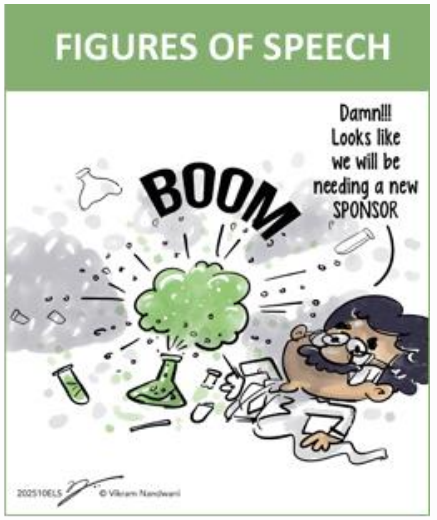
October 2025

EMPOWERING TIMES

Dear Reader,



In times of rapid change, innovation is tested not just in research labs but in boardrooms, markets, and society at large. For scientists, the leap from discovery to enterprise is no longer optional - it is essential to ensure that knowledge translates into impact. Decisions are no longer just about scientific merit; they shape industries, livelihoods, and the nation's progress. The delicate balance between inquiry, risk, and entrepreneurship is what defines the new age of scientific leadership

This month, **Empowering Times (ET)** explores the theme ***"The Scientist as an Entrepreneur"*** - examining how researchers who once confined themselves to laboratories are now stepping into the world of venture creation, commercial application, and social impact.

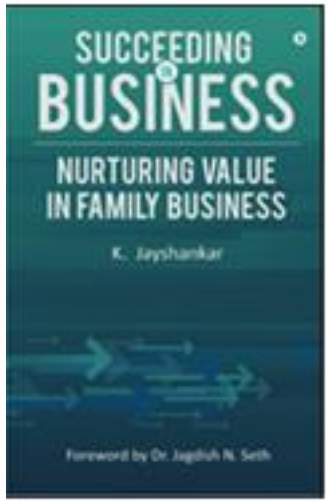
In the **Thinking Aloud** section, **Jay** reflects on pioneers like Dr. Anji Reddy and Kiran Mazumdar Shaw, showing that scientific brilliance must be matched with entrepreneurial courage to create lasting enterprises. On the **Podium**, we feature **Dr. Anslem deSouza** whose journey from industrial microbiology to global leadership in Vitamin K2-7 exemplifies the power of scientific curiosity, innovation, and purpose-driven enterprise. In the **We Recommend** section, Jay reviews **Winning with AI** by Jaspreet Bindra and Anuj Magazine, noting that the book serves as an accessible guide to AI literacy, demystifying a complex field for professionals and newcomers alike.

In **Figures of Speech**, **Vikram's** toon reminds us that every breakthrough begins with a bang!

Please also **Click Here** to check out our Special issue of ET, which is a collation of selected themes that were featured over the years highlighting the changing landscape of the business world. This special edition has been well received and can be **Downloaded Here** for easy reading and is a collector's item.

As we celebrate the festival of lights, we extend our warmest wishes for a joyous, safe, and prosperous Diwali to you and your family. May this season bring new beginnings, inspiration, and success.

As always, we value your opinion, so do let us know how you liked this issue. To read our previous issues, do visit the Resources section on the website or simply **Click Here**. You can also follow us on **Facebook**, **LinkedIn**, **X**, **Threads** & **Instagram** - where you can join our community to continue the dialogue with us!



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THINKING ALOUD

What does it take?

Jay

'I had seen a Pfizer's pilot plant in 1965 and decided that 'I'll build a Pfizer.' If not Pfizer, I have built Dr Reddy's, which is no less respectable.' (Dr. Anji Reddy)

When Dr. Anji Reddy's began to work on his dream project in 1984, Pfizer was already a top-tier pharmaceutical firm in India. Those were the days when multinational firms ruled the roost and Indian firms were frowned upon for their quality, size, impact and lack of ambition. The story at present is totally different. While Dr. Reddy's is rated as number 2 in terms of revenue, Pfizer languishes outside the top ten in India. The story in the global sweepstakes is entirely different, of course. Pfizer continues to be a global giant with revenues exceeding USD 64 billion, while Dr. Reddy's is way behind at USD 4 billion. Significantly, even in R&D spend, Pfizer has earmarked about USD 12 billion (about 12% of its annual revenue); Dr. Reddy's on the other hand is at USD 320 million, about 8% of its annual revenue.

