**TEDx Talks**

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**Reverse Innovation**

Historically, multinationals innovated in rich countries like the US and sold those products in poor countries like India. Reverse innovation is doing exactly the opposite. It's about innovating in a poor country like India and selling those products in a rich country like the US. This may appear completely counterintuitive because if you think about it it's perfectly logical to see why a poor man would want a rich man's product. Rich man is driving a car, poor man wants a car. Rich man has a cell phone, poor man wants a cell phone. But it is not that logical to see why a rich man would want a poor man's product. That's the essence of reverse innovation. I contend this is going to be probably the most significant growth opportunity for American corporations going forward.

Why so? Reverse innovation has two components. First, you constantly export to poor countries or developing economies, you have to innovate there. That's step one. Step two is take those innovations and really bring them to rich countries. Why is this going to be a significant phenomenon? Let's look at some facts. What this block tells you is there are about 5.5 billion people in the so-called developing economies. That tells me developing economy is a bulk of the consuming base. The total size of these economies, the GDP of poor countries, is about 30 trillion dollars. Even if you apply a modest growth rate of 5%, you do the math. Five percent on 30 trillion is 1.5 trillion dollars of incremental growth. That's 1,500 billion dollars of incremental growth. Developing economies are huge. They have massive consumption base, but that still doesn't tell you why do you need to innovate there and we understand why.

You need to innovate if you look at another statistics which is what I have got here is GDP per capita. When you look at the GDP per capita, think about India. The GDP per capita in India is about three thousand dollars. The GDP per capita in the US is about fifty thousand dollars. There is no business model you created for middle America where the mass market per capita income is $50,000. You can go and try to capture middle India where the mass market per capita income is three thousand dollars. You have to innovate. What is happening is you can imagine it this way: in a rich country, there is one person with thousand dollars to spend and in a poor country there are thousand people, each have one dollar to spend. The total consumption is the same, but the fundamental difference is in the demand structure.

Let's take an example of how reverse innovation works. This is General Electric in their health care business. In the healthcare business, GE makes products like CAT scanners, MRI machines, ultrasounds, x-ray machines, and this one which is an electrocardiogram, an ECG machine. This machine probably costs about $25,000, and this comes with a very sophisticated custom printer because you've got to print the ECG that costs another $25,000. This is a $50,000 machine, extremely powerful machine. It has saved millions of lives. Now, GE used to sell this machine in India. Certainly there is 10% of hospitals in India who could afford to buy this $50,000 equipment, but the question is what about the remaining 90% of India. The remaining 90% of India is in rural India. They can't afford this $50,000 price tag. Not only that, in rural India there are no hospitals. That means the patient cannot go to the hospital, the hospital has to come to the patient. That means you got to take this machine and go door to door in rural India. This machine weighs 200 pounds, nearly impossible put it on your backpack and go door to door. But even if you manage somehow to take this machine in a bus or something to the village, this machine operates in-house current. In rural India, electricity is either unavailable or unreliable but even if you manage to find electricity, this machine is a very very sophisticated machine. It has to be operated by a very trained doctor. In fact, this machine comes with a 500-page users manual. In rural India, there are no doctors. But my point is still 90 percent of Indians also have heart attacks. We need to somehow find a solution. A couple of years ago GE innovated a $500 ECG machine which is called Mac India. Contrast five hundred dollars versus fifty thousand dollars.

In fact, in my way of thinking if you want to unlock urban India you better have a 10 percent solution. If you want to unlock rural India, you better have a one percent solution. That means if a product has $100 in the US, it better cost ten dollars in urban India it better cost one dollar in rural India. Not only that, this Mac India the five hundred dollar machine is extremely portable. In fact, it weighs less than a can of coca-cola. So, I can put it in my backpack and go door-to-door. Further this machine operates on battery which is extremely critical in rural India, and this machine is extremely easy to operate. Probably you can't quite see it, this machine only has two buttons. There is a green button and then there is a red button. You press the green button, it works. If you press the red button it stops. As long as you know how to read traffic signs, you should be able to operate this machine. My point is this is creating a whole new exciting market in India, but the real bonus is this machine is now currently being sold in 150 countries, including transforming health care in the richest country in the world the United States of America.

Now how is it creating growth in the US? Imagine there is an accident on a highway and an ambulance is going there. You can't put the fifty thousand dollar machine inside the ambulance, but I can put a pocket-size, an iPod size, five hundred dollar equipment into the ambulance. And also, imagine a crowded place in a hospital, for instance the operating room.

It's got the patient, the surgeon, the nurses, equipment etc., you can't bring a fifty thousand dollar equipment into the operating room, but I can bring this $500 ECG machine. Such examples are plenty, in fact the previous speaker talked about how pathetic the healthcare system in the US is. Take for instance some of the revolutions that are taking place in India. There is a hospital in India called Aravind Eye Care which does cataract surgery for $30, what probably costs $3,000 and upwards in the US. There is another cause hospital called NH Hospital which is doing open-heart surgery heart open heart surgery for $2,000, what might cost well over $100,000 in the US. Now this cost difference cannot be explained simply by labor cost differences between the two countries. This is about breakthrough innovation. In fact, even at such ridiculously low price points, the quality in these hospitals is world-class because poor don't want low-cost products they want value. NH Hospital for instance, one of the ways you measure quality in a heart bypass surgery is mortality rate thirty days after surgery. For NH Hospital, the mortality rate 30 days after surgery is 1.4 percent, the US average is 2 percent. So there are world-class quality at a very low price point. The beauty is innovation in fact NH Hospital for instance by world-class equipment what you're going to see in Mayo Clinic or Mass General is exactly what they have.

