

GLOBAL INNOVATION

- M A G A Z I N E -

GLOBANT

LATIN AMERICAS SOFTWARE
SUCCESS STORY

40 WOMEN OVER 40

INNOVATORS, MENTORS,
ENTREPRENEURS

WHAT MAKES AN INNOVATOR?

TEN THOUGHTS THAT COULD
BRING OUT THE INNOVATOR
IN YOU

HEALTH INNOVATION

HOW LOSS DELIVERED HOPE
FOR OTHERS

A portrait of Sam Pitroda, a man with long white hair, a beard, and glasses, wearing a dark suit, a light blue shirt, and a pink patterned tie. He is standing with his arms crossed against a black background.

SAM PITRODA

INDIA'S GODFATHER OF
INNOVATION



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THE GLOBAL INNOVATION INTERVIEW



SAM PITRODA INDIA

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WE ARE GOING THROUGH A MAJOR GENERATIONAL REVOLUTION. I HAVE BEEN SAYING THAT THIS IS A BIGGER EVENT THAN WORLD WAR II, THIS IS DESTRUCTION OF A DIFFERENT TYPE.

”

The Global Innovation Interview: Sam Pitroda on engineering, India and the second telecoms revolution.

Perhaps not as well-known as some of his global business counterparts, Sam has been in business and on the periphery of politics for many years. He is the Indian Prime Minister's advisor on innovation, and often cited as the man who revolutionised the country's telecoms industry. Enabling most to have access to a phone. As if this wasn't enough, he runs a number of hugely successful businesses including *C-Sam*, a company that is at the forefront of mobile

wallet technology (*making everyday bill payments and money transfers, through a mobile phone*). Sam has spent most of his life in the telecommunications business and has more than 100 patents to his name.

James O'Flynn interviewed Sam from his office in Chicago.





Do you still see yourself as an engineer or has your view adapted to include all the other things you have become?

I'm still an engineer in my heart, because I see things as systems - input, output, delay, response, efficiency and productivity. I also integrate this to include social systems, how does my work affect people? Poor people, young people, so I think in terms of systems, but multiple dimensions, being logical, it's a way of life. Engineering systems are incredibly handy when dealing with social systems.

Your engineering led you into business, which is a different beast altogether. Haven't you ended up chasing money to some degree?

I had to, because I'm from a very poor family. My father had a fourth grade education, the family had no money, I borrowed money to travel out of India. I had eight brothers and sisters. I realised that in the beginning making money was important, so when I was young I used to say to my friends, without really understanding its meaning, that I needed to make enough money by the time I'm 40 so that I can do what I want afterwards. The tough task is to stop that at some point, to

say I have enough money, it's time to switch off and focus on something else.

What did your family think of your career choice and did they offer you support?

Total support. The family was always behind me. I was the key breadwinner, so they thought I was doing okay and there was no issue at all.

How did your interest in engineering, design and development come about at a young age?

Partly by accident. I had a degree in physics. I came to the US to get a PhD in physics. Then my professor told me it takes seven years to get a PhD. I had a girlfriend, and I was young and stupid, so I said, *"I'm not going to spend seven years getting a degree!"* So, I thought, can I do something quickly to get a job? He said, *"yes, you can get a degree in electrical engineering in nine months"*. So that's what I did. I got a job in electrical engineering, but found out pretty quickly that I thought differently due to my background in physics. I would do my work and they would say, *"Sam, this is a great product, you need a patent"*.

I didn't even know what a patent was! So that's how I got into inventing. Life just takes turns

and you never know what will be delivered to you!

You became an engineer and you have a lot of patents under your belt, you have more than 100, can you talk about some of them?

A lot of my patents are system patents. My first one was on tone generation, how do you generate analogue tones using digital memory?

This was in the 1960s when people had no idea about such things. Next I had a patent on conference calling and digital conference calls. Then on electronic diaries, the Casio thing - electronic storage devices capable of storing names, addresses etc. I had a lot of little ideas! And now I have a series of patents on digital mobile wallets.

Were you working for Casio at the time when you developed the electronic diary?

I had nothing to do with Casio, in fact I sued them! *(for patent breach)* I was not in the electronic diary business, I was in the telecoms business. So that was my own patent, other



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SOCIAL BICYCLES

Evolving Bike Share



DUMB BIKE

free bikes
no payment
no protection

DUMB DOCK

coin operated
no electronics
chain security

SMART DOCK

RFID locks
kiosk POS interface
docking-point lock

SMART BIKE

3G GSM connection
GPS accelerometer
electronic lock

patents are often company patents, so if I worked for a company the patent belongs to them, but not in this case.

What innovation or area of your work do you think will have the biggest impact over the next five years?

