

K Kumar  
IIM Bangalore

## Leveraging Context-specific Innovation for Growth

In Conversation with Manoj Upadhyay

### The Idea and the Opportunity

**KK:** Research on entrepreneurship suggests that the impact of opportunity based entrepreneurship on national economic growth is far greater than the impact of necessity based entrepreneurship. Given the ambitious economic growth targets that India has set for itself, the high growth businesses have a crucial role to play. In this interview, we hope to uncover some pointers on how successful high growth businesses overcome environmental constraints. To begin with, when did the idea of ACME come about? What are the factors that influenced the parent company to promote ACME?

**MU:** To give you some of the background, I am a first ranked diploma holder in engineering in my state, and an Associate Member of the Institution of Engineers (AMIE). After engineering I was selected by 3M for doing basic research on power electronics for storage devices. I learnt a lot from that experience. Afterwards, I joined a German company, Benning, which is one of the most respected companies in the world for power supplies. Subsequently, Benning appointed me the Technical Head of their India operations, with the responsibility for modifying the power solution to suit the Indian requirement. However, the joint venture folded up after three years due to pricing pressure, leaving me with the option of either settling down in Germany or finding

### Manoj Upadhyay

Manoj Upadhyay is Founder, Chairman and Managing Director, ACME Telepower Ltd. He was shortlisted for the Ernst & Young Entrepreneur of the Year Award, 2006.

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another job in India. I always wanted to be in India and dreamt of doing something new – a first, not just something incremental. The time seemed to be right for this.

So along with two friends (between us we covered the finance, marketing and technical aspects) I started a company, Adhunik Power System. I wanted to create something totally new; I also felt it would not be ethical to do something directly based on my learning from my previous employers. So I selected an area that fascinated me – lightning protection. In those days, we were interacting with a lot of telecom companies, the biggest being the Department of Telecom. And they had a lot of problems, especially in the hilly areas. If an exchange was struck by lightning, it would be completely destroyed and it would take six months to repair.

As a result, they used to switch off the exchange whenever there was heavy rain, causing great inconvenience to subscribers. I thought that finding a solution to this problem under Indian conditions would be an interesting area of research. We designed a system at Adhunik Power System which could protect any type of installation, whether it was for telecom, railways or hospitals. It worked very well and was rated as class one protection. This means that in 99.99 percent cases, even if it is directly struck by lightning, neither the individual, nor the instrument, nor the service will be affected.

That product was so successful that in just three years – 1999-2003 – we grew to a revenue of Rs 30-35 crores (300-350 million). Once we had grown to this level, we realised that we could not take it further without investing heavily on educating the customer. I decided to hand over the company to my partners and turn my attention to something new. I still own thirty percent of that company but they run it.

During my various interactions in Europe and the US, I was constantly reminded that India is a me-too products country, bringing out cheaper copies of Western products; and also that the West regarded India primarily as a back office country. This really bothered me.

I realised that to change the perception of the Western world and make a successful business model I should take the US position, that of innovation and creation. I decided that I would do only those things which were being done for the *first time* in the world. For a small company with a new product and no backers, I would even have to develop my own process machines and automation to mass produce products that are outcomes of our innovation. Secondly, having worked with almost all the telecom operators in India, I knew they had a huge pressure on the average revenue per user (ARPU), which is constantly coming down. I decided that my business model should support a *recovery of investment in not more than fifteen months*; that is, whatever I sold the customer,

he should get his money back in fifteen months. This is particularly important now with the penetration of mobile phones in the rural areas. Thirdly, I also decided that whatever I did would be a *social good*. Our business is still based on these three principles.