Then you may wonder with such world-class equipment costing very high prices how are they able to bring the cost down? They use it 500 times more. If you can use the same resource 500 times more, the cost of patient comes down.

 In fact, we have many many examples our breakthrough innovation in just about every sector. Given the lack of infrastructure in poor countries, they always leapfrog into the next generation of technology. We have seen this in telecommunications. There they have skipped landlines and gone to the cellular forms, but when they go to cellular phones, they are also able to innovate services which are built off the cellular platform like mobile banking like telemedicine. Or because China is brink building its energy infrastructure for the first time they leapfrog and become global leaders in renewable energy technologies like solar and wind. Or take a look at transportation. There is a company in India called Partner Motors which has launched the Tata Nano, the $2000 car. Think about the power of that innovation. If somebody told you 5 years ago you can actually make an internal-combustion driven automobile for $2,000, you will say get out of here. The cost of a DVD player in a BMW is a lot more than $2,000. Or take a look at ultra low-cost housing. I wrote an article 12 months ago about why can't we build a $300 house for the poor. My argument was based on, today in this world there are 75 million people who are homeless. 75 million. That's the size of the United Kingdom who sleep on pavements, for whom sky is the only roof. Is that really right? Even insects have home, is it not? Even a spider has a home, is it not? I say housing is a human right, and it has generated a global movement. The list goes on.

Unfortunately most corporations have divided the world into two. The world has seven billion people. They've divided into two: three billion who are rich enough, who can afford the products we make today, and the four billion poor we have left to charity to take care of, governments to take care of. This is an outmoded thinking. We have to bring the four billion poor into the consuming base. If you want to bring the four billion poor into the consuming base, you can't give the products the three billion rich are consuming you have to fundamentally innovate and my point is the innovations for the poor will come to transform the lives of the people in the rich countries, all the innovations in renewable technology. That's taking place in poor countries will ultimately rebuild the energy infrastructure in the US. If this is such a big opportunity, how will our American corporations position to capitalize on reverse innovation?

Unfortunately, they are not well positioned. In fact, most American corporations, especially winners, always struggle in emerging markets, and the reason they struggle in emerging markets is they use the American logic, the American mindset, the American dominant logic to unlock emerging markets. It doesn't work.

Let me give you an example. Kellogg's is a global leader in the breakfast cereal market, making brands like Corn Flakes. Kellogg's is a complete non-player in India, which is perhaps one of the largest and fastest-growing breakfast cereal markets in the world. And Kellogg thinks they have already innovated for India because in India they make the regular Corn Flakes, then they make banana Corn Flakes, then they make mango Corn Flakes, and they think they have innovated. But those of you who have gone to India are familiar with how Indians eat breakfast. For instance, Indians love hot breakfast. So you pour hot milk on your cereal. I don't care whether it is plain Corn Flakes or mango Corn Flakes or banana Corn Flakes, it becomes a mush. Who wants to eat that? The only Indians who are consuming Corn Flakes are Indians who live like Americans who pour cold milk on their Corn Flakes. A senior executive sitting in Chicago for Kellogg's might say well a small sales revenue in India is okay. Once Indians become more civilized they will come to my Corn Flakes.

My point is in a multipolar world who defines who is civilized and who is not. If American companies have to capture this enormous opportunity in reverse innovation then they have to fundamentally change their dominant logic. When you go to emerging markets, don't ask this question: what is the market for my transplanted global strategy? This is saying: how can I place my conflicts into the breakfast cereal market in India? You are lost. Instead, you should ask the question: what is the strategy for that market? Can I understand in a deep way what the customer problems are in poor countries? And then try to use my global capabilities to engage in fundamental innovation. We all know one thing, developed world has slowed down, and the growth is shifting to developing countries. But, if you want to capture that growth you must innovate, but you must have a different paradigm for innovation than what we have in the US. In the US, our paradigm for innovation is let's spend more money, and as the previous speaker talked about that's what we have done in healthcare. In order to solve healthcare problems, we say medical science and medical technology will push the frontiers of it, don't even ask about cost. It's not even a second consideration, it's the last. In the US, whenever we want to innovate we say you got the blank check, let's go spend money. In poor countries, you have to innovate by spending less money because they don't have a source. In fact, in poor countries you have to do a lot more with lot less. You have to offer a lot of value to the customer with very little costs. You have to do more with less, with lots of people there for the innovation paradigm has to change from value for money to value for many, and if you want to really provide value for many then you have to engage in frugal innovation.

In fact, Harvard Business Review press is going to publish a book called reverse innovation which outlines how do you exactly master this art, but here is the real scary thing if American companies don't do reverse innovation that doesn't mean poor people in poor countries are going to wait forever, some local company will do that innovation. When it does that innovation, they will come and disrupt American companies on our shore. By the way, the NH hospital that I was talking to you about the two thousand dollar open-heart surgery, as we speak, they are opening a 2,000 bed cardiac hospital in Cayman Islands, the largest cardiac hospital in the world. And Cayman Islands is a 60 minute flight from Miami to attend to the American patients at 40% of the cost that we pay here.

Reverse innovation is not optional, it is oxygen. It is the very oxygen which will fuel future growth for American companies in America. If America has to remain strong we have to be as curious about the problems of people in poor countries as we are about the problems of people in rich countries. Reverse innovation represents the most significant growth opportunity for America. Are American corporations ready? Thank you.