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Special Report

Festival of Thinkers: Looking to the Future

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Festival of Thinkers: Looking to the Future

The third Festival of Thinkers brings together an array of Nobel laureates, well-known intellectuals and students from the UAE and neighboring countries to celebrate what Sheikh Nahayan Mabarak Al Nahayan calls "the power and importance of thinking." Sheikh Nahayan is Minister of Higher Education and Scientific Research, and Chancellor of the Higher Colleges of Technology. The event, to take place November 1-4, 2009, in Abu Dhabi, focuses on nine themes that are key to shaping the future of the Middle East and the rest of the global community. The themes touch on such challenges as "Moving beyond the Global Crisis," "Envisioning Sustainable Development" and "Promoting Science and Technology." Additional topics to be discussed include world health, the globalization of culture and language, development economics and poverty alleviation, and military spending, research and innovation, among others.

In this special report , Knowledge@Wharton offers insights into several of the themes included in the Festival of Thinkers conference. Three articles look at the challenges of improving global health care, the ecological issues raised by the goal of creating sustainable social and economic development, and the outlook for global economic recovery. A fourth article is an interview with C.K. Prahalad, author of *The Fortune at the Bottom of the Pyramid* and a pioneer in the battle to end global poverty. Prahalad describes how his book — now in a recently published fifth-anniversary edition — has affected the behavior of companies and the well-being of consumers in developing markets.

Why Improving Global Health Care Is Everyone's Responsibility

Throughout the developing world, *infectious disease and chronic illnesses confront more than one billion people living in poverty. To make significant strides in global health, governments and for-profit and non-profit businesses must find a way to foster innovative, breakthrough solutions not only to treat illnesses, but also to improve the delivery of health care itself. Nobel Prize winners and global health care experts will be exploring these issues during a Festival of Thinkers panel titled, "*Future Well-Being: Towards a Healthier World."

In a world where advances in technology and ease of travel are continually eroding national boundaries, global health problems can rise up swiftly, threatening the lives and prosperity of vast populations.

Throughout the developing world, infectious disease and chronic illnesses confront more than one billion living in poverty. Rich countries face their own difficulties in finding ways to pay for sophisticated medical care. To make new strides in global health, governments and businesses must find a way to foster innovative, breakthrough solutions not only to cure or treat illnesses, but also to improve the delivery of health care itself.

Nobel Prize winners and experts in global health care will be exploring these issues during a Festival of Thinkers panel titled, *Future Well-Being: Towards a Healthier World.* "All of us are participants [in and profit from] globalization and enjoy global travel. We all must become more actively involved in global health issues by donating, advising and sharing responsibility," says Richard Ernst, the 1991 Nobel Laureate in chemistry. Ernst is among the Nobel winners scheduled to participate in the panel.

The magnitude of the problem is enormous and marked with glaring disparities. Sub-Saharan Africa alone accounts for 24% of the global disease burden even though only 11% of the world's population lives there. More striking, according to World Bank figures, Sub-Saharan Africa receives only 1% of global health expenditures. The World Health Organization estimates that basic health care would cost $35 to $40 per person in Sub-Saharan Africa, yet half of all health care in the region is paid for out-of-pocket by desperately poor patients. To begin to meet the growing health care demands in just this one region, an estimated $25 billion to $30 billion in new investment for hospitals, clinics and warehouses is necessary.

> Throughout the developing world, infectious disease and chronic illnesses confront more than one billion people living in poverty.

J. Robin Warren, who shared the 2005 Nobel Prize for Medicine and will participate in the panel, cautions that global health problems are not limited by geography. He points out that infectious diseases — including those that are now resistant to standard antibiotics — can spread across all nations in today's era of global travel and migration. If affluent countries, like the United States, fail to manage global health problems better, in another 50 years the world could have more levels of infection than 100 years ago, he suggests. "I think the American government should be prepared to buy drugs and give them to poor countries because the poor countries cannot afford to pay for [them]. The American government — for the good of America — could get diseases treated more efficiently. If the rich countries help the poorer countries, they are helping themselves."

Better Use of Resources

Neal Nathanson, associate dean for global health at the University of Pennsylvania's medical school, says the challenges to global health fall into three main categories. First are broad-based problems — such as pollution, overpopulation and strained resources — that affect the entire planet. When people lack basics, including food and water, they are likely to suffer health problems, he points out.

The second problem is economics. With 1.4 billion people living on $1.25 a day, according to The World Bank, poverty is a major factor in global health. "If that many people are living below the poverty level, the health budget is going to be miniscule and everything else that affects health will be less than optimal," says Nathanson.

The final impediment to improving global health is what Nathanson calls "social development." Non-economic concerns, such as literacy and women's rights, can help create a foundation for community-based health care systems even with limited financial resources. "You're not going to lift the poorest billion out of poverty overnight, but you can do a lot with social development. My sense is that social development is an area where one can intervene and do something that is practical rather than just hypothetical."

Nathanson says that while multilateral institutions, such as the World Health Organization and the United Nations, along with charities and foundations are attempting to alleviate global health problems, they often experience difficulty effectively allocating the resources they already have. In some countries, well-meaning organizations are working without licenses and coordination. "It's sort of chaotic," he says. "It's not just raising money, but making better use of the resources that are being poured in."

In many instances, the will and resources are in place to treat illnesses in the developing world, but countries lack basic infrastructure. Without roads, power, clean water and basic health care providers — including nurses — medicines and life-saving treatments simply can't reach the patients who need them, Nathanson notes.

Marjorie Muecke, assistant dean for global health affairs at the University of Pennsylvania's School of Nursing, says global health initiatives in the developing world are always looking for new ways to make the best use of limited technology and health care providers. In some cases, she says, countries are developing community health networks made up of volunteers, most of them women. Indeed, many of the volunteers are the wives of influential leaders in the community with the standing to make health care a priority. In India, nurse practitioners are being used in rural areas to help triage populations and identify patients who may need to travel for more advanced treatment in a doctor's office or hospital.

One challenge in global health care delivery actually has been created by well-meaning aid organizations, Muecke notes. In many poor rural areas, non-governmental organizations have come in and identified bright, promising local people, then hired them to run specific programs. While that is good for the individual endeavor, Muecke points out that over time this practice leads to a brain drain in local public health systems and government health ministries. "In the long run, it's a problem because the government's ability to carry out its responsibility in promoting health is undermined."

At the same time, however, health care personnel working in developing countries are finding innovative ways to use technology and increase the efficiency of available personnel, Muecke notes. For example, in some areas field workers are using cell phone cameras to photograph patients with certain diseases and then sending the photos to better-trained doctors for advice on additional care. "Poor people may not have a television or a computer, but they do have cell phones. We need to use technology in new ways so that we can spread the expertise of those who are expensively trained to far-flung populations."

