltime study & research of Vedanta under Swami A. Parthasarathy. Shyam has spent the last ten years studying, researching and disseminating the science of life and living. Shyam is a prolific writer and also study classes in Pune and Mumbai to make Vedanta easily accessible to the public. He has delivered lectures and programs to diverse institutions in India & abroad including Indira Group.

INTRODUCTION

Yajnarthat-karmano-nyatra lokoyam karmabandhanah;
Tadartham karma kaunteya muktasangah samachara.

(This world is bound by action other than those performed for the same of Yajna (sacrifice),

O Kaunteya, perform action for that sake free from attachment. – Bhagavad Gita Ch: III Vs-9)

The word "yajna" is a noun derived from the Sanskrit verb root "yaj", which is translated as "to sacrifice". The basis of yajna is the pouring of food offerings or oblations into Agni, the sacrificial fire. The mythological explanation set forth by the Vedic literature is that Agni receives the oblations poured into him, and carries them to the celestials for whom the oblations are intended. In this role, Agni is analogous to Hermes, the Greek messenger of the gods. The sacrificial fire is central to all Vedic ritual. It is usually lit inside a fire altar made of bricks and/or mud to exacting specifications. The construction of fire altars involved a high level of geometrical and mathematical knowledge.

During the early Vedic period there were five great kinds of sacrifices namely brahmayajna, devayajna, pitriyajna, manushyayajna and bhutayajna as sacrifices to Brahman (the highest Reality), to devas, to ancestors, to human beings and to all living creatures respectively. They divided into two by the manners of performing sacrifice, either the shruta rite that was done by Vedic priests according to shruti (i.e. sacred literature of Divine Revelation) rules or grihya (Domestic) rite performed by a householder in many cases assisted by his wife. However, the shruta rite is much



elaborated, its aims extending far beyond the purpose of a household. Thus, the Yajnas may be broadly classified into domestic [grhya] and public [shruta]. The shruta sacrifices may themselves be classified into Soma sacrifices [soma yajna] and non-Soma sacrifices [haviryajna]. The Soma sacrifices are special in that they involve the purchase, extraction and consumption of the ancient hallucinogen, Soma.

THE OFFICIALS IN A YAJNA

The conduction of a yajna requires the participation of individuals learned in the Vedas. The hymns from each of the Vedas are applied in different aspects of the yajna. Hence, the Brahmins responsible for the conduction of the yajna have to specialize in their respective roles, depending on their Vedic affiliation. The number of officials required in a yajna depends upon its complexity. The daily domestic sacrifice may be performed by a brahmana on his own behalf. However, the complex shruta Yajnas require the participation of a large number of officials, each having a different expertise.

Some of these positions of specialization are described below :

- **YAJAMANA** : The yajamana is the individual on whose behalf the yajna is conducted. Traditionally, the yajamana is a male, and cannot perform the yajna in the absence of his wife, the yajamana-patni.
- **ADHVARYU** : The adhvaryu is usually learned in the Yajurveda and is therefore an expert in ritual. The adhvaryu is the central official in the conduction of the yajna.
- **HOTA** : The hota is a Rigvedin, and is necessary for the chanting of the invocatory hymns, which are primarily from the Rig veda.
- **UDGATA** : The udgata is an expert Samavedin, who sings the saman chants that are part of the soma

sacrifices.

- **BRAHMA** : The brahman is the overseer of the sacrifice. Although supposed to be affiliated to the Atharvaveda, the brahman is often an adherent of one of the three other vedas. This substitution is unavoidable given the few Atharva vedis remaining in India.

Evolution of Yajna

The scriptures suggest the ways of performing Yajna was different according to the goal in mind of the sacrificer. The sacrifice could be directed to different devas – the cosmic powers personified as demi-gods. The aims of the yajna have to be compatible with what was in their powers. The important development of the yajna is the gradual internalisation of the ritual. The ancients regarded the earth as mother, as she feeds us, provides shelter and material for our basic requirements of living. Her benevolence has been bestowed upon us, as with least effort the produce were abundant. The extra produce that was left out is offered back to the plants by burning them in the sacred fire and helping the vegetation in as much as it generated carbon dioxide, the aerial food of the plant kingdom.

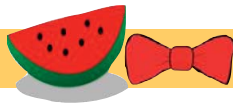
The visionary masters could foresee the natural resources will be depleted and degraded rapidly on a global scale. The global environmental problems could make our continued existence on the planet questionable in near future. The world would require more oxygen and ozone not carbon dioxide. In such a scenario, conduct Yajnas in the style of the yore would be just what would be adding fuel to the fire. Therefore, the masters had subjectified the concept of yajna and simplified the procedure.

