In India, we pride ourselves on our aptitude and appetite for *jugaad*. It enables us to find smart fixes for thorny problems—often, on the quick, and on the cheap. Transferred to the workplace, *jugaad* has helped Indian companies deploy what is now celebrated in management mantra as frugal innovation. Yet, as a new book, “*8 Steps to Innovation: Going from Jugaad to Excellence*” asks, is episodic jugaad enough to really be considered innovative? Authors Vinay Dabholkar and Rishikesha T. Krishnan definitely don’t think so. In their book, they lay out three broad themes—building an idea pipeline, increasing idea velocity, and increasing batting average—along with eight simple steps to help companies figure out “how to” build a culture of innovation. As the authors point out, innovation need not be limited to erratic brilliance. An organisation can practise systematic innovation—where there is a disciplined way of generating, selecting, nurturing and implementing ideas. In this feature, we pick out these eight steps, and see how a variety of companies have demonstrated great success from having done this in the past. We hope these case studies (excerpted from the book) will urge you to take a hard look at your own innovation mindset, and decide on why and how to work towards a more systematic process.

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The book believes that the idea funnel begins with first managing the idea pipeline. The following steps contribute to this management process, right from nurturing ideas to creating a buzz around them.

a. Lay the Foundation

Begin by starting an innovation programme. Put down a process to invite ideas from business units, functional teams and employees. Put a positive premium on coming up with an idea, any idea, rather than focusing on eliminating the negative impact of failure. It’s the small ideas that can weave a cumulative impact which is potentially revolutionary for a company.

In Practice: Toyota launched its famous idea management system in 1951. Employees clocked 20 million ideas in the 40 years till 1991, as Yuzo Yasuda’s book, 40 Years, 20 Million Ideas highlighted. In its first year (1951), there were 789 suggestions and a participation rate of 8 per cent. Yet, the quantity and quality of ideas were poor because employees believed that “ideas” meant great inventions. So, the management clarified that not everything had to be a great idea—that it was the quantity, not the quality that mattered. In fact, it’s this emphasis on participation and learning, not just business impact that differentiates Toyota’s system from western counterparts. Over the years, the programme has obviously been fine tuned, and is the backbone behind Toyota’s grand success.

b. Create a Challenge Book

Dabhokdar and Krishnan believe one way businesses generate good ideas is by focusing on one or two key problems. They call a place where business lists its key problems a “challenge book,” which is an important step in generating good ideas. Most of the challenges can be traced to three sources of inspiration—pain, wave and waste. Or, more specifically, “feeling the pain” of the consumers, “sensing the wave” of technology, demographic, social or regulatory trends, and finally “seeing the waste” to identify areas where either human effort or critical resources like water or energy can be saved.

In Practice: Mysore-based Vigyanlabs is a good example of this. Its patented Intelligent Power Management systems are focused on reducing energy consumption of laptops, desktops, smartphones and large data centres and cloud providers. Founded in 2008 by Srivatsa Krishnaswamy and Srinivas Varadarajan—both of whom have decades at blue-chip technology majors between them—as a consulting organisation to help companies build high-performance systems, Vigyanlabs soon realised that the big problem wasn’t really cutting-edge technology—it was the lack of power. “We were waiting for a big problem to solve. And, it was obvious that power was a real constrain,” recalls Varadarajan, the company’s CEO. He cites some figures, including Gartner’s research finding that at the current pricing, the energy expenses on a x86 server will exceed the cost of that server within three years. Or, that data centres use only 6-12 per cent of the electricity powering their servers to perform computations, according to McKinsey & Co. Clearly, it was a problem hunting for a solution.
So, Vigyanlabs set its aim on working on an innovation in power management. “We began by looking at the root cause applications of all devices (networking equipment, laptops and servers) to see how we could optimise power usage”, Varadarajan explains. By 2010, the company had filed for a patent to what is now the Intelligent Power System (Plus). The patent was awarded in 2012, and IPMPlus claims to demonstrate 30-50 per cent savings. The innovation has completely altered the start-up’s original trajectory to one where the mission is now of utilising “clean and green” technologies. “The turning point for us was last year when the patent got awarded. We didn’t want to market it without that, but now people are coming to us—chip manufacturers, phone OEMs,” the CEO says proudly. Today, IPMPlus has been implemented on more than 55 large networks and enterprise installations, and more than 5,000 home or SME installations in 250 cities in 12 countries. They claim to have had an energy saving sufficient to light 4,000 homes for a month. In FY 2013, their projected energy savings are 2,000MWh, the equivalent of 50,000 trees. They also launched a smartphone version of the IPMPlus two months ago. In fact, it was because the mission of the company turned to something as grand as saving power that Vigyanlabs never had a problem attracting best-of-the-breed talent to work out of their small office in Mysore, asserts Varadarajan. “What we were fortunate to do was not only take a real shot at a huge problem, but we also created a vision that would last beyond us.” According to Dabholkar and Krishnan, Vigyanlabs has combined all three sources of building the challenge book—by reducing the energy consumption of data centres which was a pain area of data centre operators, by recognising that cloud computing as a wave is leading to proliferation of data centres, and by saving energy (the critical source getting wasted here).