There is no denying that there is huge gulf in the innovation spirit between the United States and in our country. While one has been built on decades of free enterprise, the other has still not accepted that the socialist path has only provided distribution of poverty and failed to incentivize wealth generation in society. Whether it be in information technology, engineering or pharmaceuticals, breakthroughs have first come in the overseas arena and then been adopted in our country.

However, there have been stalwarts – both past and present – who have played significant roles in converting their scientific métier into a business venture. Amongst the early giants of the pharmaceutical world, the names that come to mind include Acharya Prafulla Chandra Ray (founder of perhaps the earliest Pharmaceutical company in India, Bengal Chemicals and Pharmaceutical Works, in 1892), CIPLA (founded in 1935 by Dr. Kwaja Abdul Hamied, and which was scaled further by Dr. Yusuf Hamied, making it a global game changer offering affordable drugs), Dr. Anji Reddy (Dr. Reddy's Laboratories), Indravadan Modi (of Cadila), Kiran Mazumdar Shaw (of Biocon fame), and a few others.

The recent burst of entrepreneurial energy has created a slew of start-ups. For instance, the Centre for Cellular and Molecular Platforms (C-CAMP), India's leading biotech incubation center has to its credit over 100 new start-ups. A few of them have gained recognition in their field but none has yet become a Unicorn (valued at a billion dollars). This is in sharp contrast to the IT, fintech and ecommerce sectors which dominate the list of 73 Unicorn start-ups in our country.

Which begs the question: why do scientists in India hesitate to become businessmen? As always, the chief villain of the story is bureaucratic and regulatory challenges. But I consider this a myth, an easy excuse readily offered to hide the fact that researchers have held themselves back due to the lack of business culture.

Many players have to play their part for generating this culture as it demands both hard and soft measures for a new entrepreneurial ecosystem to take root. Providing infrastructural support is essential and it must be coupled with mentorship that encourages risk taking. An argument can be made that scientists and researchers need early exposure to entrepreneurial heroes. It is time that academic institutes increase their interaction with industry leaders, so that youngsters are encouraged to take their ideas out of their labs to test them in the heat and dust of the real world. I would even suggest that they need to be given credits for such sandbox attempts. The other group who should participate in developing this appetite for real-world experimentation are private capital. Indian venture capitalists and private equity players still are more devoted to seeking returns – and not taking early, perhaps riskier bets with young talent.

In sum, what does it take? Dreamers who live by Abdul Kalam's principle that, 'If you fail, never give up because F.A.I.L. means "First Attempt in Learning. Ask any entrepreneur and he will concur.

back to top ^

Podium

Dr. Anslem deSouza

Managing Director, PhytoVeda

Dr. Anslem deSouza obtained his PhD in Microbiology from the University of Mumbai, specializing in Industrial Fermentations. He has extensive experience in the pharmaceutical industry, particularly in fermentation products, and has successfully improved yields in several high-value microbial metabolite processes to achieve best-in-class levels globally.

He founded Synergia Life Sciences in 2007 at Wada, Maharashtra, which went on to become a global leader in the production of Menaquinone-7 (Vitamin K2-7). At its peak, the company catered to nearly 60% of the global demand for Vitamin K2-7. Synergia also pioneered several clinical investigations demonstrating the importance of this vitamin in human and animal health.

As part of its CSR initiatives, Anslem deSouza was instrumental in installing solar power and water pumping systems in Wada village, enabling farmers to cultivate two crops annually.

In 2024, Synergia was acquired by the Novozymes (Novonesis) Group, marking its transition from an Indian private limited company to part of a large multinational conglomerate. Following the acquisition, he went on to start a new venture and is now the Managing Director of Phytoveda Pvt. Ltd., focusing on researching the vast untapped potential of Ayurvedic therapeutics for healthy aging.

ET: What inspired your transition from science to entrepreneurship and how has your academic and professional background shaped that journey?

AD: I would describe myself as an "inadvertent" entrepreneur. I was deeply fascinated by my field of study- industrial microbiology and fermentation - and often sought to solve process and production issues by challenging conventional approaches. The processes developed in the Western world were often not relevant or economically

viable under Indian conditions. Fortunately, the professors and guides who taught my generation had a practical, hands-on approach, frequently assigning us real-world industrial problems to solve. This not only exposed us to actual industrial processes but also helped us apply our academic knowledge effectively.