THE SYMBOLISM OF YAJNA

YAJNA FOR MANAGEMENT

As shown in the table above, the ritual of fire worship or yajna is merely a reminder for one to work in a spirit of cooperative endeavor. The kunda represents a field of activity, like a company or an organization. The participants offering grains or ghee into the fire represent the members

THE RITUAL	OBJECTIVE	SUBJECTIVE
Aahuti	The efforts of the individual	Stimuli
Agni	The Higher Ideal	Brahman
Kund	The Field of Activity	Physical Body
Pandits	Organs of Action	Organs of Perception
Prasad	Reduction of desires	Self Realisation



of the organization contributing their talents for the organisation. The shooting up of the flames once the offering is made signifies the growth and prosperity of the organization. Thus the ritual of yajna is a vital lesson in management. For the growth of any organization it is essential to inculcate a higher vision among its members. An organization, whose members work only to cater to their self centred interests, cannot prosper. On the other hand, when the members of the organization work towards the higher ideal of the company's growth and welfare, that company flourishes.

YAJNA FOR SPIRITUAL EVOLUTION

The sap of India is spirituality. The Indian mind is always directed towards spiritual evolution. Dropping one's selfishness marks the evolution. Selfishness is constant thinking of one's own welfare, at the cost of others. Yajna inculcates the idea of working towards a higher ideal. A higher ideal is one beyond one's self – centred interests. It could start with one's family and grow to ones community, country, humanity and all beings. When the mind is concentrating on a higher Ideal the base thoughts of selfishness are no longer fed. Slowly the selfishness drops. One evolves spiritually.

CONCLUSION

Yajna signifies actions dedicated to a high ideal and performed with a spirit of service and sacrifice. The sacrificial activity may be directed towards a limited Ideal or an absolute Ideal. People invest their multifold activities for the achievement of either terrestrial goals or the transcendental goal. Either case the performer of yajna,

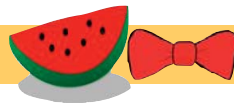
attains their respective goal through performance of Yajna. Prajapati, the creator having created humanity together with Yajna declaring, "By this you may propagate, let this be the Kamadhenu, milch-cow of your desired objects."(Ch-III Vs-10) The Yajna activities have the ability to satisfy all desires. Sacrificial actions bring prosperity to the organization and its members. They also provide peace of mind as one's selfishness reduces. Thus peace and prosperity prevail in the society.

References :

A. Parthasarathy, Commentary on the Bhagavad Gita (Volume I).

The large print giveth, but the small print taketh away.

- Tom Waits, Small Change



“Grooming” is a broad term encompassing several aspects of one’s being. Polished professionals are the most valuable asset for any organization.

In the last issue Suneeta Kanga discussed the dress codes for gentlemen. Here she speaks on the best ways for lady executive present themselves in the corporate world.

Dress Codes and Style Management for Women

Women’s dressing varies vastly with age, inclination and occasion that it is impossible to generalize. However the look should favor quality and understatement. Researchers comment that what people think about us is decided within the first three minutes of a meeting. This makes dressing an important business tool. Proper presentation takes preparation and knowing the rules of the game. Be sure you not only know the rules, but have the right "uniform" as well. Make sure the message you send is a message of success. Here are some tips that will help you "Dress For Success".

Clothes

- Owning classic clothing and accessories is better than what is “in” fashion.
- Wear simple well-cut suits or dresses rather than ultra trendy ones. Try to break up your suits so that they can be combined to create several outfits.
- The outfit that seems to be the most popular amongst recruiters is the traditionally cut, medium-range wool suit (black, dark navy, or dark gray), white silk blouse, and skin-toned panty hose.
- It is also appropriate to pair a dress with a matching jacket.
- If you must wear a pantsuit, wear one

Dress Codes and Style Management

(Ladies)

Suneeta Sodhi Kanga
Corporate Trainer



Suneeta Sodhi Kanga is a corporate trainer in the area of grooming, international etiquette, wine appreciation, fine dining, beauty and style, etc.

She started her career as air hostess with Air India and was declared Miss World Airlines 1989 and has flown as VVIP hostess with prominent personalities such as Prime Ministers, etc. on official foreign visits. She started her own consultancy for grooming and beauty, while also launching a slew of Ayurvedic beauty products. She has a very exclusive client list which includes prominent blue chip Indian and MNC corporates and is a regular speaker at various seminars and discussions in educational and other institutes on the subject of good grooming and etiquette. She contributes regularly to journals like Sommelier on wine tasting and appreciation, and rediff.com In this missive addressed to the young upwardly mobile corporate executive, Suneeta dwells on the need to create an 'aura' around you that speaks of culture, education and upbringing without saying a word!