c. Build Participation

As was seen in Toyota’s case, broad participation makes an innovation programme vibrant. Subtle nuances such as separating brainstorming sessions from idea evaluation sessions so as to maintain creative confidence are important ways to do this. Of course, management attitude to discussion, and a consciously formulated rewards and recognition programme go a long way in building participation. As does creating positive role models, or what the authors call innovation catalysts.
The Innovation Ladder

Consider that by following the first step, you’ve managed to create a steady stream of ideas to work on. But, the speed at which ideas move to benefit from the context in which they were thought up is critical to an innovation programme. How do you accelerate how ideas move within your company, and why is it important to focus on organising yourself better to improve the velocity of your ideas? Below are a few methods of doing this well, and doing it in time!

a. Experiment with low-cost at high-speed
During the initial stage, there are two key reasons why ideas don’t move forward fast. One, the idea author doesn’t know where to begin. And; two, there is a fear of failure. What if this idea fails? Low-cost experimentation addresses both these issues. It also helps kill not-so-good ideas early. Forrent-laboratories in incubators such as Venture Center at National Chemical Laboratories are helping small businesses perform rapid experiments at low cost. In the IT world, Amazon’s cloud services platform is enabling technology based start-ups to get new ideas prototyped and in the hands of users fast.

In Practice: At Galaxy Surfactants, the Navi Mumbai-based, ₹900-crore company that provides surfactants, rheology modifiers, pearlising agents and soap base for personal and home care industries has instituted a carefully laid out innovation programme. Key to the success of this programme at the Galaxy Research Centre which was founded in 1984 is their adoption of the Innovation Funnel Model. The funnel structure ensures ideas are screened as they progress through various developmental stages before getting converted into successful business. So, at Galaxy, an idea for, let’s say an aging pathway, will first undergo a feasibility study. A proof-of-concept will be built quickly and cheaply, and will be validated by customers before the idea moves forward.

b. Go fast from prototyping to incubations
A crucial way to make ideas move is by identifying a champion who can sell them well. The champion is effective in helping to overcome the expected resistance to new ideas most organisations have. Not just who, how ideas are communicated is equally important as well. Tell good stories, Krishnan and Dabholkar recommend, to make ideas accepted and popular.

c. Iterate on the business model
Constantly explore your company’s business model to spot areas of innovation. This experimentation basically involves answering four questions—who is the customer, what do we offer him, how to reach him and how to make money? The authors recommend identifying the dominant business models in the industry you operate in, and exploring dimensions with which you can tinker with them.
What was the purpose of writing this book? What triggered your research?
We have been exchanging ideas on innovation since 2008. However, the book became a serious project after Rishi published his first book “From Jugaad systematic innovation: the challenge for India” in Feb 2010. A response from managers in India was—how do we go from jugaad to systematic innovation?” Around this time, I was working on a similar problem with a client of mine. HarperCollins approached Rishi around the same time for a possible project for his next book, and Rishi and I decided to collaborate to address this question.

How do you want the book to be used?
This is a how-to book and hence its primary user is a manager who wants to run an innovation initiative. In smaller and mid-sized companies, that push often comes from the founder entrepreneur. We believe it can be used in one or more of the following ways—to assess where a company stands in its innovation journey, decide which area to focus on (pipeline building, velocity or batting average), and then to design specific interventions to get to the next level. The action maybe directly related to any of the 8 steps—e.g. building a challenge book, championing an idea or creating an innovation sandbox. Or, it may involve running a challenge campaign or setting up of an incubator which will involve combining a number of steps.

How robust is the aspect of innovation in Indian companies? How would you map it to their global peers—say, similar companies in the US, China, Brazil or Turkey?
These are early days for innovation management in Indian companies. There are some sectors like manufacturing where management of small ideas (sometimes called suggestions) is more mature. However, when you look at innovation holistically—where you manage both small and large impact ideas, most Indian companies have a long way to go. Good news is that we have companies like Titan which are ahead in this journey and setting benchmarks for others. If we look at the 2012 Global Innovation Index published by INSEAD, India is at the 64th position, below USA (10), China (34), Brazil (58) and ahead of Turkey (74). What this means is that, on an average, Indian companies have some distance to travel before they are looked upon as world class innovators.

Is innovation top-driven? If so, how do entrepreneurs individually prepare themselves to cultivate an innovation mindset?
Systematic innovation involves both top-down and bottom-up approaches and not necessarily in that order. The first step we talk about is the laying the foundation. It involves setting up of three processes—idea management, buzz creation, and training and development. We believe that an innovative mindset is cultivated through all the three processes. Buzz creation highlights the successes through events, rewards, newsletters etc.