Meanwhile, according to Festival of Thinkers panelist Myrna Weissman, professor of epidemiology and psychiatry at Columbia University, illness can have a strong impact on economic development in countries where there is little or no ability to provide health care. Depression is a major factor holding down progress in the developing world, she notes. While it might be somewhat more difficult to sift out the costs of depression and mental illness compared to other health problems such as infectious disease or malnutrition, the effect can be just as debilitating.

Weissman has done field work in Africa exploring treatments for depression among people caught up in civil wars or the HIV crisis. She says effective mental health programs take into account cultural sensitivities, but Africans respond to group therapy and other approaches used to combat depression in developed countries. "What's amazing is how similar people are. There are cultural differences in style, but not so many cultural differences in emotions." Weissman is currently preparing for a project in the Congo that will test the idea of providing small grants for mental health along with other forms of economic development aid.

As emerging economies such as India and China continue to build a functioning middle class, demand for health care is expected to rise rapidly. Wharton professor of health care management Mark Pauly says that with so many people in developing nations already paying a sizeable portion of their small income for health care, it might be possible to develop private insurance markets to reduce the risk of financial ruin if a family member becomes seriously ill.

Some countries, including China, have limited forms of government-run insurance, but Pauly says it is possible that a private market could evolve in poor countries where families now save up huge cushions to protect against illness or an accident that would require expensive treatment. Many economists argue that if China were able to better develop a social safety net that would protect its citizens against the risk of illness or outliving retirement savings, the country could begin to support a more vibrant consumer market. Growing consumer spending, in turn, could energize the Chinese economy and make it less dependent on export markets. At the same time, it would also provide new outlets for Western products and trigger overall economic growth.

According to Pauly, research indicates that only about 10,000 subscribers are necessary to build a viable insurance pool, particularly with health insurance because the science in place to predict the number of people who will become sick in a given year is well developed. "The whole point of insurance is that the premium is modest compared to what" a person would pay if he or she, or a family member, became seriously ill, Pauly adds.

Public-Private Partnerships

Despite the magnitude of the problems involved in improving health globally, some promising solutions are emerging, according to Stephen Sammut, a senior fellow and lecturer in Wharton's health care management department. Multinational pharmaceutical firms and emerging biotech companies, he says, have been on the leading edge of private sector response to global health problems in the developing world, while a number of new models are surfacing that may help provide solutions to the problems confronting the global health system.

Many of the ideas for addressing problems in global health care, he points out, rely on public-private partnerships. The effort to cure tuberculosis, malaria and other infectious diseases that kill millions across the developing world require both a push and a pull mechanism to engage the private sector in sustainable solutions.

Governments or foundations can provide some money to "push" discovery and development of drugs or vaccines to treat diseases in the developing world that pharmaceutical firms or academics would otherwise tend to ignore. However, companies need to know they will be rewarded if a cure or effective treatment is identified. "The amounts of money for the push are nowhere near what they would have to be to fully finance the development of the drug or vaccine," says Sammut. "There has to be some incentive beyond that."

The "pull," he adds, can be generated through a number of public-private partnerships that seek new ways to create viable markets for innovative health care products and services. One example is Product Development Partnerships (PDPs) — not-for-profit, virtual research and development organizations designed to accelerate the introduction of new products through a portfolio of partnerships engaging industry and academia. The Bill and Melinda Gates Foundation is involved in partnerships focused on HIV/AIDS, malaria, respiratory infections and the discovery of new diagnostic tools.

Another idea revolves around Advanced Market Commitments (AMCs), which create a guaranteed market for private sector companies that come up with a new drug or treatment for an unmet need. Donors, such as UNICEF or governments, contract to pay for a vaccine or treatment up front. "The general concept is to address the so-called market failure with funds to push development," says Sammut. "The pharma company still takes on discovery and development, but knows that in the end there's going to be a market."

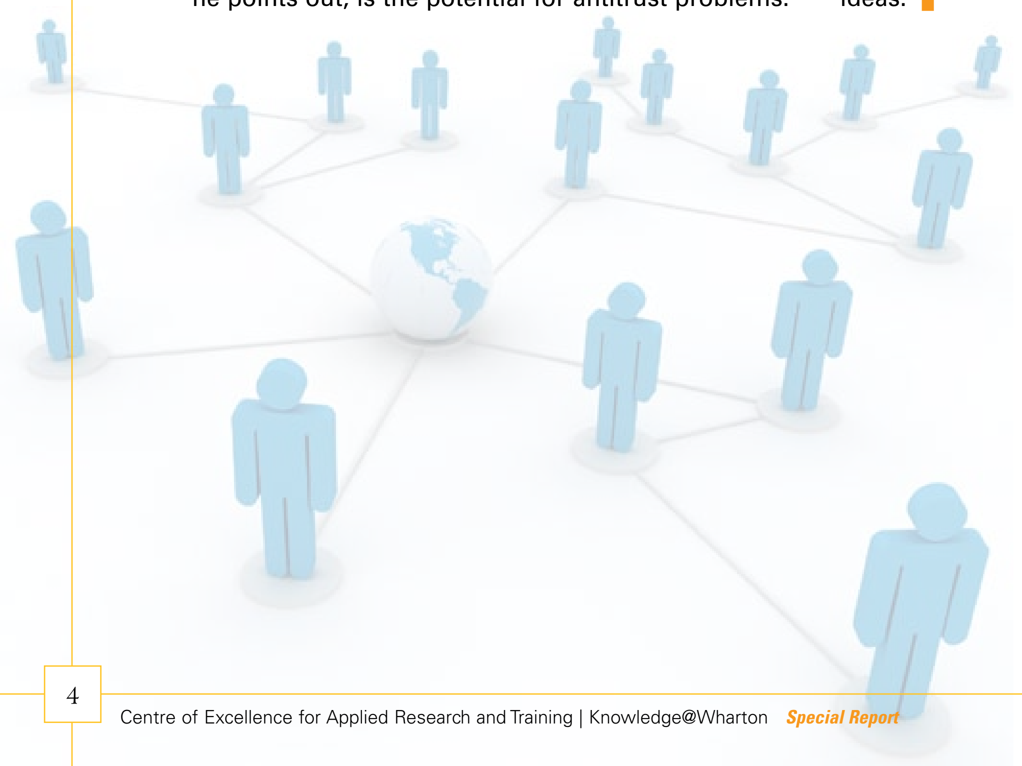
Priority Review Vouchers (PRVs) are one more emerging solution, this one coming out of amendments in 2007 to legislation governing the U.S. Food & Drug Administration (FDA), which grants approval for new drugs and treatments. The FDA can now offer a company speedy approval of one drug in return for the company's pledge to underwrite development of a less-profitable product that might be used primarily in the developing world. Under this system, a company could earn a voucher by investing in treatments for a neglected disease, then use that voucher to jump ahead in the approval process with a drug that would be highly successful in the developed world. Sammut estimates the voucher can trim four to 12 months off FDA approval time and generate value ranging from $50 million to $600 million. The FDA issued its first PRV to Novartis Pharmaceuticals for an antimalarial drug.