Some of these things take a long time to be persuasive. C-Sam (a technology business that works on platforms for secure transactions) technology is designed to reduce the cost of transactions and provide consumer flexibility, convenience and integrate a lot of the payment instruments, credit cards, debit cards, airline points, ticketing and coupons. Today all of these things are separate, but with mobile phones you can start to integrate these things, that was the original idea. But then you need smartphones, payment infrastructure and lots of things coming together to create the right ecosystem. When all of this happens, transaction costs will go down, people will begin to spend bits and bytes, convenience will increase, and awareness of financial systems will increase substantially.

Anything else in a wider sense?

This is a very exciting time in terms of technology. The

internet has changed everything around us, it has changed business models, delivery systems, learning models, interactions and social systems. The basic advantage is reach, which is very deep. If I want to learn about wine I can, and then I spend nine months learning about wine! That's the beauty of the internet which is having a huge impact on research, education, health services and governance. We are going through a major generational revolution. I have been saying that this is a bigger event than World War II, this is destruction of a different type. Couple this with biotech, stem cell research, alternate energy and you see a whole different way of solving problems. The problems we solved using technologies of the 20th century basically gave us centralised systems and power. Now it's decentralised systems that solve problems. Telephonic systems are now decentralised. It used to be all the wires in the exchange, lots of copper, big buildings with hundreds of thousands of wires. Now you have technology hanging off a tower.

If you were to define and encapsulate innovation, how would you describe it?

This word does not recognise the type of innovation that I do.

This word encapsulates what the Apples of this world have done. People get all excited about gadgets. My innovations have nothing to do with gadgets. Plus, I'm not a high profile kind of guy, and I haven't made US\$5 billion. If I made that much then the world would pay attention. My focus is how do I take the benefits of technology and innovation to poor people? Designing a smartphone will not solve the world's problems, designing a better watch or bag will not excite me, but solving the problems of the slums and using systems is of great interest to me. However this problem solving doesn't pay, so people don't do it.

Are the greatest resources and focus really being put into this type of problem solving?

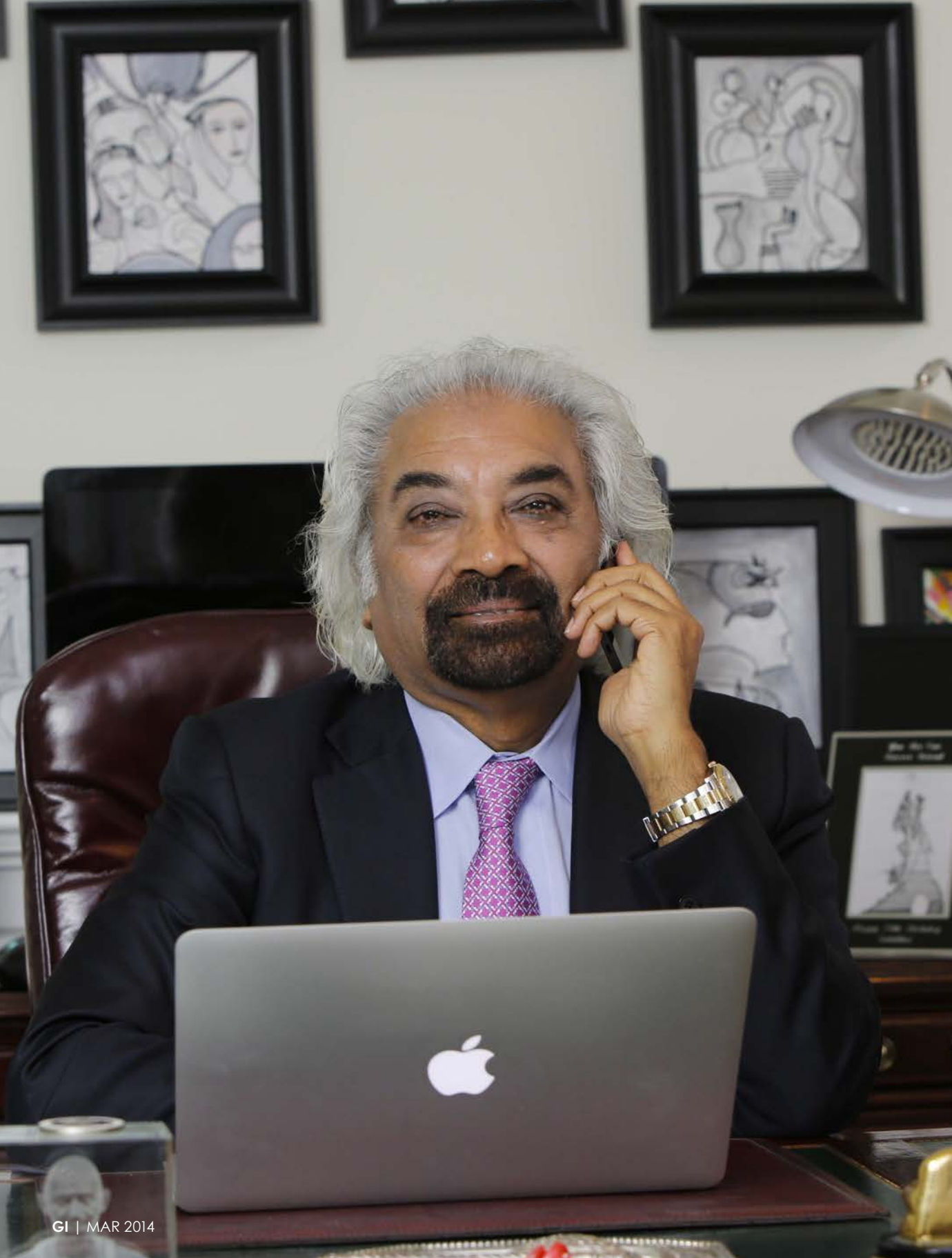
I never get tired of saying that the best brains in the world are solving the problems of the rich, who really don't have