Her email is - suneetakanga@sodhi.net



with a jacket that falls below the waist in a conservative color such as black, navy, or grey. A more 'safe' general guideline is that the jacket covers the hip area. Short jackets with pants sometimes accentuate the figure or figure flaws too much,

- For an average person, it is much more important that you look your best in a style that is appropriate for your lifestyle and body type than it is to have the latest label.
- This works for all body types. Wear clothing that fit properly. Squeezing into a smaller size does not make you smaller. It makes you look like you have gained weight and didn't buy clothing that are the right size.
- On the flip side, wearing baggy, bigger clothing in an attempt to hide things does not work either. You just make yourself look sloppy and larger. Don't buy what you wish you looked good in, but what really does compliment you.
- Clothes should not be too rampantly short or sexy. They should not hug the figure or reveal too much. "Cover all bases" with a matching skirt, jacket, and pants that can be dressed up or down with a white shirt or silk blouse.
- Underwear should not show and underwear lines are an absolute taboo.
- Choose colours like navy blue, beige, grey, cream or brown. When in doubt wear black and white, as you can never go wrong with these classic colors. Things to remember while choosing the colours for your office attire: You will look larger with light and bright colours. You will look smaller if you wear dark colours.
- Wear fabrics that don't wrinkle or crush fast so that you look well attired at all times.
- Cotton saris, well starched and neatly pinned, gives an elegant and businesslike look to a woman.
- A plain crepe or a basic silk sari is an absolute necessity for any wardrobe. You'll be neither under-dressed nor over-dressed in a crepe sari. Your silk sari could be heavy or basic depending on the occasion.
- Salwar suits are great for all occasions-informal, formal or grand. Equip yourself well; these garments are feminine, elegant and professional too.
- Scarves or duppattas should be draped smartly and neat.

Accessories

- Wear matching, unshowy accessories, which tone in with the outfit.
- Make an effort to change accessories with your clothes.
- You can mix and match and create an illusion of owning many outfits.
- A smart pair of sunglasses adds a lot to your style other than protect your eyes.

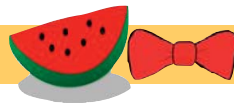
- Belts should match the color of your shoes and handbag.

Jewellery

- Always wear coordinated jewellery.
- Pearls are forever and diamonds are a girl's best friend.
- Coordinate the metals. i.e. do not mix gold with silver and platinum with pearls.
- Nose studs may be worn but nose rings do not look smart.
- Pins or broaches if worn on a jacket should be small and compliment the necklace.
- Necklaces should be a narrow band in gold/silver/white gold with or without a small pendant.
- A pearl necklace looks very elegant. Make sure that the earrings compliment the necklace.
- Avoid long chandelier earrings and heavy necklaces.
- One or two bangles/bracelets/kada should suffice.
- Rings enhance the well manicured look, do not wear too many of them.

Shoes And Stockings

- Always wear good shoes.
- Colors can be coordinated with your outfit.
- The shoes should be the classic stocky-heeled, closed-toe pumps preferably in conservative colors such as black, navy, deep brown or gray.
- The heel on the shoe should be about 1 1/2 to two inches high.
- Do not wear dark stockings, tights with light shoes.
- Tights should be toned in with the skirt and shoe color. (To prevent a ladder from increasing, apply a blob of nail paint and allow to dry.)
- If you wear open toed sandals/chappals, go in for minimal patterns not flashy and with a low heel.
- Platforms are not graceful.
- Black sandals go well with Western and Indian outfits. They could be heeled or flat according to your convenience.



- And yes, a manicure and pedicure are a must too.

Handbags

- Carry a matching handbag and belt to complete the look. A classic, non-nonsense, black handbag is a must. It should be big enough to carry basic belongings like your wallet, make-up kit, deodorant and some work-related stuff.
- Handbags should not be overstuffed and excessively large.
- They should be slung over the shoulder or carried in the hand purposefully.
- When you are seated put the handbag on the ground to your left for easy access.
- Do not keep the handbag on your lap.
- Do not fidget with the zips and the flaps.
- You may sling it on the backrest of the chair.

Watches

- A slim delicate watch with either metallic or leather strap should suffice; it doesn't necessarily have to be an expensive watch, just a simple, classy one that goes with anything.
- Slim black straps are in.
- And Roman numerals always look elegant.
- Go-go watches or gents watches do not look good.