Intellectual Property Pools (IPPs) are an additional way to engage the private sector in developing products for poor countries. The pools are an agreement between at least two companies to cross-license patents in order to find new treatments more quickly. In 2005, a patent pool was formed by companies active in Radio Frequency Identification (RFID). The hardest part of managing a patent pool is sifting through the portfolio of technologies available, Sammut says. Another obstacle, he points out, is the potential for antitrust problems.

In March, GlaxoSmithKline (GSK) announced it would create a patent pool that would provide other companies access to GSK intellectual property to treat 16 neglected diseases identified by the FDA.

Finally, licensing of patented products for production by low-cost generic manufacturers is another way in which companies can help solve global health problems, while also remaining profitable. Governments in some countries have initiated compulsory licensing of products for dire problems, such as HIV/AIDS, that override international trade rules protecting intellectual property. Sammut points to the idea of voluntary licensing, which would permit a company that takes on development risk to partner with a generic firm and retain some piece of the business. Even if the generic is sold at a lower price than the branded pharma company would charge in mature markets, voluntary licensing might generate more sales than would occur if the product were not sold in the developing countries at all. The U.S. biotech company Gilead Sciences has licensing agreements with 10 Indian manufacturers and one in South Africa for distribution of HIV/AIDS treatments in 95 low-income countries. Gilead receives royalty payments of 5% on the finished products.

Sammut says these new partnership models do not necessarily build on one another in an evolutionary fashion, but represent alternatives that can be tailored to suit specific conditions in countries or within companies. Different aspects of the overall global health care challenge, he notes, stand to benefit from "the creativity of every one of these ideas."



The Post-recessionary Global Economy: In Search of the New Normal

The days of loose rules, easy credit

and lax oversight, which led to excesses on many fronts, are ending. As the global economy climbs slowly towards recovery, two pressing questions remain: First, how do we prevent things from getting out of control again? And second, what is the so-called new normal? Speakers at the Festival of Thinkers in Abu Dhabi and experts at Wharton weigh in on both issues.

Following the tumble of the world economy over the past two years, governments rushed to prop up shaky financial institutions and major corporations with infusions of cash. In some cases, the Fed and the Treasury department arranged corporate marriages. Regulations, along with belts, were tightened. After Lehman Brothers was allowed to fail, a sobering picture emerged. The days of loose rules, easy credit and lax oversight, which had led to excesses on many fronts, had to end.

In the midst of it all, the world financial picture was already changing significantly. The U.S. was losing stature as the model of fiscal responsibility; the weakening dollar was losing luster as the standard reserve currency; and the growth of emerging markets was showing a strength that demanded greater attention.

As the global economy climbs slowly toward recovery, two pressing questions remain: How do we prevent things from getting out of control again, and what is the so-called new normal? "The financial crisis of 2008-09 has created unprecedented opportunities for companies that have tightened their operations, reaffirmed their resolve and readied themselves for an anticipated global rebound," notes Michael Useem, director of the Wharton School's Center for Leadership and Change Management. "With their already more vibrant economies, companies in Brazil, China, India, and Middle East that have strong leadership may be especially well positioned for taking advantage of the global recovery that we all hope will come soon."

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—Michael Useem, director, Center for Leadership and Change Management, The Wharton School

Market Decisions

For investors who had always counted on the robust performance of U.S. equities, the outlook has clouded. Treasury and bond markets offer greater safety although less growth potential. Meanwhile, international investment has been assuming a larger role.

According to Jeremy Siegel, professor of finance at Wharton, the future is clear. "I believe that most economic growth is going to be outside the U.S.," he says. "Global equities are now more than 50% of world equities, so it's an extremely important part of any investment strategy that you globally diversify and have a large fraction of your portfolio *not* from U.S.-headquartered firms."

What about the inherent risks of political instability and currency fluctuations abroad? Should one pick and choose by region? "You can't hold just one and try to pick the winners," Siegel advises. "You have to go all across: Europe, South America, Asia. And then you don't have to worry so much about political instability, because in one country there may be instability, but if you're diversified, it won't affect your portfolio significantly.

"The way we diversify today is where the corporation is headquartered: Obviously that's only one criterion, and you could take [as another criterion] where they're actually selling or producing.... When you buy an India fund, for instance, you are investing in companies that are headquartered in India, although they may be producing in China and selling in the United States," Siegel adds. He recommends building a global portfolio, not so much in bonds, but with a large fraction — say 40% to 50% — of foreign-headquartered companies.

Regardless of where economies are stronger, what assurance do investors have that markets operate with any rationality? Some have blamed the recession on the efficient market hypothesis (EMH), which theorizes that all available information is automatically priced into the market. "I would say there are market failures, and that's the problem," argues Franklin Allen, a finance professor at Wharton and co-director of the Wharton Financial Institutions Center, who has pointed out the EMH's inadequacy. "The structure of the markets is such that [they] aren't efficient. It's not that people are behaving irrationally, although that may happen."

Allen has attributed some of the market failures to mispricing, particularly of esoteric bundled loan products — collateralized debt obligations, for example — whose true nature was often misunderstood even by those selling them. "It would be better if we could somehow make these markets more liquid. More transparency [in the marketplace], things like that, would be helpful," Allen suggests. In this way, more buyers would be willing to enter the market. Along with transparency, Allen says, we need "some standardization of the securitization process, making it easier to check what you're trading."

In answer to the question of what more should be done to fix the broken financial system, Allen responds, "We need to change banking regulations and the way that banks are treated if they go bankrupt and have to turn to the government... I think we need to have a financial stability mandate for the Federal Reserve. And we need to reform the International Monetary System." Allen adds that the new world financial order will not affect the position of the Middle Eastern countries very much. "There is a possibility that Saudi Arabia could lose its Board Seat at the IMF but I think that will probably not happen," he notes.

Mauro Guillén, Wharton professor of international management and sociology and director of the Lauder Institute at Penn, points out that other countries have withstood the financial crisis better than the U.S. "There are different ways of organizing a financial system and how it relates to the real economy," he says, citing particularly Canada, "which has a very solid financial system, less complex than the American system, and Canada's banks have withstood the crisis really well."

