

**Anil K Gupta**



## Innovation & the SME

The biggest challenge for Indian entrepreneurs today is to set up a learning and sharing organization

**I**n a globalizing economy, regional or national benchmarks no longer suffice. Whether in technology or business, Indian small scale entrepreneurs will have to benchmark their current status in this regard with the best in the world. This is not going to be easy. The biggest challenge that Indian entrepreneurs face is set up a 'learning and sharing' organization. To do so, one has to recognize that innovations take place at all levels within and outside the firm. The transaction cost of learning about these innovations declines with every attempt to learn, experiment, assimilate and institutionalize the lessons of the relevant innovations. More than the tangible aspects of innovations, it is the intangible aspect of the process, the heuristic and the spirit underlying innovations which needs to be learnt from. But learning can cause a temporary setback. After all, who would like to believe that he/she may have missed some of the obvious lessons or creative ideas which occurred to people of firms with lesser endowment, scale or even success?

view". A very simple test to check how well one is doing in this regard is to write on a piece of paper every week, five lessons one learnt from children, colleagues, family members, strangers and from one's own conduct apart from reading and listening. If it is difficult to recall even one or two examples, we have some task to do. Sometimes, learning is lost because we did not realize the worth of an idea.

When it comes to economic activities, some of these lessons translate in different forms at the firm level.

### II. Firm level

- a. Why will somebody tell me answers to a problem I am facing when he/she is my competitor?
- b. What is the point in benchmarking? I know what the best practices are and have been using them all.
- c. Have I not made all the money I have without benchmarking for so long? Why do I need to change now?
- d. I don't think reasons which made me succeed can be the responsible for my failure

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### Lessons for learners at firm, farm, network and industry level

The major barriers to learn at individual or firm level are :

#### I. Individual level

The inertia, inhibition, arrogance and unwillingness to recognize the timidity underlying one's resistance to learn, are dominant forces coming in the way of learning. For example, "the rewards from learning are not sure and insufficient" or "How do I see connections among things which are not connected in my existing

- e. How can somebody with much less qualification, experience and knowledge teach me about how to do things better
- f. It does not really matter how well I listen to my peers or colleagues so long as I work hard and sincerely
- g. Where is the need to catalogue key learnings made in different sections of the firm, would not new staff learn over time? So what if some time and energy is lost in the process
- h. Lakshman can learn from Ravan but I can't learn from those I don't respect; the hurts must live in heart, lest they are dissolved

to generate a possibility of learning from those one does not like

- i. I can pay for doctor, architect or travel agent but not to an expert to diagnose my manufacturing practices or my business methods to suggest improvements

Many of these issues are relevant for any organization, though the implications of not learning are far more costly for a business organization than others.

**III. Regional level:**

- a. If everybody becomes efficient in the cluster, would not my profits be affected adversely
- b. Our competition is with each other within a cluster or region rather than with the bigger competitors globally

modernization would not be seen to different firms in the same industry

Given this context, the problems in learning can indeed be overcome slowly at all the levels and new models of doing business can emerge. A group action may become inevitable. Likewise, when it comes to testing, calibrating or managing environmental standards, cooperative action is inevitable for creating relevant infrastructure. The current economic environment is generally very favourable for promoting small firm networks around technologies and product portfolios to improve competitive advantage. Certain quality control measures or machineries for testing may not be affordable at individual firm level. Collective action is almost mandatory.



A field irrigation system: Agriculture needs many more such innovations

**Learnings from the informal sectors**

National Innovation Foundation (NIF) has scouted over 50,000 grassroots innovations and traditional knowledge from over 350 districts with the help of Honey Bee Network and others. Many have high potential for commercialization by small and medium scale entrepreneurs through exclusive or non-exclusive licenses. Such innovative potential will be no less among the SSIs also. However, no effort has been made to survey such innovations in a concerted manner.

Competitiveness without innovation is not possible. A small firm has five choices in this regard: (a) innovate itself, (b) acquire or license innovation by others, (c) jointly develop innovation with a formal or informal R&D person or institution, (d) contract the tasks to professional product developer or (e) sponsor a student project. What is our experience in this regard?