I did not make a complete transition from scientific inquiry to entrepreneurship. After graduation, I entered the industrial space - largely due to the niche nature of fermentation, an area in which India had achieved limited commercial success at the time. My achievements at Merind in the production of Vitamin B12, a high-value fermentation product, later motivated me to explore similar market opportunities. This eventually led my team at Synergia to become the world leader in the manufacture of Vitamin K2.

I would summarize my journey by saying that one must strike a balance between scientific discovery and profitability. A thorough understanding of basic scientific fundamentals is essential for developing a process that can ultimately evolve into a successful and profitable venture.

ET: As both a scientist and entrepreneur, how do you balance the pursuit of evidence-based innovation and the practical realities of building business?

AD: We adopted the approach of gathering and documenting clinical evidence, thereby creating the scientific foundation for Vitamin K2 and probiotics beyond the common applications known at that time. Alongside building a world-class manufacturing process and facility, we invested heavily in clinical research, which eventually resulted in several publications and valuable intellectual property.

Our cost-effective and globally competitive manufacturing capabilities enabled us to invest in the expensive domain of clinical research that met international standards. This, in turn, allowed us to develop new healthcare solutions that expanded both the market and profitability.

To summarize, a product must deliver the desired results at an affordable price for the business to remain viable and profitable.

ET: In your experience, what are the biggest challenges in translating scientific research into market ready healthcare solutions?

AD: So far, I have been involved in applied research - specifically, taking existing leads and developing unique, cost-effective manufacturing processes and new therapeutic applications. This is achievable because, in microbial processes, one works with natural resources and biological systems where parameters are not absolutely fixed and

can be adjusted to achieve desired results. The key to success lies in timely intervention and effective problem-solving.

However, the biggest challenge is that basic scientific research and development in healthcare - particularly in India - faces numerous regulatory hurdles and is highly capital-intensive, requiring substantial funding and strong government support.

ET: How do you approach partnerships – with research institutions, clinicians, or industry peers to strengthen your entrepreneurial journey?

AD: We have always been on the lookout for opportunities to collaborate with academic institutions. Often, these institutions have interesting leads based on scientific findings but are unable to take them forward or implement them, primarily due to inadequate data or impractical manufacturing technologies. Entering into such partnerships is valuable for both parties, even though there is always a possibility that the lead may not develop into a viable product.

ET: Looking ahead, what qualities or mind sets do you believe are most essential for the next generation of scientist – entrepreneurs?

AD: I believe scientists should gain a basic understanding of entrepreneurship by first working in a commercial organization - whether large or small - before venturing into starting their own business. This experience helps develop a range of skills beyond scientific expertise, such as interacting with marketing teams and gaining knowledge of commerce, finance, and human resource functions.

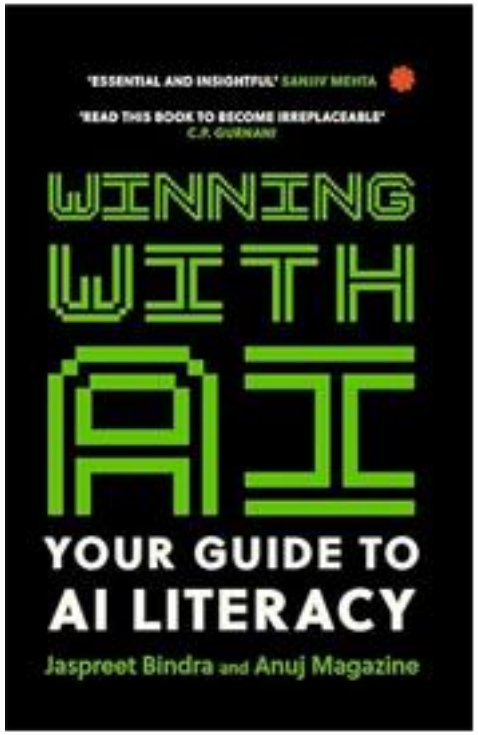
Armed with both scientific knowledge and organizational experience, one can then enter the realm of entrepreneurship. Identify a problem or product that has market potential and develop a technology that offers a clear advantage. One important rule for building a successful business is: never compromise on quality. Even after establishing the business, one should remain open to collaboration, continuously anticipate future trends, and consistently innovate and adopt new technologies early to stay ahead of the curve.

back to top ^

We Recommend

Tsunami Warning?