The reason is, "They have one single regulator for the whole banking system, which is absent in the U.S." Guillén thinks this is a very important lesson — "that it does pay to simplify the system in such a way that we have one agency which is responsible for the banks." He also cites the Spanish system, which in 2001 started to "force banks to make more provisions toward bad loans when the business cycle is booming," rather than waiting until the loans become non-performing. This smoothes out the provisioning over the entire business cycle.

Guillén thinks one of the most provocative suggestions that came from a course he and Allen taught in the spring of 2009 was "the idea that maybe the U.S. should have a state-owned bank, which would be small when things were going well, but could take on bad assets from the private sector when times are bad. That way, you are prepared to do something about it."

Guillén adds that the new financial order that may emerge from the crisis will probably eliminate the huge imbalances in the global economy in terms of current account deficits. "The Middle East is a region that 'exports' capital because it earns a lot from exporting energy," he says. "This is unsustainable. Over time, Middle Eastern economies need to develop their internal markets so that more people import goods and services from other regions and there is more of a balance."

Corporate Decisions

As financial institutions inevitably reached crisis mode, the management ranks were in upheaval. Many CEOs resigned or retired early, exhausted by the struggle to shore up their firms or pushed out by angry shareholders and disenchanted boards.

In such a volatile economy, deft management decisions, as well as steady hands on deck, are vital to corporate survival, let alone recovery. If management's failure to read the signs of impending catastrophe is a contributing factor, what can management do to avoid the same future?

Useem believes the crisis offers several object lessons. "First, by surviving a crisis, you're better prepared to face the next one; second, failure is a better teacher than success; and third, overconfidence can blind you to potential pitfalls, like assuming too much risk."

Although some people seem to be born leaders, Useem asserts that good leadership skills can be learned. "We want people to think strategically," he says, "like the chess player who can see 20 moves ahead. We want people, even in mid-level positions, to think more broadly, [asking themselves,] 'If we do what we're doing now, could this put the company at risk?'"

This requires developing extra sight, what Useem calls "peripheral vision," after a book of that title by Wharton marketing professor George S. Day. It's "an ability to look sideways and see weak signals that are coming in that are important, as opposed to just noise, the kinds of things we see and quite properly ignore."

Training is crucial. Too often, Useem notes, "We simply say, if you're good as an engineer, you can run an engineering team; if you're good at banking, you can run a banking division. And, for me anyway, it's very important that those in financial services redouble their efforts to build training on how to lead, how to make good decisions, and how to manage risk."

As financial systems and corporations become increasingly complex, one CEO cannot be expected to know it all. Building a team with specialists who can share their knowledge will be important as well. "Having a lot of smart people with a good ability to make judgments to add to your own skill set — if you don't understand how to do an acquisition and somebody else does, for example — that actually makes you look smarter. You have the resources," Useem says. "And just like leadership, teamwork is not all that natural either. That's a trainable, teachable skill set," so that team members won't be scrambling over one another. "There's a Shakespeare phrase, 'All be ready if our mind be so,' [meaning] we're ready to face a battle, a crisis, a tough quarter, if we've already put in place our leadership created in the kind of teamwork we're going to need. You have to do that before you need it; it's almost a dictum out there."

Cultivating Resilience

This management division of labor may be the backbone of a strong corporation. But how does it play out in the wider economy, across companies, institutions and governments, all of which had a role in helping to pull us out of the most recent crises? To manage such large, complex challenges, you need resilience, according to Frederick Presley, president and co-founder of PathTree, a non-profit organization dedicated to providing educational tools and processes to teach people about the importance of whole-systems living.

Presley defines resilience as the ability "to anticipate change, to respond to change, in a very positive and proactive way, as opposed to what we tend to do now, which is a more linear approach. Instead of proactively transforming with change, we tend to react after it's already occurred.... Resilience is about being more open and receptive to what's going on, because you have a whole-systems view."

Attacking economic crises piecemeal after they have flared up is a mistake, he says. For example, as Allen notes, "The government's plan [to absorb the banks' mispriced assets and soured loans], was to step in and buy [them], but they never have managed to get that off the ground. It's very difficult to know how they should deal with that problem."

The approach Presley promotes is to see problems as part of a natural cycle. Natural systems "have what's called 'natural adapted to clime,' that whole idea of conception, birth, life, death [as the] natural state. In all natural systems there's that flow where you have this kind of growth, this time of conservation, and this release and rethink that happens.... And it's not just natural systems; all systems go through that."

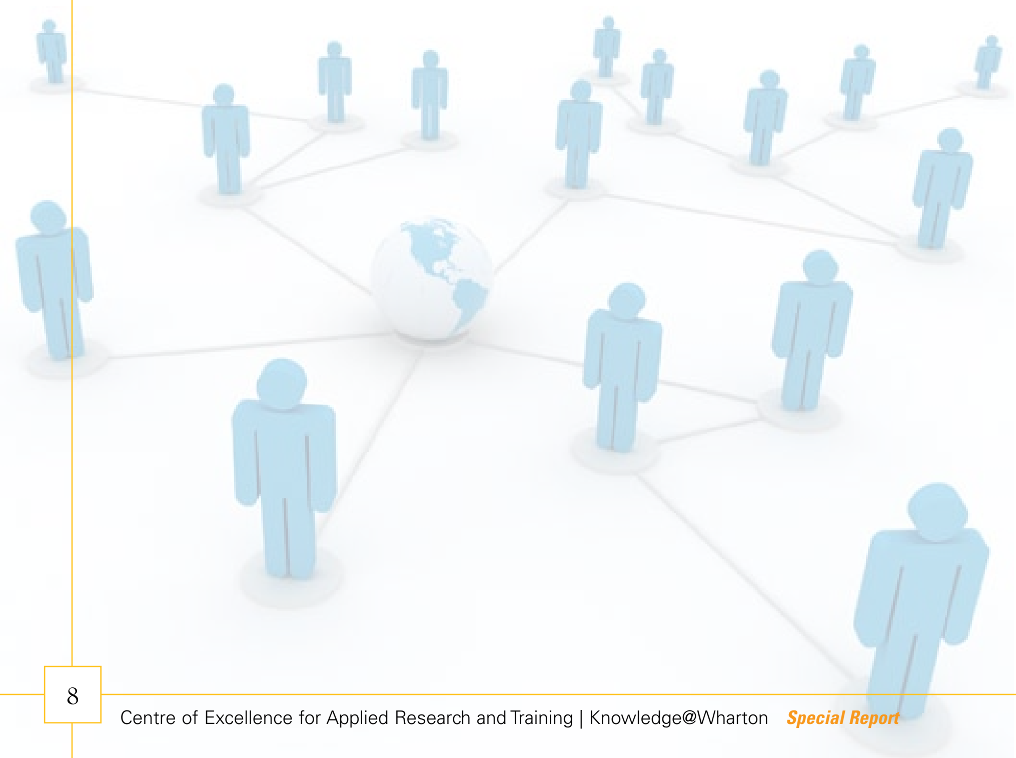
Where the present institutions and governments err is in trying to hold conditions in stasis. "We ... try to manage that point of growth and conservation and hold it for as long as we can. And I think that's what we saw with the economy. During that whole period we were dropping interest rates and trying to hold onto that gold ring, not allowing that natural release and rethink to occur."