Bindis And Tikkas

- If you are wearing an ethnic outfit like a salwar-kameez/saris a small bindi/tikka in teardrop, oval or round shape enhances the face.

Handkerchiefs

- Handkerchiefs if carried must be small dainty, clean and not stained.
- Never hold a kerchief in your hand. Use it discreetly and put it away in your pocket or handbag when not in use.

Essentials

- Carry a powder compact, lipstick and a blush for quick touchups whenever required.
- In the handbag always carry tissues safety pins alcohol rubs/wet wipes,

band-aids, a mirror, an extra pair of tights and emergency money.

Do's And Don'ts

- Don't wear skirts with slits higher than the knees.
- Don't wear clinging and short skirts.
- Don't wear tight sweaters or skirts.
- Don't wear see-through, wrinkled or dirty clothes.
- Don't wear clothes that are fading.
- Don't wear large chunky jewellery.
- Don't wear bindis with western outfits.
- Don't wear salwar suits with big duppattas.
- Don't wear scuffed shoes.
- Don't wear torn stockings.
- Don't wear clothes in need of repair.
- Don't wear deep necklines.
- Don't wear very high heels.

The Western Professional Look Basic Wardrobe Should Have:

- Two skirts (straight and flared)
- Two classic pairs of trousers in dark colours
- Two solid colour blouses (one pastel and one bright)
- One pin striped blouse.
- One white shirt (Crisp, clean, fresh.)
- Two simple shirts
- One solid colour blazer
- Shoes and accessories like scarves, jewellery, belts, handbags etc.

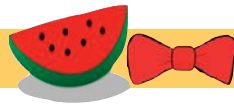
The Indian Professional Basic Wardrobe Should Have:

Salwar Suits:

- For all occasions-informal, formal or grand.
- Equip yourself well; these garments are feminine, elegant and professional too.
- Duppattas should be compact, draped smartly and neat.

Saris:

- Cotton saris, well starched and neatly pinned, gives an elegant and businesslike look to a woman.
- A plain crepe or a basic silk sari is an absolute necessity for any wardrobe. You'll be neither under-dressed nor over-dressed in a crepe sari.



Your silk sari could be heavy or basic depending on the occasion.

Kurtis:

These can be in cotton or crepe. Should be worn over formal pants.

Wear small prints. Wear sophisticated colours.

Corrective figure dressing for women

SMALL FIGURE:

To appear taller, focus on an elongated upper body.

Cuts like Empire lines, Princess and A- lines along with necklines such as Deep V's, Horse shoe and Scoops work well.

Single colour co- ordinates in neutral shades like black, white, beige etc., in pastel shades, small all over prints and linear patterns.

Soft flowing fabrics like Crepe. Chiffon and Voile.

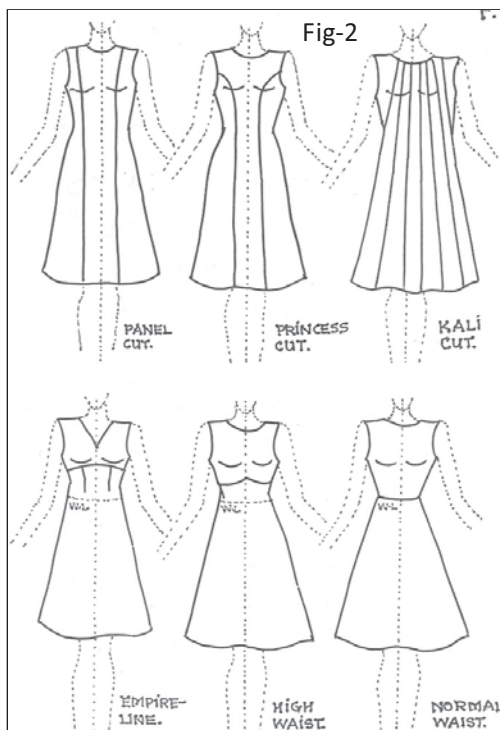
Vertical detailing such as embroidery or buttons from neck to hem create an illusion.

AVOID:

Horizontal prints and detailing.

Too much fuss on waistlines and hems, high necks and collars.

Knee and mid calf lengths.



TALL FIGURE

To make upper body look proportionate to long legs, choose a plain bodice and details like embroidery / braiding etc. to break the skirt area.

Low waist lines, pleats, tiers, trumpets, flares and pockets break the skirt area.