In 2003, along with a few others who were working with me in the engineering division of Adhunik, I created a consulting company to help telecom operators optimise their operational cost. Our first customer, Bharti Enterprises, was then planning to move out of the metros to the B class cities. The challenge they were facing was to find a solution to the problem of the huge power fluctuations in these

places. They were running completely on generators. We did a survey of a few top companies and found that though they had a solution, the operation and maintenance cost of such a solution, at five or six times the current capex and opex, was prohibitive. When we analysed the problem, we found that the current system was inefficient, slow to respond to power fluctuations and, being electro mechanical, needed frequent maintenance, leading to very high operational cost. We identified the source of the problem and it took us only two weeks' time to develop our first product – a control technology which takes care of the steep power variation, poor power factor correction and leap jump inefficiency. The solution was totally static, based on semi conductors, and was low maintenance.

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We tried it out in one of the worst affected sites in Gurgaon, where they were operating continuously on generators. It was a real challenge and the entire team worked continuously for many days. In the end, the product was a great success.

**KK: Have you patented this?**

**MU:** Yes, we have an Indian patent on the main product, and many supporting patents to provide umbrella protection. Thanks to our excellent legal set up and some external support, we also file international patents every quarter.

## The Execution Strategy

**KK: How did you organise the manufacturing of the product? Did you outsource?**

**MU:** To some extent. We had a lot of help from our outsourcing partner. We did the designing, our partner manufactured the customised components and we assembled the product. We started manufacturing and assembling the product from a 3500 sq ft rented area in Gurgaon. As the customer wanted mass production in a very short time, we got most of the working staff from various manpower support companies.

**KK: When did you put up your own manufacturing unit?**

**MU:** We started manufacturing products inhouse from day one and we simultaneously built our own team. Within no time, we grew to a hundred people. The remarkable thing was that the original team rose to the challenge with commitment and entrepreneurial drive, like so many Manoj Upadhyays, which was what I had always dreamed of! Systems and processes are important, but most of all, I need entrepreneurial drive; and this is what I will try to maintain, however big the company grows. Basically, this means we need to be missionaries, not professionals.

After that, we created a solution for Bharti to the problem of housing the Base Transceiver Station (BTS) and electronic equipment in the rural areas, which have no power and need the generator running continuously. Made

of fibre reinforced plastic, the Green Shelter comes fitted with a power interface unit, phase change material and efficient AC systems, providing 4 to 12 hrs of thermal backup, which reduces energy costs per site. This needed a completely revolutionary way of thinking. The biggest issue was how to maintain the temperature of the enclosure if power was not available. We created the first thermal battery which could maintain the temperature of an enclosure for many hours. This in fact led to a series of innovations, including a fabric that insulates from both the heat and the cold.

Rapid growth in the telecom market and growing demand for the Green Shelter pushed us every year to increase our capacity three to four times. We are still far from

meeting the demand, and ended up supplying to only one customer, who needed all we could produce. A major limitation to capacity was that some components could not be scaled up with the available know how and manufacturing process. Initially, we had decided to manufacture all IPR related product inhouse while outsourcing the general work completely. This became a major bottleneck. In order to get out of this cycle, we realised we had to have capacity for components that required high capital investment. We now had enough resources to set up a large fully automated factory, so we created a modern facility spread over 27 acres in Uttarakhand, which

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needs only a few hundred people to feed almost half of the world's telecom needs. In the next four to five years, we need to further increase our capacity to meet the growth in world telecom demand. India alone will need seven or eight hundred thousand telecom sites. And this is without taking 3G into account. Right now we have just about eighty thousand. Meanwhile, other markets are also coming up. The Middle East is coming out of the monopoly operator situation so they also need huge capacity for new rollouts. Europe is phasing out old equipment and switching to new technology. So we will keep developing more and more products and manufacturing set ups.

This was our journey towards creating a manufacturing

facility. At the same time, R&D had become an imperative to maintain the growth of the company and we decided to establish R&D facilities in three places – India, the US and Canada.