Overall, Presley sees the economic crisis as just one global shock, interconnected among many others, including environmental degradation, climate change and population shifts. "We have to embrace the complexity and not try to downplay it or try to manage away from it," he says. Solutions must to be found urgently, but he is hopeful they can be if organizations on the level of the G-20 or the United Nations can cooperate and embrace whole-systems thinking.

Presley is participating in The Festival of Thinkers, sponsored by the Higher Colleges of Technology, United Arab Emirates, November 1-4, which draws together people from many fields of expertise to discuss complex issues. "That's really the core of what we promote at a very base level. Getting different views from a different topic or a different condition and understanding them deeply and mutually coming to some kind of conclusion about where we are."

On a global level, Allen is less sure that nations will be able to come together on a plan for the global economy. The G-20 Summits aside, he says, "My guess is we won't do very much, because there's no consensus on what should be done, so I think we'll be back in a 19th-century world where these crises occur, on average, every decade or so, or maybe quicker than that."

Guillén believes it will take a while for the world economy to unwind from the crisis. The high level of unemployment and the banks' undigested toxic assets will be drags on the economy for some time to come. "It's likely the economy will start to grow again in the next few months," he says, "but I don't think it will be strong enough to reduce unemployment and go back to the previous situation." It may take a year or two before the economy will be going reasonably well; for the larger banks, the recovery may take even longer.



Our Endangered Planet: How to Protect and Promote Sustainable Development

In the words of economist Jeffrey Sachs, *"Our generation's unique challenge is learning to live peacefully and sustainably in an extraordinarily crowded world." The concerns raised by Sachs and many others will be addressed during a Festival of Thinkers panel looking at ways to achieve sustainability in the face of dwindling resources, continued poverty, civil wars and climate change.*

The title of an upcoming Festival of Thinkers panel, "Future Resources: Envisioning Sustainable Development," only begins to hint at the broad range of interconnected subjects that go into any discussion of sustainability — ranging from ecological concerns and population control to economic disparity and social disruption.

Panelists include Rajendra Pachauri — chairman of the Intergovernmental Panel on Climate Change (IPCC) and co-winner of the 2007 Nobel Peace Prize, shared with former U.S. Vice President Al Gore — and Mike Moore, whose tenure of almost 25 years in the parliament of New Zealand included two months as prime minister. He also served as director-general of the World Trade Organization (WTO) from 1999 to 2002, and has authored several books. His most recent one is titled, *Saving Globalization: Why Globalization and Democracy Offer the Best Hope for Progress, Peace, and Development.*

"Humans have now organized a highly complex system, increasingly globalized in nature," the Festival of Thinkers panel description reads in part. "Components of this system range from economic [to] ecological to social — each component being interdependent on the other. But how sustainable is this system? For how long will the fundamentals needed for the continuation of humanity exist? Threats to the planet and the current systemization are many [and include] the high rate of use of non-renewable energy sources, the number and size of violent conflicts, poverty traps, the changing climate of our planet, population growth and the degradation of our land and sea resources."

Pachauri discussed a similar nexus of issues on October 3 when he joined a panel at Columbia University titled, "Copenhagen, India and the U.S: From Conflict To Cooperation." The event focused on "issues arising from conflicting positions of India and the U.S. on the approaches to the proposed Copenhagen Treaty" and was the first organized under the auspices of the newly constituted Independent India-U.S. Task Force on Design of the Climate Change Treaty (Kyoto II or Copenhagen I). The task force was founded by Jagdish Bhagwati, a professor of economics and law at Columbia, who served as both participant and panel moderator at the Columbia event.

The panel title refers to the United Nations Framework Convention on Climate Change (COP15 — the 15th Conference of the Parties under the United Nations' Climate Change Convention)

For how long will the fundamentals needed for the continuation of humanity exist?

which will be held in Copenhagen, Denmark, from December 7 to 18, 2009. Delegations from some 192 countries will be in attendance, along with a variety of non-governmental organizations (NGOs), intergovernmental organizations (IGOs), observer organizations and United Nations agencies.

The goal of COP15 is "...to stabilize the amount of greenhouse gases in the atmosphere at a level that prevents dangerous man-made climate changes ... in such a way as to give the ecosystems the opportunity to adapt naturally. This means that food safety must not be compromised, and that the potential to create sustainable social and economic development must not be endangered."

'Stocks' and 'Flows'

Observers hope that COP15 will yield a successor agreement to the Kyoto Protocol, but some of the same issues that hampered that proposal have already threatened to derail any agreement that might be made in Copenhagen. The Columbia panel's focus on the conflict between the U.S. and India encapsulates the core issue that has stymied progress on climate issues for more than a dozen years.

Adopted in Japan in December 1997 and brought into force in February 2005, the Kyoto Protocol committed its signatories — 37 industrialized countries and the European community — to a series of binding greenhouse gas emission reductions between 2008 and 2012.

India and China ratified the protocol, which did not bind them to emission reduction obligations. The American delegation signed the protocol but the U.S. Senate never ratified it — a rejection based in part on conservative skepticism about the scientific validity of global warming, and in part on concerns that the protocol would put the U.S. at a competitive disadvantage if the country were compelled to transition to alternative energy sources.

At the Columbia panel, Bhagwati set the framework for the discussion by characterizing the climate change policy quandary as an issue of "stocks" and "flows." Over the past century and more, he noted, the U.S. and Europe have industrialized and grown wealthy at the cost of emitting a large percentage of the "stock" of greenhouse gases currently changing our climate. At the moment, however, rising industrial and economic powers — with China and India at the top of the list — are drastically increasing their "flows" of greenhouse gas emissions (although starting from a much lower per capita base). China, for example, recently surpassed the U.S. as the largest emitter of greenhouse gases.

Pachauri noted that, as in the U.S., serious political obstacles exist to India's controlling greenhouse gas emissions. In the world's most populous democracy, he pointed out, some 400 million people lack access to something as basic as electricity for lighting. He also stressed that India was unlikely to change course or to enter into serious commitments until it was clear that the countries responsible for the current "stock" of greenhouse gases were taking serious and sustained action to mitigate their own emissions.

