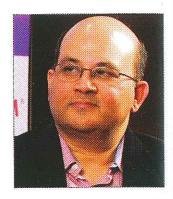# Building Systematic Innovation Capabilities: The Indian Challenge

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■ While there has been a renewed bout of optimism in the country in recent months, we continue to face challenges on almost all fronts. In spite of relatively high economic growth over the last two decades, we rank only #135 in the Human Development Index. Infant health, nutrition, ability to read and write, sanitation, environment qualityand availability of clean drinking water are just some of the areas in which we are far behind a good part of the world.

■ **The Importance of Innovation**

While solutions exist to all of these problems, they either come at a high cost that we can't afford, or are difficult to implement. This makes innovation – applying new ideas to solve problems resulting in benefits to users and other stakeholders – essential for the rapid development of India.

Innovation is also important for the corporate sector. Innovative companies are able to create new products and services, manufacturing and service delivery processes, and business models that enable them to compete effectively with others. Innovation helps firms grow, and growth of the economy is essential if we need to find jobs for the million people who enter the workforce every month.

■ **Innovation in India: Difficult Environment but Bright Spots**

Though the world sees India as a country with many capable entrepreneurs, international comparative surveys show India slipping on innovation. India is ranked only #76 on the Global Innovation Index, and has slid 14 positions in the last two years.

Yet, there are several "bright spots" of innovation in India from whom we can draw inspiration. These organizations are small and large, corporate and not-for-profit.

▓ By re-designing the end-to-end process for cataract surgery and using paramedical staff in place of doctors for non-critical steps, Aravind Eye Care has been able to increase the productivity of doctors by a factor of four to five, and thereby reduce the cost of cataract surgery substantially. This has enabled hundreds of thousands of people to overcome unnecessary blindness. Yet, Aravind has ensured that this increase in efficiency is not achieved at the cost of quality – Aravind's infection rates compare well with the best in the world. Narayana Hrudayalaya and Life Spring Hospitals have achieved similar results in the more complex areas of cardiac care and maternity care respectively.

▓ Starting with the adaptation of a process to convert sugarcane molasses into alcohol to suit Indian conditions, Pune-based Praj Industries has today evolved into a company with the ability to

produce biofuels from a wide variety of wastes and at the same time restrict its ecological footprint. This has been possible due to extension of its R&D down to the molecular level.

■ With the growth of cloud computing, today computing power is concentrated in large data centres that consume huge amounts of power and thereby make a significant contribution to the production of greenhouse gases. Mysore-based Vigyanlabs, winner of the 2013 Nasscom award for technological innovation, has created a solution to reduce power consumption in data centresby upto 30%. Using a similar logic, Vigyanlabs today offers Android users an app to control power consumption in their mobile handsets, thereby increasing battery life by upto 20%.

■ Mahindra& Mahindra has successfully launched a range of Sports Utility Vehicles and Multi Utility Vehicles that offer more than 90% of the features in high end products, but at very competitive prices. Scorpio and XUV 500 are two of the well-known products in this range.

■ **What can we do to emulate these bright spots?**

In our book 8 Steps to Innovation: Going from Jugaad to Excellence, Vinay Dabholkar and I proposed an 8-step process to build systematic innovation capabilities. These eight steps are intended to address three innovation challenges faced by companies – (1) building a continuous inflow of ideas (pipeline), (2) helping sustain the momentum of ideas so that good ideas are not lost and are actually translated into innovation for the organization, and (3) translating these innovations into benefits for the company in terms of sales and profits.

Three steps are involved in solving the "pipeline problem."

The first step is laying the foundation, identifying the strategic priorities for innovation in your organization, and putting in place the basic processes that will help make innovation an organization-wide activity. These basic processes include setting up an idea management system, creating buzz around innovation by running innovation campaigns, and training employees on how to tap into their creative potential.

The second step is building a challenge book, i.e., identifying the key problems to work on. We found that pain, wave and waste are powerful indicators that a problem is ripe for creative problem-solving. For example, in the Vigyanlabs case described above, the huge power consumption of data centres is a major pain point, the shift of computing to data centres is a significant wave, and the wastage of power by data centres a major cause of concern.

The third step is building participation so that people across the organization feel that innovation is an integral part of their job. Identifying the right role models, promoting informal interest groups in the organization ("communities of practice"), training managers to be catalysts for innovation and putting in place supportive reward and recognition systems are some of the ways of building participation.

The next three steps help solve the "velocity problem."

The fourth step is building a supportive infrastructure and culture so that ideas can be experimented

with and taken forward. Identification of low cost experiments that can be performed quickly is an important dimension of this step. Successful innovative companies encourage performing the "last experiment first," i.e., testing out the critical assumptions underlying success of the innovation as early as possible.

The fifth step is moving quickly from proof of concept to incubation. The discipline of reviews at regular intervals helps this progression. Innovation champions help overcome organizational obstacles. Training innovators in how to identify potential champions and then "sell" their ideas to them is helpful in bringing innovators and champions together.

The sixth step is iterating with the business model. Experimentation is no longer limited to technical performance. Companies need to experiment with their business models till they find the right one that links the innovation to the market.

And, the last two steps address the impact or "batting average" problem.

The seventh step involves the use of three important tools to align innovation with the market. Companies use the concept of a sandbox – intensive experimentation within well-defined boundaries determined by definition of the product and the market – to avoid functional creep and make sure that the innovation will have market acceptance in terms of value delivered. The second tool, platform thinking, helps a company address multiple market segments with a single investment in innovation. Maruti, for example, has just three base platforms for its small cars though it as several models, each with multiple variants. The third tool is open innovation. Companies complement their own knowledge by partnering with other organizations who work in a different domain. In its new vehicle development projects, Mahindra collaborates with a number of companies from across the world.

Finally, the eighth step is effective risk management. Having an innovation portfolio rather than investing in a single innovation, conducting pre-mortems, and doing the last experiment first are some of the ways in which companies de-risk the innovation process.

■ Conclusion

The Indian ecosystem for innovation continues to be a challenge. But, in the meantime, there is much that firms can do themselves to improve their innovation capabilities. Firms and not-for-profits that do so will be able to make significant progress in solving critical problems, thereby benefiting society and themselves.