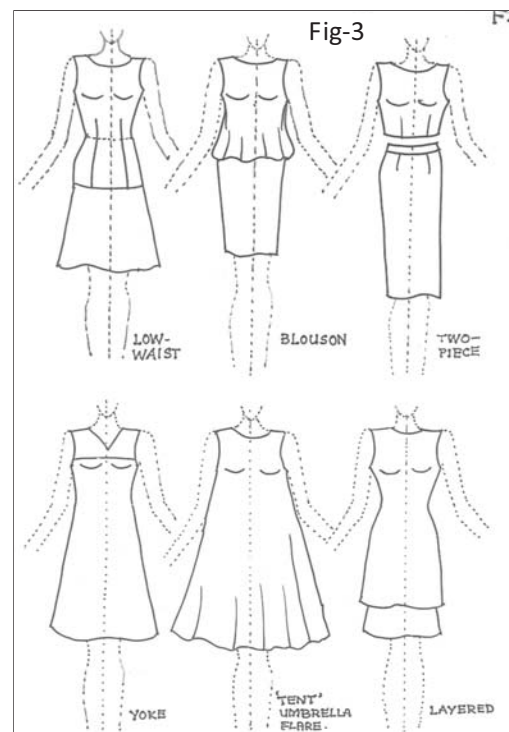
Contrast in solid colours, horizontal patterns / prints and neck details like off- shoulders, broad collars and wide necklines.

AVOID:

Vertical prints, patterns and detailing.

Dark solid colours.

Very high heels.



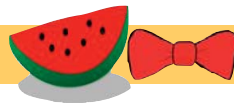
ANGULAR FIGURE:

This figure type is normally what could be regarded as “Thin” or “Skinny”. It is also the type of figure that is perfect for “High Fashion”.

Curved lines, Cowls and Drapes in soft drape fabrics.

Light and bright colours, bold prints.

High necks like Chinese as well as rounded



necks.

Layered clothing (i.e. 3 or more pieces.)

AVIOD:

Very structured and tailored garments with sharp cuts.

Bare / square necklines.

Geometrical prints.

Clingy fabrics.

FULLER FIGURE

Y- SHAPED (Broad shouldered. Fuller busted also known as the continental figure.)

PEAR SHAPED (This is the most common figure type. Hips are wide and heavy.)

Select clothes which flow away from the body.

Subtle vertical stripes / patterns as well as vertical detailing like Princess seams, front opening create longer lines.

To disguise:

-BIG BUST: Loose straight cuts which fall straight from bust down. (A- Line.)

-BROAD WAIST: Keep front of the garment smooth (without details and not pinched in at the sides.)

-WIDE HIPS: Wear dark narrow bottoms. Loose long tops which fall below the hip-line.

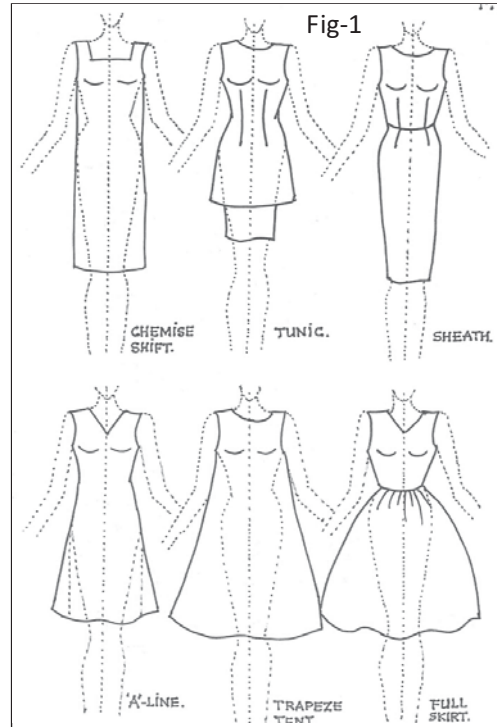
AVOID:

Fitted looks in clinging fabric, satin and lame, which highlight the body lumps.

Excess detailing and big bold prints.

Frills and gathers.

Broad belts.



Dressing for the occasion:

FOR AN EVENING FUNCTION:

Dark and "Jewel" colours like aquamarines, maroon, black, blues etc. look elegant as well as colours like beige and off white look sophisticated.

Fabrics should be Silks, Chiffons, Crepes, Georgettes, Lurex, stretch knits often with a slight sheen.

The right accessories are very important.

FOR A DAY FUNCTION:

Light colours like pastel shades, muted greys, sand, mint green etc. are appropriate.

Fabrics like silks, crepes and even high quality cottons and cotton blends, linen etc. are appropriately embellished and textured.

The surest sign that intelligent life exists elsewhere in the universe is that it has never tried to contact us.