He was optimistic, however, that COP15 would be a positive step toward putting both the developed and developing countries on track to make the necessary reductions in greenhouse gas production. He also expressed confidence that India's apparent recalcitrance on the issue of accepting binding emission targets would soon soften.

The evidence supporting this contention — both in the preceding months and in the weeks that followed — is mixed. This July, during a visit to India by U.S. Secretary of State Hillary Clinton, Environment Minister Jairam Ramesh reiterated what has been Indian policy for almost two decades — that India would not accept legally binding limits on greenhouse gas emissions. "Even with 8% to 9% GDP growth every year for the next decade or two, our per capita emissions will be well below developed country averages," Ramesh said. "There is simply no case for the pressure that we, who have among the lowest emissions per capita, face to actually reduce emissions. And as if this pressure was not enough, we also face the threat of carbon tariffs on our exports to countries such as yours." More recently, the government has argued that it could only limit emissions with financial and technological support from the developed nations.

A few weeks after the Columbia panel, the Indian government reversed course. In a letter to Prime Minister Manmohan Singh, reported in the *Times of India*, Ramesh wrote: "The position we take on international mitigation commitments only if supported by finance and technology needs to be nuanced simply because we need to mitigate [emissions] in self-interest." Scant days after the public leaking of Ramesh's letter, there was a backlash in India. Senior members of the country's climate negotiating team threatened to resign and the Prime Minister rejected the concessions Ramesh appeared prepared to make.

The Economic Times quoted Chandrashekhar Dasgupta, one of the key negotiators, as saying that "It is now clear that the document in question is only a note for discussion, not official policy. It has also been clarified that there will be no shift except on the basis of consensus and with the sanction of Parliament. This is most appropriate since our climate change policy has always been based on a national consensus."

How much of this conflict represented genuine differences over policy and how much had to do with negotiating leverage for the coming conference is an open question. The *Times* article hinted in the direction of the latter explanation, noting near its conclusion that, "Damage appears to have been done in terms of the elbow room that negotiators will have."

The Columbia panel was rounded out by Thomas Schelling, who shared the 2005 Nobel Prize in Economics with Robert Aumann for "having enhanced our understanding of conflict and cooperation through game-theory analysis." Schelling did crucial work, between 1948 and 1953, in implementing the U.S. Marshall Plan in post-War Europe.

His approach to the problem of the impact of climate change on developing nations — which he sees as under far greater threat than the advanced industrialized countries — mirrors the strategy he helped develop for the Marshall Plan: He proposes that the richer nations create a pool of money to help the poorer countries both adapt to change and also develop and implement cleaner energy and industrial technologies. However, he goes on to suggest that the sharing of that money between the dozen or so most important developing nations should be a decision made by those nations themselves, with the aid of a mediator, rather than having those decisions imposed from the outside.

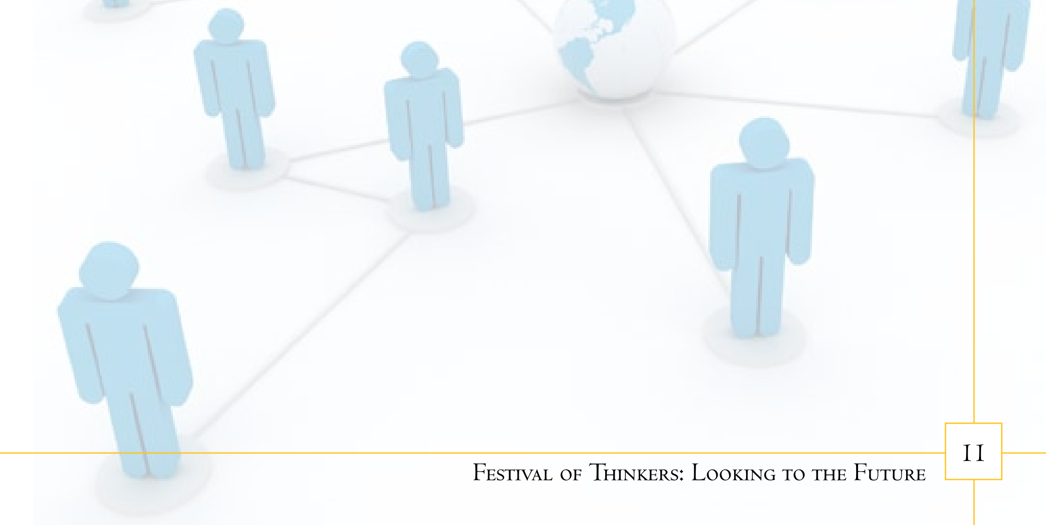
The impact of climate change on poorer nations, Schelling argued, will be particularly dire in the area of food production. He pointed to changes already visible in the Himalayan glaciers which feed most of Asia's rivers, on which the irrigation systems — and thus the food supply — for a third or more of the world's population rely.

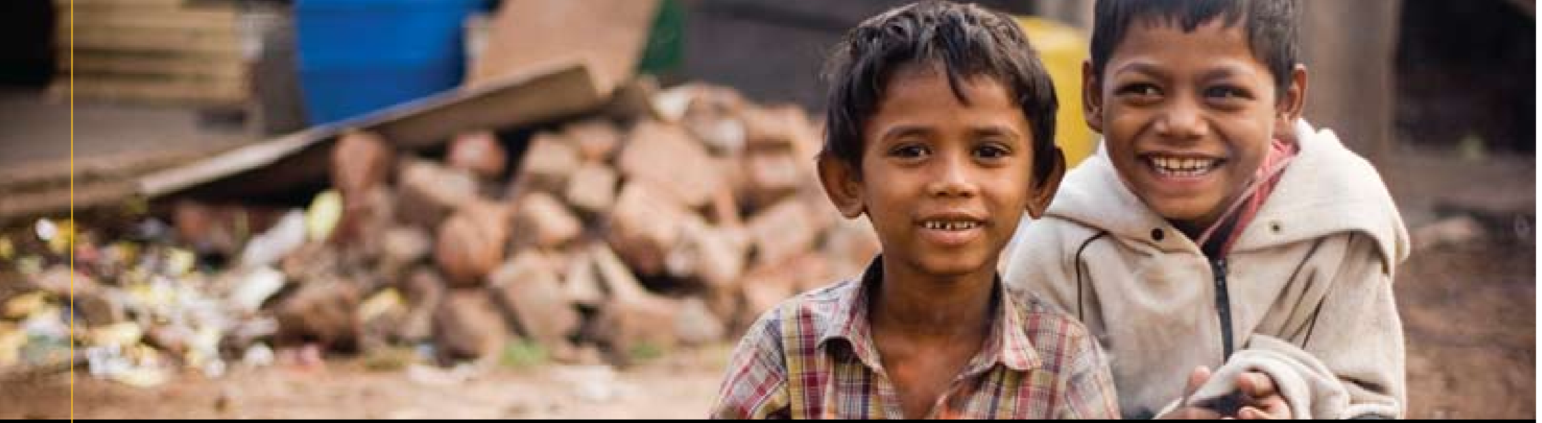
Globalization: Both the Problem and the Solution

Moore has long been an advocate for the argument that globalization and free trade are the most efficient mechanisms for lifting the greatest number of people out of poverty at the greatest speed. Two months before he became WTO director-general — during a fierce battle for the post, against Supachai Panitchpakdi of Thailand, who ended up succeeding him — Moore made a speech in Wellington, which amounted to a statement of principles. "If people, especially young people, say unemployment is too high, they are right. If environmentalists say that growth must be sustainable and not destroy the planet's essential equilibrium, they are right. When developing countries say they are not getting fair access and justice, they are right."