Most common people in the villages and the cities can afford bicycles. The bicycle industry has never lobbied for cycle lanes on roads within or between the

- c. What is the point in tracking patents and other technologies in our field when we cannot afford to do R&D at the level at which the big companies can do
- d. How can innovations in a small firm be important enough to be patented; would it not be better to keep them as trade secret
- e. How can we acquire some of the basic costly technologies cooperatively rather than individually; why would other cooperate in modernizing if the comparative advantage of

cities. For us, it is something to be lived with, though millions of people survive through this technology. What are the key innovations that have come about in the form, features or functions of cycles in the last half a century? Not many. In NIF database, cycles have been used for pumping water from the well or river or tank, spraying pesticides, drilling, sawing and performing other mechanical operations, for grinding vegetables, extracting juice, sprinkling water, etc. In addition, 'e-cycles' have been developed

to reduce drudgery and convert vertical motion generated by bumps on the road into horizontal energy for propelling rear wheel as well as to charge the battery which in turn was used to propel the cycle. Saidullah developed a cycle which runs in water as well as on road. It can be used as a source of entertainment in various water parks, irrigation channels, ponds, etc., and also used for removing aquatic weed or vending provisions along the perimeter of the lake in eastern India. Why wouldn't cycle manufacturers see business opportunities in these ideas and innovations? Maybe some of the reasons mentioned earlier explain the inertia or inhibition.

**The way forward**

There are at least 400,000 technology students in the country. Each one of them does a project which often does not see the light of the day. There is no record, no database, no website and therefore no opportunity for entrepreneurs to see whether some of these projects could be worth taking forward. Why could not association of small scale industries join hands with technology and business schools in their region and help in building such a database. Organizations like the Society for Research and Initiatives for Sustainable Technologies and Institutions (SRISTI) can help in coordinating such efforts and link all such databases with [indiainnovates.com](http://indiainnovates.com). Once the database comes into being, the transaction costs of the students to learn from each other as well as of the entrepreneurs who might like to take these ideas forward will come down. In addition, the SSIs and SMEs can also sponsor projects to be done by the students.

There are many other databases which entrepreneurs have to use to become competitive in knowledge economy. For example, it is well known that all the patents granted world over are available on the web free of cost. Those patents whose life has expired or which are not being maintained are available for use without any license fee. Even those patents which have not been filed in India can be drawn upon without any problem since the restrictions are applicable only within the country in which the patents have been granted.

Two examples of crops which grow widely and only in India are Psyllium, or isabgul. In patents granted to citizens of different countries, for different purposes, out of more than 878 patents, just four are by Indians. How can farmers get better price and

entrepreneurs get more business opportunities if we will remain confined to the lowest part of the value chain i.e., the primary production? This is one area where other countries and companies have shown tremendous imagination and at the same time we have shown our apathy.

Large number of value added products in agriculture require biotechnology applications. The same equipment can be used to produce a very wide variety of products. Be it microbial diversity or modified crops or new industrial applications based on biological materials, the opportunities are immense. The fixed cost investments in biotechnology are also not very high compared to many other sectors. The industrial biotechnology will require new departments

combining engineering, electronics, biotechnology and even medicine. Such realignment of academic sectors will require pressure from farmers as well as firms.

I hope that the SMEs and SSIs will recognize that even if each one of them cannot afford to spend a great deal of money on R&D, they can do so collectively and also through partnership with public sector R&D and technology institutions. The institutional reform in agricultural universities and other technology institutions is long overdue. CSIR explains one third of the total patents in the US have been filed by Indians in the

last few decades, and more than 80% have been filed in the last decade. Compare that with all the universities which have hardly a 2.5% share. The share of agricultural universities is almost zero.

Indian small-scale industries have a tremendous potential for challenging the existing giants by networking, collaborating and innovating. All of this will require change in the mindsets. India has a much stronger R&D base but much weaker industrial linkages. The farmers have even lesser say in the design of research programmes and reorganization of research institutions. I hope that through partnership between public and private entrepreneurship, R&D infrastructure and above all, involvement of the users themselves, we can transform the rate of economic growth and pattern of its social, environmental and technological impacts.

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Unknown to manufacturers, the common cycle has seen multitudes of local innovation

