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'Entrepreneurs should speak the language of their ecosystem'

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'Entrepreneurs should speak the language of their ecosystem'

An academician by profession and having a doctorate degree in Chemistry from the prestigious Yale University, today he dons a dual-role as an entrepreneur and as well as a professor of Chemistry at the University of Hyderabad.

Academics Vs Entrepreneurship

Says Dr Nangia, "It started about four years ago. There are many discoveries which happen in the academic realm having great commercializing potential and practical applications for real world situations. So far in the academic realm, professors were depending on someone to commercialize their discoveries."

In 2009, the government felt the need to empower professors and academicians to commercialize their inventions. It brought out a scheme called 'Knowledge Equity' in 2009, which is based on the common model seen in the US and UK, where professors run their own companies parallely without giving up their teaching careers.

"We took advantage of this new scheme which allowed academicians to run their companies along-side being professors. It is a breakthrough innovation and the thinking of the policy-makers was futuristic in terms of starting Technology Business Incubator (TBI) labs. Thus, Crystalin Research started in January 2010," adds Dr Nangia.

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"Now both, my company and academic research labs are located in the same campus of Hyderabad University."

He further emphasized, "It is very convenient to monitor both the work simultaneously. We have also applied for DSIR certification for our R&D labs to the Department of Science & Technology (DST), and we were granted the certification."

From chalk-to-salt

The company's main focusÂ is in the area of pharmaceuticals. Dr Nangia back then felt that rather than making molecules in drug discovery, they would work on doing late-stage drug translation.

This process favorably caters to the existing current situation of expecting faster turnarounds and limited budgets in the industry.

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"Rather than starting the race at the beginning of the line, we wanted to take up the race at theÂ last mile modification stage. We took leading drug molecules in the market, or molecules which had cleared the clinical trials stages, and focused on developing exact forms in which the drug will be made in to a crystalline or tablet form," elucidated Dr Nangia.

The company was officially registered in 2011 and was given the name '*Crystalin Research*', which is an amalgamation of 'crystal' and 'India', asÂ the company'sÂ work primarily deals with solid-state crystals.

Speaking about the company's services, Dr Nangia opines, "There was a realization that drug forms can improve or modify the therapeutic efficacy. Our main focus is chalk-to-salt. That is, we take insoluble drug molecules and make it in to soluble drug forms."

He continues, "We also work on molecules which are in late-stage of their therapeutic efficacy, stability, formulation, drug characteristic, and drug effectiveness."

Essentially, low solubility of chemicals is considered a rate limiting step for many pharmaceutical companies in the process of drug manufacturing.

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"With the chalk-to-salt platform technology, we have a task of taking drug molecules and improve its efficacy by improving the viability. Viability is a big rate limiting factor for drug efficacy. More than 80% of pharmaceuticalsÂ are sold in the tablet form," explained Dr Nangia.

Crystalin Research mainly caters to genomics and pharmaceutical industry who are seeking leads in terms of drug formulations, drug modifications, repurposing of drugs, and renewing old drug formulations as new entities with new and

improved properties.

"More specifically we work with small and mid-sized companies who do have the necessary infrastructure as they find us attractive," he adds.

The challenges

The biggest challenge was to begin a start-up hailing from an academic background, said the academician-turned-entrepreneur.

"It took more than a year to convince people that one can play dual roles. It is difficult to get across to people that one can navigate across these two zones seamlessly. Secondly, we are only a R&D company. So people often ask us how we earn and sustain. Companies that are 200% dedicated to R&D is a new concept in India, but now their numbers are increasing in the start-up cluster. Thirdly, even though we are an R&D company, we need a revenue chain to sustain ourselves," expresses Dr Nangia.

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For sustenance, to some extent the company has committed towards carrying out CRO activities for projects belonging to large and mid-sized companies.

"The companies will own the IPs (Intellectual Property) that we develop and we charge them accordingly. And that is how we sustain," he adds.