For a number of years now, Moore has been speaking and writing about the link between poverty, food and energy production. He has referred to biofuels programs in the developed countries — which reduce the supply and increase the cost of corn used for food or animal feed — as "a populist green response to global warming that does the opposite of what was intended." He also considers the actions of richer countries that buy up farmland in poorer countries to be a form of neocolonialism.

Moore has sought to make sure that free markets don't overwhelm sovereign governments. Pachauri has sought to find a sustainable middle ground between the urgent need of almost a third of the world's inhabitants to escape grinding poverty and the imperative that we first stop and then reverse the grave damage that unbridled industrial development has wrought. "Our planet ... is bursting at the seams in human terms, in economic terms, and in ecological terms," notes the introduction to the Festival of Thinkers panel, quoting economist Jeffrey Sachs. "Our generation's unique challenge is learning to live peacefully and sustainably in an extraordinarily crowded world."





How Bottom of the Pyramid Strategies Are Paying Off in the Battle to End Poverty

Poverty alleviation and development economics are crucial themes at the 2009 Festival of Thinkers. A background document for the session defines poverty as the "condition of lacking basic human needs such as nutrition, clean water, healthcare, clothing and shelter because of the inability to afford them." The United Nations, as part of its Millennium Development Goals, has set a target to halve, by 2015, the number of people around the world living on less than $1 a day. The global financial crisis, however, has had a dramatic impact on this process, and the number of impoverished people is likely to be higher by at least 55 million than was previously expected.

The strategy of encouraging companies to generate profits by producing goods and services for consumers at the Bottom of the Pyramid (BOP) has emerged as an important weapon in the battle to end poverty. C. K. Prahalad explained this strategy in a book published five years ago titled, The Fortune at the Bottom of the Pyramid, *in which he argued that multinational companies can make money selling to the world's poorest. Key to his argument for targeting the world's poorest is the sheer size of that market — an estimated four billion people. How has Prahalad's book — a revised, fifth-anniversary edition of which has just been published — affected the behavior of companies and the well-being of consumers in the years since its publication? Knowledge@Wharton checked in with the author for an update, including examples of specific companies that are implementing Bottom of the Pyramid strategies.*

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Below is an edited transcript of the conversation.

Knowledge@Wharton: In the five years since *The Fortune at the Bottom of the Pyramid* was published, what impact have your ideas had on companies and on poor consumers?

C.K. Prahalad: The impact has been interesting and profound in many ways — much more than one could have expected. For example, several of the multi-lateral institutions — The World Bank, UNDF [United Nations Development Fund], IFC [International Finance Corporation] and USAid — have fundamentally accepted the idea that involvement of the private sector is critical for development.... I asked 10 CEOs of companies as diverse as Microsoft, ING, DSM, GSK and Thomson Reuters to essentially reflect on whether the book has had some impact on the way they think about the opportunities. Uniformly, everybody — whether it is Microsoft or GSK — essentially says not only that it has had some impact, but that it has changed the way they approach innovation and ... new markets.

I also asked people to update the case studies that were in the original book. It was a pleasant surprise for me that almost all of them had grown, improved their offering and were doing quite well in this marketplace. I wrote a new introduction on what the lessons are that we have learned. So while the issue of poverty still remains — and is not going to be solved in the next 10 years — the active involvement of the private sector and its role in poverty alleviation ... have been quite surprising. And we shouldn't forget it is just five years old as an idea.

Knowledge@Wharton: We will come back to the major lessons in a minute. But could you share some of the most significant examples of companies that have employed your principles during the past five years?

Prahalad: Take, for example, the whole idea of Netbooks — a $200 computer that is selling like hotcakes in the United States — more than two million sold last year. The original idea was to have a suitable, reasonably sophisticated laptop for poor people in countries like India. So that idea not only is going to work in countries like India, it is also traveling back to countries like the United States and having a spectacular success. There are many, many stories like this of innovations coming from BOP ("Bottom of the Pyramid") influencing what is happening here and suddenly influencing BOP market opportunities.

Knowledge@Wharton: Could you now talk about the major lessons companies have learned through serving poor consumers?

Prahalad: I think when the book came out five years ago, there was a fair amount of skepticism — and rightly so. People could not just dismiss the idea; they knew that it was an interesting and a different one, and they could not walk away from the compelling videos and the stories in the book. Still, there was some skepticism about whether this was going to work. In a very short period of five years, many of the concerns have been put to rest. I can illustrate it with a simple example of one industry, which has broken many of the myths and cleared the way for profound rethinking about the opportunities at the bottom of the pyramid. What I have in mind is the wireless cellular phone industry.

For the first time in human history, four billion people are connected. Now, of course, when you talk about four billion of the total six billion people, it is a large number. Maybe two and a half billion people are BOP consumers as described in the book. So the first thing that has happened is this dramatic shift in the use of cellular phones and the dramatic build-up of subscribers. It is taking place across the world — sub-Saharan Africa, South Africa, Latin America, India, Southeast Asia, and China. All the companies in every one of these areas — Celtel, Safaricom, MTN, Airtel, Reliance, Globe — all of them are making money. So the first lesson here is if you can find the right sweet spot in terms of business models, there is a really huge and very profitable opportunity.

For example, India alone is creating more than 12 million subscribers per month — not per year but per month.... The second [concern] that people had was, can poor people and possibly illiterate people adopt new technologies? Do they need new technologies? Cell phones have again shown that the rate of adoption of this technology has been spectacular. People just understand how to use it and they are using it to good advantage. Third, in order to participate effectively, fundamentally new ecosystems are being created, including business model changes. For example — pay per use — prepaid cards — has become the norm in most parts of the world. We are moving away from average revenue per user, which has been the core metric of this industry for more than 50 years, to profitability per minute of cell phone time.