What are the other obstacles in building the “innovation culture”?
At a basic level “resistance to change” is the key obstacle in building the “culture of innovation”. It manifests in several forms. For example, it may show up in how a manager may respond to an idea his team member has brought up. It may also show up as to how an organisation may respond to a failure of an innovation project. It can also show up in one department not accepting a good idea generated from another department. “Resistance to change” also known as the status-quo bias among social psychologists is present in all individuals and organisations perhaps in varying degrees. What matters is how an organisation works around the obstacle.

Breakthrough innovation is usually a result of several failures. In your research, did you find that Indian companies were prepared to truly empower their employees to make mistakes?
We feel that when Tata Motors set up the team for designing Nano or when Biocon decided to start the oral insulin programme, it was assumed that the path will be paved with several failures. In fact, we feel that the structure of an “innovation sandbox” makes failures legitimate and yet provides a safety net for the players inside the sandbox. Tata Group has started a “Dare to try” award to celebrate failures and reward smart risk taking. We hope more companies follow such practices.
INCREASE THE BATTLING AVERAGE

Big bets form important milestones in the history of any organisation. To use a cricket analogy, the authors liken big bets to sixers in T20 matches—it’s impossible to win the game without them. But, big bets are risky and hence need better risk management. Essentially, how do you increase batting average, but not get caught out in the rapacious appetite for sixes. 8 Steps offer two ways to seed in caution.

a. Build an Innovation Sandbox
It is useful to think of the innovation process as a sandbox: there are constraints and boundaries within which experimentation takes place, much like children choosing to build castles, dig trenches, or throwing sand around, all within the sandbox. It’s a useful way of thinking about containing big losses. As is another important idea outlined in the book—thinking about building platforms. Creating a platform enables technology businesses to spread the risk by enabling multiple applications from different domains. Platforms, essentially, create easier and faster access to underlying technology and data, like the Microsoft Windows platform does for the PC hardware and data stored in the hard drive.

In Practice: Strand Life Sciences was founded in late 2000 (it was called Strand Genomics then) by four professors of computer science of the Indian Institute of Science, Bangalore. Strand began as a consulting firm with biotech companies in the US as clients. Strand’s team would build computational models for these companies. Slowly, this exposed them to what Dr Chandru, the founder, chairman and CEO of Strand, calls the “data deluge problem”.

Varied Thinking
Counting too much on one great idea might not be the best bet. You need to work on different formulas to minimise risk.
Businesses manage risk by building an innovation portfolio i.e. betting on more than one big idea, assuming that not all will succeed.

"Data was doubling every six months in life sciences, mainly because of the human genome project of 2001. Every time a human genome is sequenced, it would generate two terabytes of data. Biologists couldn’t possibly use this data meaningfully themselves. Bio-informatics was getting a lot of attention," Dr Chandru explains.

So, Strand took what he calls “a leap of innovation” although at that time it would have been easy to just do a lot of lightweight products and consulting, says Chandru. “We thought building a well architected platform could help us be differentiated in this sector although it meant giving up short term revenues to create a product (IP).”

The team architected a modular software platform they called Soochika which would enable data mining and classification. A core platform development team that was shielded from the consulting or services side of the business was created to do this.

Of course, it helped that Strand was fortunate to have in its founding team a high-calibre cadre of computer scientists. The company also managed to raise Series A funding of $3.6 million from UTI Venture Fund, WestBridge Capital Partners (Sequoia India) and eight angel investors in September 2002. “Gradually, we deliberately shrunk the services business and the transformation happened. It was painful in phases though. We actually had to retrench a bit in 2003 because of these adjustments,” Chandru recalls.

he admits that the development process did lead to some frustrations for the business development teams, as they had to wait to have a product to sell, But, the plan didn’t waver. And, an award grant of ₹2 crore by CSIR in March 2003 further enabled Strand to add “visualisation” capabilities to the Soochika platform, and make it more than just a data mining platform.

By mid-2003, they rebranded the new Soochika platform to AVADIS (an acronym for Access, Visualise, Analyse to Discover). Unexpectedly, early successes in Japan, and winning the DST Innovation Challenge by the Technology Development Board helped AVADIS get off the ground. By 2005, it had gone global. “About 80 per cent of our total revenue (about ₹30 crore in FY 2012 and 35 crore in FY 2013) comes from AVADIS-related license fees and subscriptions,” Dr Chandru says.

b. Create A Margin of Safety

Another way businesses manage the risk is by building an innovation portfolio i.e. betting on more than one big idea. The assumption is that not all will succeed. However, the ones which succeed will create an impact that will more than compensate for the cost of building the portfolio.

In Practice: Ittiam, a Bangalore based pure-play IP company, followed this approach. In the beginning, Ittiam put its bet on three areas: (1) digital video (2) wireless LAN and (3) wireline modem. The first two bets turned out to be successful and the third one didn’t. However, that was sufficient for the company to propel forward. Being an IP-focused company, Ittiam also built an IP portfolio. This involved filing patents and also creating demonstrable reference designs.