**KK: Let me touch on the financial resources aspect. In India, seed capital for entrepreneurs to grow is very difficult to come by. But you seem to have achieved rapid growth for the last four years even with your limited resources. How did you manage this?**

**MU:** I started with two lakh rupees (Rs 200,000) in my bank. That was the seed money. But as we were a consulting company and operational cost in consulting is not so high, the small consulting work from various telecom operators and equipment manufacturers kept us going. The real challenge was when Bharti gave us the first order. That was the time when our reputation, our ethical standards and our relationships were at stake in the market. One of our great strengths is our ethics and our commitment to our customers and partners/suppliers. The fact that we treated vendors and customers as our partners created trust and confidence. So our vendors supported us by supplying the material without any questions about how we were going to pay them; in a sense they indirectly funded us. Similarly, the customer supported

us by paying us in good time, so that we did not have cash flow issues. With our partners' support and team commitment – including that of outsourced manpower at the worker level – and some help from our consultants, we created, in just two to three weeks, enough capacity to support Bharti. Till very recently, we were able to run without bank support. As you pointed out, it is difficult for a start up to get support from banks. We had no property for collateral. At one point, when we needed a bank guarantee, we used our fixed deposits and some savings I had in National Savings Certificates (NSC). Now that we are successful, there are many banks supporting us.

My personal belief is that capital should not be a problem for any new business, provided your ideas are strong and

you are able to offer some great value – such as operating cost, capital cost, operating convenience – that the customer cannot resist. This really means you have to offer a disruptive technology, particularly if you are getting into an established area like telecom. That was what has made us successful, and until now we have had no financial problems, even though we think ten times bigger than our capacity for future growth and market service. In the first year our revenue was Rs 30 lakhs (Rs 3 million) and now, five years later, our turnover is at Rs 1500 crore (Rs 15 billion). This growth has been partnered by our customers, the major telecom operators who have helped us grow while they too have grown manifold.

### The Innovation Process

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**KK: You seem to have identified a huge unmet demand. A problem existed with no solution available, and you brought in an innovative solution and people saw the value of that and supported you. Apart from your own background as an engineer and scientist, what would you say are the factors that made this innovation possible?**

**MU:** For any innovation, what is important is the way you *approach the problem*, and the passion, discipline and determination to find a solution. You first need to *identify* the core of the problem. Once the problem is identified, the next stage

is finding a solution, which needs *creative thinking*, looking at it from various angles. We had a brilliant team, who worked with *passion and determination* to find a solution. We were working with our backs to the wall and we had no option but to succeed. If we couldn't find a solution to the problem we would not have survived. Another very important factor I would say was the *quality discipline* that I learnt from working with a German company, which really comes into play in the final stage of commercialisation of the product. I would also give credit to the *environment* (India's high growth in general and the rapid expansion of the telecom sector in particular) that supported our innovation and growth.

**KK: So the sequence was: first the problem was shown**

**to you; you made a kind of prototype, made it work in one location and then scaled up. Is this the sequence you follow in general?**

**MU:** By and large, yes. The first job was to identify the core of the problem and survey the possible solutions available in the world market. We only started designing or inventing a solution after we found that no suitable product was available. We also had to be sure that the product we designed would satisfy our three basic principles of being a first, offering the customer recovery in 15 months, and being a social good.

Let me give you an example how the sequence is followed in one of the areas where we are currently working – the

cold chain solution business. One day, I drove to the vegetable mandi and had to wait while a flat tyre on my car was being repaired. I got so interested observing how the farmer faces the market that I spent the whole day there. I saw how one farmer started selling spinach at about Rs 12 per kilo early in the morning, and was forced to keep cutting his price as the day went by because his stock was not moving fast enough. By evening, he was selling at 30 percent of the original price, and after that he began to throw everything away to the cattle. I realised this was the story of all the farmers of India – they invested everything they had to grow the crop and brought it to the market,

and whatever was unsold had to be thrown away. I bought up his stock and promised to find a way around this problem. I discussed the problem with my team. Why was there no cold chain solution available across the country for such farmers? Mainly because power is not available in rural India, and running a cold store on a generator is too expensive to be viable. Refrigerated transport for moving perishable stock from one state to another (especially low cost fruit and vegetables) is even more unviable.