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problems to solve. As a result, the problems of the poor really don't get the talent to solve them that they deserve.

They're the kind of inventions we need. We need to reduce cost and improve access to food, education, health and energy. We need to take care of these four things and make it so cheap so that anyone can afford health services, good energy. Surely everyone should have these things today?

We all know that climate change is a problem, and that we should change, but we don't. Will there be enough food, water and energy in the future? Can technology solve all of these problems, or do we need to change as humans?

We have to learn to change and change our developmental model. The model currently is more cars, more homes, more, more, more. That model can't work for ten billion people. Can we imagine ten billion cars in the world! So we have to think about new models, based upon happiness. Where people are happy with personal growth, happy with their family. The whole thing about family when I

was growing up was that it was a complete joy. It had problems, but the model has now broken. Everyone is now so greedy, so selfish, so individualistic. Is that the kind of life we want to live?

Happy times are often based around family, even when money isn't so plentiful don't you think?

How do you tell people that there is more to life than money?! It's very difficult to understand, and an even harder message from someone who has money. You have to love your family and have great relationships with people, that's the joy in life, not about purchasing a diamond, that stays in the safe deposit box anyway.

There's a humble aspect to you Sam, even though you're given big titles. I don't care about titles.

So you win a Nobel Prize big deal, that's not the game in life, no one's going to remember you after a while anyway. It's all fake, we will give you a plaque, a statue, and all that, and it doesn't really mean anything. It's a journey that has to end at some point in time, so enjoy

the journey and love people in the process. Life has to end at some point in time and the train journey of life continues.

You support a lot of young people in your companies and work, don't you?

I believe in the young and they give me the energy. They give me ideas, they work with me, and they take care of things, the nitty gritty details. I have reached a point where I'm no good with detail or with names. Our strength is in the fact that we all play our part in the business, they are good at things that I struggle with. They



learn, I learn and we enjoy life in the process.

So you're a mentor, but did you have such a figure growing up?

No, unfortunately I didn't, I wish I had.

Do you plan to slow it down at all?

No, I don't. If I slow down I die. So I enjoy what I do. Last night I had two hours of video from 11pm to 1am. I got up at 6am on my email, came to the office. I would rather be busy, but I enjoy life and have no stress. Never retire! Always do something, teach kids, help others, but don't give up.

You were part of the first telecoms revolution, what will the second revolution look like?

It will be much more exciting and challenging. The first phase was about connecting people to talk. Not that long ago we had two million telephones in India, today we have millions of telephones. India is a country of a connected billion! That was

only for 'A' to talk to 'B', that is over. Now how do we use that technology to bring education to people, information on agriculture, financial services, how do we facilitate people's day-to-day lives? How do we bring knowledge to them? It is all about democratisation of information, that's the next revolution. A lot of poverty in the world is a poverty of knowledge. So if you can bring knowledge to people they can learn, they just have to be interested in learning. Empower people. There is so much to learn in this world and then you realise how little you know.

What would you like to see change in India in the next ten years?

I would really like to see a change of mind, a mind-set change. We are in a mindset from the 19th century. Everybody is arguing, everybody is blaming others rather than blaming ourselves. I think people need to search their souls. Am I a problem? Or am I a solution? I would like for people to revisit some of Gandhi's thinking, simplicity, truth, unconditional love, no anger, no

enemies. This stuff is simple, not complicated and it can be done - it's not rocket science.

“

Gandhi is my hero and his is the model we need.

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