-Bill Watterson, Calvin and Hobbes



Indira Goes International !!

The Chairperson, Ms Tarita Shankar has done herself and Indira proud by winning Awards not just nationally but abroad as well. This year has been a particularly successful year with international recognition coming her way at London, Singapore and Colombo. Congratulations and we look forward to more of the same!!

International :

December 2010 : 'Institution Building' award at the 1st Achievers & Leaders Award ceremony at Colombo,

November 2010 : "TALENT EXCELLENCE IN EDUCATION AND TRAINING AWARD" at the GlobalTalent management award ceremony London organised by Osney media in association with HOUR Leadership alliance.

July, 2010 : 'Hall of Fame' award and 'India's Greatest Brand Builder' award at Asia's Best B-School Awards Ceremony at Suntec, Singapore

National :

November 2010 : Education Baroness Award at 18th Dewang Mehta Business School Award ceremony Mumbai.

The Return of the Season of Awards

It is once again raining awards for Indira Group. 2010 has been a particularly rewarding year for team Indira and it is no more whether Indira has any Awards, but how many that is of interest!! Bravo, Indira and its team led by the irrepressible Chairperson Tarita Shankar and Group Director Chetan Wakalkar. Way to go!

2010 Awards Tally

Dainik Bhaskar / DNA Awards received on 12th February, 2010

Sr. No	Award Details	By	Awarded to
1	B-School who Innovate in Teaching Methodology	DNA Innovative B-School Awards	Indira Group of Institutes
2	Innovation in Building Academic & Industry Interface	DNA Innovative B-School Awards	Indira Group of Institutes
3	Outstanding B-School (West)	Dainik Bhaskar B-School Leadership Awards	ISBS
4	B-School with Excellent Industry Interface	Dainik Bhaskar B-School Leadership Awards	IIMP
5	B-School with Industry Related Curriculum in International Business	Dainik Bhaskar B-School Leadership Awards	IGBS
6	B-School using Technology in Training Education	Dainik Bhaskar B-School Leadership Awards	Indira Group of Institutes

Asia's Best B-School Awards, held on 23rd July 2010, Suntec Singapore.

Sr. No	Award Details	By	Awarded to
1	Hall of Fame	Asia's Best B-School Awards, Held on 23rd July 2010, Suntec Singapore.	Ms. Tarita Shankar, Chairperson – IGI
2	India's Greatest Brand Builder	Same as above	Ms. Tarita Shankar, Chairperson – IGI
3	Most Powerful HR Professional in India	Same as above	Prof. Chetan Wakalkar, Group Director – IGI
4	B-School with Best Infrastructure Award	Same as above	IGI
5	Business School Leadership Award	Same as above	IGI
6	B-School with Best Industry Interface	Same as above	IGI
7	Innovation Leadership Award	Same as above	IGI





tapasya Gyanganga Lecture Series

The 2010-11 session of the Series, inaugurated in 2009 by Mr R Gopalakrishnan, Executive Director, Tata Sons Ltd., got off to a rousing start last month. In continuation of our objective of bringing to the campus, national level speakers with commendable credentials in public life from all fields of endeavour, Mr B. G. Verghese, the doyen among journalists and Indian writers in English, addressed the youth of Indira on Economic Gains With Social Strains : The Way Out. Speaking to a jam packed and highly receptive audience of over 400 students Mr Verghese made a fervent plea to make economic progress in the country inclusive so that equity and justice in distribution of wealth is ensured. This was not just in the interest of the poorer sections, but for the country as a whole, since inequities are the base for all the divisions and tensions in society. Although the GDP growth over the last ten years has been around 9 per cent, the fact is the rich have grown at a phenomenal rate, while the poor have languished at a lowly 1 or 2%! Only when a minimum standard of life for all the citizens is assured can there be peace and equanimity in the social fabric, he averred. He quoted from Dr B.R. Ambedkar's speeches in the Constituent Assembly to desist from the cult of hero worship since that could be the end of sane governance and the beginning of an autocratic and corrupt administration.

An exhilarating interaction, moderated by Mr PK Divakaran, Executive Director, ISCD, followed when Mr Verghese took questions on not just national economics, but also the gamut of Indian current affairs - from Kashmir to Maoist violence and his own reflections of the Governments of the past !



The guest was introduced by Mr P. G. Vijairaghavan, Editor, Tapasya and Convenor, Tapasya Gyanganga Lecture Series. The Chairperson, Ms Tarita Shankar, welcomed Mr Verghese and expressed the hope that he would visit the campus to share his views with the students more often. Mr Pranav Vyas, Director, IGBS, proposed a vote of thanks.