Once we had identified the problem, we arrived at a possible solution. In Europe, they used to have a community ice house where anyone could take a locker and store their produce. I thought this could work here

too. We created a community freeze box which could maintain freshness of food, fish, meat and vegetables without power upto seventy two hours without depending on generators or refrigerated transportation. We made one unit and installed it in Gurgaon mandi where the vegetable vendors can store their perishable goods overnight instead of throwing it away. It had no generator and needed no support and had a very very low operational cost. We made access to this facility free. It took a few days for the idea to catch on, but soon we had a huge queue waiting to use the facility. Today we have carried the innovation further by patenting this technology and using it in a DTH (Direct to Home) pushcart facility, which will enable fruits and vegetables to be delivered to customers at home. The

‘central cold-storage unit’ concept is being carried into village hubs which are being constructed by the Acme Rural Initiative, which is already working in two states.

This approach – identification of the problem and designing a solution with commitment and passion – can be applied to product, process, or market innovation. Today we have taken up similar challenges in the energy and water sectors because problems in these sectors are assuming crisis proportions across the globe. Once we come up with the technology to sort it out, we will have the advantage of having created a disruption, which creates barriers for others to follow in.

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**KK: What I find very interesting is that the problems that you work from are staring us in the face everyday, and yet most of us do not recognise them... When you are looking at a problem, do you keep in mind the market for your solutions or do you approach it with the attitude of ‘let’s put up the solution and then worry about the market’?**

**MU:** If you work with the three fundamentals I mentioned – innovation, 15 months payback for the customer, and social good, market survey is irrelevant. Sony never did a market survey for launching the Walkman, 3M never did a market survey for launching Post-it notes, nor did Apple for launching the iPod. When I started the thermal management system, power interphase unit and Green

Shelter for the telecom sector, most of the players were established and large for that point of time, and I was told that the total market size was around Rs 25-30 crore (Rs 250-300 million) for passive telecom infrastructure. But our innovation took the market upto Rs 4000 crores (Rs 40 billion). The moment you provide a solution for a problem, a market will be created. It will be beneficial to you, to the users and to the country. So fundamentally we believe in market creation.

## Building the Organisation

**KK: What do you think are the major challenges to realising your vision?**

**MU:** Building the organisation – that’s the major challenge. The biggest challenge has been getting the right, like minded people on the board. Building the human resource is also a struggle. You can build machines, you can create automation, but where do you get the people to run them? The country is very short of trained people; we need more IIMs, more IITs and more regional engineering colleges. Thirty percent of my time goes into recruitment because we are seeing so much growth; every year we are doubling or tripling our revenue. In fact, we have now started hiring people from outside India.

In an entrepreneur driven company, most decisions are taken by the entrepreneurs, which facilitates quick action; but as you grow, decision making slows down and there is filtering out at different levels. This is the challenge for any big organisation – as you put in place systems and processes, the decision making slows down. I would like my organisation to grow and mature in systems and processes without losing the entrepreneurial instinct. Whenever I interview people, I ask them – ten years down the line, what will give you more satisfaction, amassing a few crores of rupees or the feeling that you have sorted out a problem of the world? The person who chooses the second option is the one who will fit this organisation. He has a mission.

**KK: Going back to something you mentioned earlier – ACME Group has very consciously set up R&D centres outside India, in Canada and the US. How can you afford to do this, given that you are essentially selling in India?**

**MU:** The Group has R&D centres in India as well as in the US, Canada and the Czech Republic. We not only want to grow in India but to expand outside India too. You

need multi level skills and global experience to standardise and design products suitable for those countries. To do that, we needed to go international. The other reason we located R&D centres in these places is access to talent. There are some talents you can motivate to go from one place to another but if that is not possible, the mountain must go to Mohammed. We are not selling in India alone; we are positioning ourselves in emerging as well as developed markets round the world. Our model is particularly successful for geographies that face cost-efficiency and energy management challenges similar to those in India. Today we have a wide range of energy management solutions to suit these markets. We are also pushing globally through acquisitions and have recently acquired the Norwegian TSP major, Reime NIS, which has given us a strong foothold in seven African countries. We have also entered into a global tie-up with international major Nokia-Siemens Networks to collaborate with them on energy-efficient telecom infrastructure solutions to their customers in 150 countries around the world.