- Reviewed by Jay



News headlines are rarely if ever cheerful. Is it because disaster and fear catch more eyeballs than feel-good stories? Or is it that the times we live in are so turbulent with wars, calamities, and constant Trumpian misadventures that these are the dominant news of the day? Be that as it may, one common thread ties everything together, the impact of technology on our society.

Having already increased our dependency on social media, the first signs of the next tidal wave of technology is increasingly visible: the rise of Artificial Intelligence (AI). While doomsday scenarios are being painted about the rise of machines (Terminator style), there are also faint voices that are telling us that all is not lost and AI can be a harbinger of growth. At this moment, those voices are getting drowned as headlines tell us of job losses (the latest is Accenture's 11K, following on from Google, Microsoft, Salesforce, Oracle, TCS, Intel, etc.). Whether the reason offered is rightsizing, business cycles, or reskilling challenges, the news on the AI front is causing more dread than positivity.

While the debate on benefits can continue to rage, acronyms like AI, AGI, Super AI are now occupying our mind space. However, there is no denying that slowly we are falling in love with the insidious pleasure of working with AI tools. Alexa and Siri are now commonplace and office workers cannot do without Copilot, ChatGPT, Perplexity, Gemini and a multitude of other virtual assistants who are raising office productivity. Recognizing the rising appetite of India's tech savvy millions, OpenAI has launched a major campaign in India targeting students, home makers and all others with billboards subtly plugging the advantages of ChatGPT in our life.

However, for the novices and the perplexed, the need for a good guide to the world of AI has been felt, and in this context, 'Winning with AI' by Jaspreet Bindra and Anuj Magazine, has become a corporate favourite. Positioned as a guide to AI literacy, the book is a manual for the new user and also those who wish to try new tools beyond the standard ChatGPT fundamental applications. The authors are early pioneers who grasped the power of this new technology and have written about it widely in the media. Sensing the immense gap in public comprehension of this new dimension, the authors have ventured forth to decipher the secrets and offer a detailed how-to to this new world.

Beginning with a declaration that a new age is upon us, they emphasize the need for a new kind of literacy beyond the traditional 3Rs (reading, writing and arithmetic). In their words, the categorization of elements is READS, WRITES, ADDS, THINKS and DOES, and using this framework they illustrate the use of varied AI tools drawing on different work situations. The rich corporate experience of the authors has been well leveraged to present diverse work challenges and demonstrate the power of the popular AI LLMs and tools. They have stayed away from taking sides in the needless argument about the 'best' model (everyone has a personal favorite!) and have used different models for each unique problem. This is a good way to teach new users that there is more than one way to tackle dissimilar situations and exemplify that AI is a versatile medium that is all encompassing (well, almost!).

What about the future? The authors are clear that what we have witnessed so far is the rising surf. The wave has yet to hit land. Every day we wake up to a new application of this magical new tool, and therefore the literacy journey cannot or must not stop. The genie's magic promises to transform society – but whether the charm will reduce us into slaves is a worry for pessimists. For some of us who believe that the best is yet to come for humankind, we continue to be enthralled by the limitless possibilities of AI. True uncertainties abound, and even Sam Altman has noted that, 'I would say by 2030, if we don't have models that are extra ordinarily capable and do things that we ourselves can't do, I'd be very surprised'.

Is a tsunami coming or just a wild wave that will become calm by the time it hits the shore? The answer to this endless speculation is unknown to even the AI gods as they hallucinate while responding. For now, let the learning journey begin with this book, even if it seems a tad technical at times.

(Note: Reviewer's confession: This article is not AI generated but an original piece. However, the writer did use AI as a reference companion at times for factual inputs!).

back to top ^

THROUGH THE LENS

Nature photographer **Rupesh Balsara** recently spotted the **Blue-cheeked Bee-eater** in India, a colourful and rarely seen visitor. Recognizable by its vivid green body, blue cheeks, and graceful flight, it thrives in open habitats like wetlands, river valleys, and saltpans. Feeding mainly on bees, wasps, and other flying insects, it is a skilled aerial hunter. Though classified as Least Concern by the IUCN, confirmed breeding in Tamil Nadu marks a remarkable expansion of its range, making such sightings in India especially significant.

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