SUPER ACHIEVERS AWARDS

Presented In Pune



Indira Group's Super Achiever Awards were presented to 19 illustrious performers from various corporates at a glittering function at the Dhruv Auditorium, on 17th and 18th September. The chief Guest was Mr Ashok Venkatramani, COO Star News (MCCS). Each of the awardees spoke of her/his motivation to achieve and the spirit of never-say-die that held their determination together. The Chairperson and Group Director, Indira Group of Institutes welcomed the guests.

Sr. No	Name of Awardee	Organization	Designation
1	Dr. Shubhada M. Rao	YES BANK Ltd.	Chief Economist
2	Mr. Vijay Sinha	JSW Energy Ltd.	Head HR
3	Mr. Deepak Deshpande	Netmagi Solutions Pvt. Ltd	Vice President-HR
4	Mr. Emmanuel Braggs	Saama Technologies India Pvt. Ltd	Head Human Capital Management
5	Mr.Somasajeevan T K	Polaris Software Lab Ltd	Global Head-HR
6	Mr.Mayur Satyavrat	Viacom18 Media Pvt. Ltd	Director Human Resource
7	Ms. Preeti Bose	Wrigley India Pvt. Ltd	National Learning & Development Manager
8	Mr. Elston Pimenta	Cybage Software Pvt. Ltd	Head-HR
9	Mr. Saurov Ghosh (Represented by Ms Roopa Seshadri- Head OD)	Birla Sun Life Insurance Company Ltd.	Head & Senior Vice President – Human Resources
10	Mr. Suvodeep Das	Kaya Ltd.	Head - Marketing
11	Mr. Kerman Kasad	Symantec Corporation	Director-Corporate Communication
12	Mr. Sandeep Kulhalli	Titan Industries Ltd.	Vice President – Retail & Marketing – Tanishq
13	Ms. Ameer Sanghvi	Orbit Corporation Limited	Head-Branding and Communications
14	Mr. Gurpreet Amrit	Bajaj Consumer Care Ltd	Head - Marketing
15	Mr. Mohit Goel	Tata AIG General Insurance Company Ltd	Head- Marketing & Product Development
16	Ms. Anuradha Paraskar	Lavasa Corporation Limited	Sr. Vice President- Marketing
17	Mr. Arif Sheikh	Advance India Projects Limited	President - Retail
18	Mr. Shajai Jacob	Yes Bank Ltd	Senior Vice President & Deputy Chief marketing Officer
19	Ms. Deepali Naair	L& T Insurance Company Ltd	Country Head- Brand & Corporate Communication



ISCD – CII – YI Organised Visit to Orphanage



Visit by students of ISCD, Chinchwad to the Punarutham Gurukulam, at Chinchwad, Pune was organised in association with CII-YI, Pune. This was where students learnt that there is more to life than working for ones ownself !



Convocation Ceremony at Indira School of Communication

The convocation ceremony at ISC, was an occasion to remember, what with the Chief Guest, noted film and theatre personality Atul Kulkarni, giving some golden words of advice to the passing out batch. 'All the Degrees and diplomas are merely just papers if not put to practical use. I joined the National School of Drama at 27 and passed out at 30. Only when I finished the course did I realize that my work experience and keenness to learn life skills complemented my degree. One has to be a keen learner and compete with oneself'



The pin-drop silence with which the students heard him was indication enough of their seriousness to imbibe the hometruth.



Indira Global Business School Thinking Global - Working Local

IGBS students realised that there is more to being just aware of how the other half of the world lives. And they realised it when they went out and brought smiles on the faces of the municipal school children, adjoining IGBS, who had to fend for drinking water during hot summer days.

There were many options like setting up a small water tank in their school or getting water from our college and putting those small cans in the school everyday, they finally decided to donate good quality water bottles to the students which could also keep the water cool for sometime.

On 16th December, 2010, a small function was held in the school with all the students and staff members of the school, when the



students put their thought to action. They were also given small pencil boxes as an addition. The smiles on the faces of the School authorities and children had to be seen to believe. "You made our day!" they seemed to say.



ACADEMIA :

The academic workshops were conducted for both Marketing and Finance students separately by personalities like Mrs. Surekha Mashroowala (MD, Bhaidas Maganlal & Co) on Basics of Derivatives and Technical Analysis of Stocks which brought out an analyzing ability among the students.

Dr Milind Patil who has completed his Doctorate from XLRI and is currently working in TCS (SCM Presales and Solutions) discussed on the practical approach of Supply Chain Management and Logistics.