One thing that we do differently from most other companies is the mix of our R&D teams. We have a pool of engineers and scientists, of whom 10 percent are relatively less educated, and these are the inventors; 20-30 percent are PhDs who translate their ideas into mathematical formulae; and the rest are engineers who convert the idea and the formula into a product. You need to locate yourself in a place where you can get this sort of combination. Fortunately we can get them both in the US and in Canada; and in India we already have that combination.

**KK: How do you go about recruiting people from those countries, given that your company may not be very well known?**

**MU:** When I meet a prospective recruit, I first share my ideas with him/her. I have found that the moment we share our vision, people support us. Given a choice, most people want to do good things. I have been successful in personally convincing many people to leave their big jobs and come to us.

**KK: You say you have been striving to get people with the same kind of passion that you have. What kind of structures and mechanisms are you putting in place to ensure that such people are recruited and rewarded?**

**MU:** I think the most important thing is to create a mindset where people look around, define a problem and create a

solution. First, it is a difficult task to get such people. Two out of ten look like a good fit. Then, in our kind of growth organisation you have many people who are excited by our ideas and join us, but cannot cope with the speed and are churned out in the process. Some settle down. When this happens, they get aligned with the organisational thinking. This is also facilitated by personal interaction. We want our team to participate in the company's structures and earnings and we are setting up a system to ensure this. So they benefit from the company's growth. People need challenge and freedom at work as well as wealth, and we are looking at all the aspects.

## Challenges and Environmental Constraints

**KK: Going by your experience, what would you say are the challenges thrown up by the business environment – the external factors like the bureaucracy and government?**

**MU:** In my experience, there have not been any major issues on this front. On the contrary, I find you get a lot of support if you are working for a noble cause, for society and country. I had no problems building the factory. Of course, one has to live with things like escalating real estate prices, which are market driven. Wherever there is growth this will happen. If manufacturing is growing by 14 percent, why shouldn't real estate? I do not see these as problems which can dampen somebody's passion. Our focus should be more on sorting out the issues with a larger benefit and the rest will follow.

**KK: What about indirect taxes? We have a lot of small scale reservations. Excise duty, for example, is not applicable till a certain size and this seems to be one of the considerations for companies trying to grow big. You get that shelter when you are small, but not once you reach a certain size.**

**MU:** It's the small companies that need the shelter. They are just growing. It's something like this – we don't expect our children to earn when they are in school. We expect

that once they are out of IIM they should earn. We were very proud when we outgrew that shelter, because we knew that the money was going to somebody else who needed it to build something new. In Pantnagar, when we were building the plant, we had an option – we could have gone for a whole excise free option, but we did not. We are one of the biggest companies in Pantnagar now and we are paying the highest level of duty. I believe that your business model should benefit society in two ways – firstly, you provide employment, and secondly, you support the growth of the economy by paying taxes.

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One of the issues we have to sort out in this country is the problem of the rural-urban divide. We have always thought that this was up to the government, but why shouldn't entrepreneurs do something? There are five hundred thousand villages in India, so what is stopping us from making five hundred thousand developmental hubs?

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shouldn't entrepreneurs do something? There are five hundred thousand villages in India, so what is stopping us from making five hundred thousand developmental hubs? Our company is working on a dream village concept under a new initiative called the Acme Rural Initiative. Starting with two states, we will instal cold chain solutions, power solutions, water treatment solutions, etc through village hubs using innovative solutions developed by Acme. This is a part of our corporate social responsibility.