VCs and woes

When asked about funding through venture capitalists, Dr Nangia says, "I made two observations about venture capitalists. Their time frames are very short, which is about 3 months. Most R&D start-ups need 1 to 2 years to establish themselves well. We were way far beyond their waiting time. So I knew none of our products can be brought to the market within 3 months. Hence we didn't aggressively pursue VCs for our funding."

"When you receive large amounts from VCs, you need to be committed to deliver the results in a relatively shorter time period. I think the key missing link here is that when you need funding below 1 crore, you can approach the DBT for your aid. When you need funding above 5 crore, VCs gladly support you," commented Dr Nangia.

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"However when you need funds between 2 and 5 crore, then VCs backtrack because they feel that the project is not of critical size or mass. There is a need to bridge this so called 'valley of death', which is between Rs 2-5 crore of capital fund-raising."

No setbacks!

When asked about initial setbacks faced, Dr Nangia responded saying, "So far we didn't have serious setbacks. We were fortunate enough. I take small steps, and I take those steps when I have enough reserves to go to the next step, and then move forward. We have taken the slow route, rather than multiplying very fast. We multiply in a modest way and we are playing it very conservative."

According to Dr Nangia, human resource is pivotal in R&D. "You are completely relying on your employees for successful outcomes. If they can find innovative solutions on the lab bench, it enables you to discover and innovate faster," he adds.

"Most of our people have master's, doctoral or technical degrees in chemistry, biology, biotechnology, and biochemistry. We'll expand depending on the flow of projects based on the need and requirement."

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For young entrepreneurs

"For any biotech or pharma start-up," says Dr Nangia enthusiastically, "I would suggest them to be associated with a university or an institute cluster. This will enable them to take advantage of facilities and infrastructure to avoid burning heavy capital right at the start."

"The best way to start is to start where you have ten other companies like yours. This will give a sense of moral confidence and share facilities, since you can't build everything on your own."

Building an enterprise is like boot-strapping. Entrepreneurs should build on their core strength first and then expand to the peripheral areas.

"Once the core is strong, the periphery automatically will be strengthened. Start with a core strength and then build the second and theÂ third, and then the periphery. Companies should engage in a dialogue with the government which will be effective and supportive. Start-ups usually get frustrated with government agencies and complain about Indian bureaucracy," he says.

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"Many start-ups are started by people who have worked in the US or other developed countries, and they tend to speak the language of that ecosystem. This will not work in India," he affirmatively explained.

Deeper and wider

Talking about the company's futuristic ventures, he says, "We have done some level of translational drug from lab to preclinical stage. Essentially, it is all about lab-to-market or bench-to-bedside. We would like to see one of our products moving in to human clinical trial phase."

"One of our objective is to penetrate deeper and wider. There are good opportunities in the generics industry in India," Says Dr Nangia.

Innovation and visibility

Dr Nangia explained that innovation is different from visibility.

"We are a hierarchy-less organization. We go by what a person contributes rather than the kind of education or experience he or she has. There are freshers who are sharper and aggressive than an experienced senior personnel. So we ensure that people interact with each other. Lastly, we work like an academic lab. We allow full flexibility to our employees as long as the work gets done thoroughly," he says.

Government's role

The government is a key catalyst in supporting start-ups, feels Dr Nangia.

"It (government) has reasonably done well in the last 5 years. Several new schemes from DBT, DST, and CSIR are talking and thinking on the same wavelength. DBT's BIRAC and BIG scheme is on the similar lines compared to the US. At times, private funding is a major challenge. BIRAC and DBT can develop risk-evaluation based equity to fund start-ups in the biotech," he advises.

Public-private partnership

Most start-ups by their very nature are public-private partnerships, thinks Dr Nangia. "They can't be 100% relying on themselves," he states.

"They either need to go to an institute or a university or an innovation cluster lab. Only when a start-up grows up completely, it can stand on its own without a PPP platform. Hence, PPP, start-ups and innovation labs are part of the same growth system."

The future

"In the Indian environment, I would like to see the academia-industry partnership ecosystem become well integrated with technology, innovation labs and centers. More scientists should be empowered to start their own companies. In that way, many of the discoveries will move from lab to scale-up, and translation studies to the market, in a natural way," ends Dr Nangia optimistically.

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