IGBS stood up to its Global name, and arranged a full day workshop by Dr Shrikant Bhojkar who has over 35 years of experience in International Trade in 65 countries on the current global happenings.

Innovations are the need of the hour and talk of all the management gurus the world over. To keep our students abreast on the same IGBS had arranged a workshop by Tim & Gloria from Singapore on Innovation Management.

INDUSTRIAL VISIT TO FORBES MARSHALL :

IGBS students had practical exposure of International Business in Forbes Marshall. They not only saw the manufacturing unit of boilers, valves and steam system but they also went through an interactive session with the Head of International Business for Forbes Marshall whereby they discussed the actual trade and documentation of an export oriented manufacturing concern.

COMMUNICATION:

Mr. Minocher Patel and Mr. Rooney Cooper held Group Discussion, Interviews and Ex-tempore with IGBS students to enhance their verbal and non-verbal communication skills.

Wisdom Solutions which is a wing of TejGyan Foundation arranged a Kreativty Dynamics workshop which dealt with Positive attitude, Motivation and Personality Development.





Events Held at MBA Department ICEM

1. Talentine 2010 to provide exposure to postgraduate intercollegiate competition of management disciplines, where the management skills of the students were brought to the fore through competitions, sports and presentations.

2. Youth Empowerment Workshop

Art of Living's "Yes Plus" course taught the students of ICEM how to gain control over various factors influencing stress in their lives like academics, relationships, work etc. and how to reduce the impact of stress on their lives. It was a fun learning experience.

3. AIMA NATIONAL MANAGEMENT GAME/ CHANAKYA

AIMA conducted National Student Management games based on Chanakya Software. There was a simulation business game, where a balance sheet of company was given and each team was supposed to maximize its profit and market share. Regional Competition round was held on 23rd & 24th September 2010 at Sinhgad Institute, Lonawala, Pune. ICEM's four MBA III Semester students participated in the programme and secured first position in the Western Region defeating more than 50 teams and selected for the National Level Competition.

4. OUTDOOR MANAGEMENT TRAINING (OMT) PROGRAMME

Two days OMT Programme was organized for students of MBA III Semester on 30th & 31st August 2010 at YMCA Campus in Nilshi near Khandi village in Wadgaon Maval area. It was experiential learning through various management games including Yoga and Dance in the serene and beautiful international camp site.

5. Cracker-free Diwali campaign

ICEM MBA first year students carried out an awareness and signature campaign on cracker-free Diwali on 31st October 2010 at Camp area in Pune. Response and learning through this campaign had been phenomenal.

6. INDUSTRIAL VISIT

An Industrial Visit was organized for MBA III Students on 10th October 2010 at Kalyani Lemmerz Ltd in Chakan.





The company manufactures Wheel Rims for utility vehicles, light and heavy commercial vehicles and tractors.

Tata Technologies and Indra College of Engineering and Management team up for the unique “Ready Engineer” hands-on programme

Tata Technologies, a global leader in Engineering Services Outsourcing (ESO) and Product Development IT services solutions for Product Lifecycle Management (PLM) and Enterprise Resource Management (ERM), has tied up with Indra College of Engineering and Management, a part of the prestigious Indra Group of Institutes to impart voluntary classroom based, industry-focused engineering training to a group of select students from TE & BE Mechanical, under the aegis of it’s ‘Ready Engineer’ program.

Ready Engineer – the Tata Technologies program to train engineers - would work by identifying meritorious 3rd & 4th year Engineering students in respective engineering colleges in India to go through special 40 hours of classroom by their expert engineers and online training on its proprietary software iGETIT

Indra College of Engineering and Management is the first engineering college that has been identified by Tata Technologies for this program. The students would be exposed to a unique industry curriculum to bring in the right mix of domain, software application and core engineering knowledge. The faculty would come from a pool of engineering experts from Tata Technologies who have volunteered their time for the corporate sustainability program needs. Tata Technologies also gifted 65 free licenses for iGETIT which is the world’s most comprehensive web-



based knowledge management system designed specifically for engineers. Indra Institute on their part has put in place the necessary hardware and software infrastructure for training to commence.

About iGET IT®

iGETIT, one of the Tata Technologies proprietary iPRODUCTS software solutions, is the world’s most comprehensive web-based knowledge management system designed specifically for engineers. iGET IT offers more than 100,000 hours of professional online training, including more than 3,600 MCAD/PLM courses, 7,700 videos, and 1,700 assessments. More than 5,000 corporations use iGET IT including GM, GE, Ford, 3M, UTC, and BAE Systems.