**KK: What about IPR – are Indian companies getting adequate protection for their intellectual property?**

**MU:** We have learnt the hard way that this is an area where we need to be more vigilant. We were a small company, growing very fast. What happens in rapid growth situations is that if you are successful a lot of people will try to follow you. The easiest way is to try to take two or three of your key people. Even if you give them a good salary, a good compensation package, people can be tempted to go out. This happened to us. One or two of our best people, who were handling crucial jobs – managing the software code, managing the design aspect, looking after the basic patented chemical procurement and so on – were poached by one of our suppliers and later our competitors created the same product. We have since created a new rule; we now ensure that we have a

second, third and fourth generation product back up in line. We are also taking precautions like compartmentalisation of information at three or four levels, as in pharmaceutical companies.

Although all our products are patented, it will take a few years to fight it out in court. In this country, such crimes are not taken very seriously, and we do not have the mechanism to fight it. As a country we need to create more respect for ideas and for contracts. Unless we see real improvement in the protection and motivation of innovators, India could, like China, be branded a high risk country by high technology companies. When you don't have faith in the contract system then no two individuals can work together to an understanding, whether it is intellectual property or a simple commercial agreement. This is definitely a constraint, and one of the reasons why we decided not to do the core research and manufacturing here any more. For example, we have shifted the catalyst part of the fuel cell manufacturing from India to Europe and USA. That's where your global vision helps. If you have a problem in one place, you don't mind going where it is more comfortable for you.

## Charting a Course for the Future

### **KK: What are the products and ideas your R&D is currently focusing on?**

**MU:** We are trying to identify other important areas where we can contribute to society. Three such areas are the environment, energy and agriculture. Unfortunately, most of the studies in other parts of the world are not relevant for Indian needs and conditions. For example, there is lot of research in telecom, but no one is doing research on the electrical and passive infrastructure aspect, which is the area in which we face the most problems. Similarly, reduction of operational cost and energy bills are low priority for most of the world as they are comfortable with the current per minute cost of telephone use. In India, our costs may be the cheapest in the world, but we need to keep bringing down the cost if the telecom companies

are to grow and survive. So we are looking at all the gaps and trying to innovate new solutions.

We need a revolution in the energy sector, similar to the mobile phones which provided a solution to the bottleneck of capacity in wire telephone. We should be able to produce energy where it is needed, without the constraints of transformer capacity, generator capacity or distribution lines. Two and a half years ago we started work on the hydrogen fuel cell system, and we are now very close to commercialising the product. I have made a commitment to myself that in the next five years, this power should be made available to every part of the world. It is not viable to build infrastructure in remote scantily populated areas. But I believe our hydrogen fuel-cell system will completely

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**It is not viable to build infrastructure in remote, scantily populated areas. We should be able to produce energy where it is needed, without the constraints of transformer and generator capacity or distribution lines. I believe our hydrogen fuel-cell system will completely change the power transmission and distribution scenario in the next few years.**

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change the power transmission and distribution scenario in the next few years. The product will also help us to vertically integrate one more step in telecom. If we can be independent of the grid power supply, we can make a telecom site anywhere – on your rooftop or on a mountain peak. This will really help people in other developing countries especially in Africa.

In the energy sector, we are also working on the technology for heating and cooling – 30 percent of global energy is used for cooling and heating homes, cars, etc. The technology is very old and inefficient. We have created the world's first air-conditioning

solution that does not use a compressor. Using just hundred watts per ton, it can cool a whole building with a few hundred-watts power. This product will make it easy to air condition our homes; and our trains, including the general coaches, can also be air conditioned without any cost. It is similar to our thermal management system, a disruptive technology in agro-industry.

Another important thing we are working on is waste disposal and water management, which is one of the biggest problems that India is facing today. Almost 95 percent of the water we use in our homes ends up as waste after being used for washing, bathing, etc. The system used worldwide for waste water is to take it out of the city and treat it with bacteria, which acts on all the

organic elements and releases methane. Because this process needs continuous aeration, a huge amount of power is required; and that is the reason why we have not adopted this method in India. We have created a solution that can work without bacteria and can be fitted in every home and housing society. The water is treated on the spot and 95 percent of the water can be recovered and recycled. This decentralised wastewater treatment facility has been commercialised and is operating successfully in several places.

These are four areas we are working in.

**KK: How much commonality is there, in terms of the technical competence or prior experience, across these four areas you have chosen to work in?**

**MU:** It is all related to energy. We are a core energy company. It is all related to either saving energy or creating it, through innovative means. In water treatment, the objective is to reduce the power consumption, to make it independent of power. In the cold chain and in telecom, again energy was the issue; and the fuel cell is meant to generate energy at the consumer end.

**KK: I understand you have also set up a company for legal services...**

**MU:** Yes, this is another social good, a set up for good arbitration, which I think is urgently needed in this country. So many small companies are struggling in the courts to sort out their small problems. But before it could really take off I got involved in these other three verticals, so I have had to put it on hold. The company still exists and I will get back to it once I have got these four products to the market. The other thing I plan to concentrate on personally in the future, is R&D. My dream is to create something like Bell Labs.

**KK: What is the road ahead? How do you see the next five years?**

**MU:** We want to be the biggest company in all the four areas we are in. We want to be the biggest company globally, not just in India. And we want to see that our

mission statement of electricity, food and water for all is implemented. These are the two things we need to work on.

**KK: Are you also thinking of some partnerships to execute your vision and your innovative solutions, because you don't have the scale to do everything. For instance, many other private sector organisations are making forays in the cold chain – ITC's e-choupal for example. Are you considering collaborations with such organisations?**

**MU:** Yes, we are looking at partnerships, but we are looking more at the public sector. As I mentioned earlier, my business model does not need funds as much as it

needs manpower. The public sector today represents a huge bank of human resource and talent, so we will work with them. We have already approached some PSUs in connection with the dream village concept.

### Learning from Experience

**KK: What would be your considered advice to anyone starting a high growth business?**

**MU:** First he has to think big. The entrepreneur is, by definition, taking a risk. So take a risk for big things, not small things. Early on, we learnt from Bharti that Mr Mittal had given all the signing authority, cheque, finances to his people. That was

something courageous for an entrepreneur to do. We did the same thing. Nothing short of a few hundred crores, which is beyond the company capability, comes to me for approval. The entrepreneur should avoid micro-management. He should look at the bigger picture – aim at building a good team and empowering them. He should pay his dues to the government and set a strong value system for the company.

It is a big challenge to compete with the existing players, so the entrepreneur should make sure that his technology, his solution, his developed model, is a leap rather than an incremental move. In my view, most of the companies will not survive beyond twenty years if they do not think innovatively. Most of the products, most of the solutions

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we use today are 20<sup>th</sup> century creations. The 20<sup>th</sup> century was a learning period for human beings on the technology side. The 21<sup>st</sup> century is much more demanding. You need to think of products and solutions no one has ever thought of before. We all know we are way behind China in mass production, but I believe in innovation we can take a real lead. A lot can be done by small companies, individual start ups, as the IT industry has proved. Most of our top brains of the 21<sup>st</sup> century have gone to the IT sector. IT is only a facilitator. Today we need the top people to think about important issues like energy and the environment, drug discovery and so on.

I have a vision of creating a Management Centre at ACME for research, technical and management issues, the way IBM did, where the people from our company as well as others can be trained. It will inculcate the values and processes perfected at ACME and produce a new breed of entrepreneurs with passion and commitment.

**KK: We wish you success in all your endeavours.  
Thank you for a very insightful discussion.**

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The IMR Interview is a methodologically rigorous feature which has proved a valuable pedagogical tool in MBA classrooms. The feature is organised in three modules:

- a) A Context Note on the interview
- b) The Interview itself
- c) A supplemental Teaching Plan, available to subscribers by email ([review@iimb.ernet.in](mailto:review@iimb.ernet.in)).