We are also moving away from very intensive business call carriers to very low capital intensity to building alliances and partnerships. For example, Airtel in India has outsourced its IT networks to IBM and its capacity to Ericsson and Nokia, and it has built a large number of application developers. So, essentially, if you look at what has happened, Airtel has found a way of converting its fixed costs into variable costs and creating an ecosystem that dramatically reduces capital intensity. The most important of all these is the creation of very large pools of micro-entrepreneurs — small shops which download minutes to your phone, which allows you to charge your phone. Lots of entrepreneurs are being created.

And, finally, we find that BOP markets can be an extraordinary source of innovation. If I look at Safaricom — with the M-PESA, which stands for Mobile Cash — it is allowing poor Kenyans, who do not have access to banks, to transfer money from A to B by text messaging. So you go to an agent. You pay them money and receive e-mobile money or e-money, which you can text to your friend. And he can go with an encrypted message and pass that text and collect real cash. This is not a small business. Seven million consumers are involved. On average, every day, there are a million transactions of $20-$25 per transaction — a total of $20 million to $25 million every day. This is bypassing banks. In the same way, if I am a Filipino maid working in

Singapore, I can send money to my grandmother at home through an SMS message. Fundamental new applications are also being developed so that BOP is not only a source of markets for micro-consumers. There are also lots of innovation opportunities. So just taking one industry, we are now able to see what a profound impact an understanding of ... BOP markets can have.

Knowledge@Wharton: Where do you see this trend of using mobile technology creatively going in which mobile services can be harnessed to serve poor consumers in various ways?

Prahalad: I think mobile is going to be in public health and education — in managing pandemics like SARS and swine flu. It is going to be in entertainment — in video games and a wide variety of other things that use the mobile platform. Video gamers are now [asking], "Why can't I download, not necessarily every complex game, but most of them, why can't I create a seamless integration of my play at home in front of a PC and also on the go, where I can play with the mobile platform?" This is becoming a major opportunity for video gamers.

And so it is for education. There is absolutely no reason why we cannot mobilize everything from simple additions to multiplications and so on. [We could] teach children how to learn by themselves on their mobile phone and take tests remotely which are measured. Feedback is given to them, and if they don't pass the test, you start all over again.

I see infinite possibilities, and I believe a lot of these innovations are going to come from BOP markets because there is a necessity there.

Knowledge@Wharton: What major obstacles do companies face when they try to implement BOP strategies?

Prahalad: I think there are three types of problems. The first is mental. If you start by saying, "Poor people don't have money; therefore, they cannot be our consumers," you already have a big impediment. Sometimes it is useful for us to go back to our own history and ask the question. The Singer sewing machine used to cost $100 and the poor in this country could not buy it, so they came out with a $5 a month payment plan. The rest is history. Singer became the first global company out of the United States. The same thing happened with the Model-T automobile. Making a car for $200 enabled farmers to move out of villages and then to travel to small towns and so on. So the first hurdle is mental. It is not how much income people have — it is how to create a capacity for them to consume. That means we have to change from a mentality of "my current costs plus profit equals the price" to a much more consumer driven "price minus profit must equal cost." That means you start with affordability.

The second impediment is the assumption that we can take existing products and somehow sell them in these markets. [That] is unlikely to work because I think we need to fundamentally understand consumer needs. If you focus on that, many times you can improve upon existing products in the West. Let me give a simple example. GE has been in the game of producing EKG machines for a long time. They sell for about $10,000 in the United States. They are big and clunky — 60 pounds or so. And they sit in a corner in hospitals.

[GE] asked a simple question [several] years ago: How do we get an EKG machine that doctors can use in rural India? That means it must be battery-operated. It must be light so people can carry it. It must have a printer attached so the doctor or the paramedic can read it on the spot. And it better be connected so that if they are not able to figure out what is going on, somebody remotely in a large hospital can diagnose and give a message on what needs to be done. So they created a product which weighs three pounds. It is networked, has a printer and can travel quite easily since it is battery-operated. It sells for $800 rather than $10,000. It has better, improved functionality; it is an extremely good machine, and it is technically the equivalent of what we have in the U.S. except it has more functionality. So now the FDA has approved it so it will be sold in the U.S. It has already been sold in Europe and is being sold in China. So I find continuously that BOPs not only serve micro-consumers and markets — it creates micro-producers and, more importantly, it creates opportunities for innovation — whether it is Tata's Nano or GE's EKG machine or Netbooks. There is a huge opportunity, when you focus on these markets, for making fundamentally interesting innovations.

Knowledge@Wharton: You referred to the development of the GE EKG machine for rural markets. Is there a difference between rural and urban markets at the Bottom of the Pyramid? How does the strategy to reach consumers in each of these markets differ?

Prahalad: I think the Latin American development of poverty is much more urban poverty — there is some rural poverty — but it is primarily urban poverty. It is shantytowns in Sao Paolo, Rio and so on — or Mexico City. In India, you have both — urban poverty and shantytowns. But also 70% of India still lives in villages. So there is a tremendous amount of rural market opportunity that requires extremely complex distribution from logistics frameworks, which is somewhat different from just being in an urban environment where at least the logistics and distribution are reasonably simple. So there is some difference between how you access rural consumers compared to urban consumers at the BOP level.

Knowledge@Wharton: We were speaking earlier about the obstacles. Could you address some of the cultural and communication barriers that prevent companies from being able to serve consumers at the Bottom of the Pyramid? How can they tackle these barriers?

Prahalad: I think it is reasonably straightforward once senior management recognizes that there is an opportunity to innovate and there is a market to be served. The difficulties of approaching these markets are not intercultural, but the ability to identify and immerse in consumer experience in these markets. Let me give a simple example. If I am Unilever, Nestle or Procter & Gamble, I recognize that emerging markets are going to be significant for me 10 years from now. All three companies will have more than 50% of their revenues coming from emerging markets — China, India, Brazil, Mexico, Indonesia, Turkey, Russia and so on.

I also recognize a significant portion of these populations will remain in the BOP realm and, therefore, I need to straddle the pyramid. I need to serve the top of the pyramid, but I also have to serve people at the bottom. Therefore, I have to create either a new format ... or new products. In other words, I have to innovate. And I have to keep in mind the 4 As of penetrating these emerging markets like the traditional 4 Ps of marketing (product, price, place and promotion). The 4 As are awareness, access, affordability and availability.

Once you come to that conclusion, then operationalizing it becomes a lot easier than the other question: Are there India-like markets? Can I use India as a source of innovation? Can I use South Africa as a source of innovation? You don't have to participate in innovating for every market in the world. You identify critical markets and then you innovate there and let it flow to other markets with similar characteristics.

Knowledge@Wharton: Have any of your ideas about the Bottom of the Pyramid changed since you wrote the book? What has surprised you most?

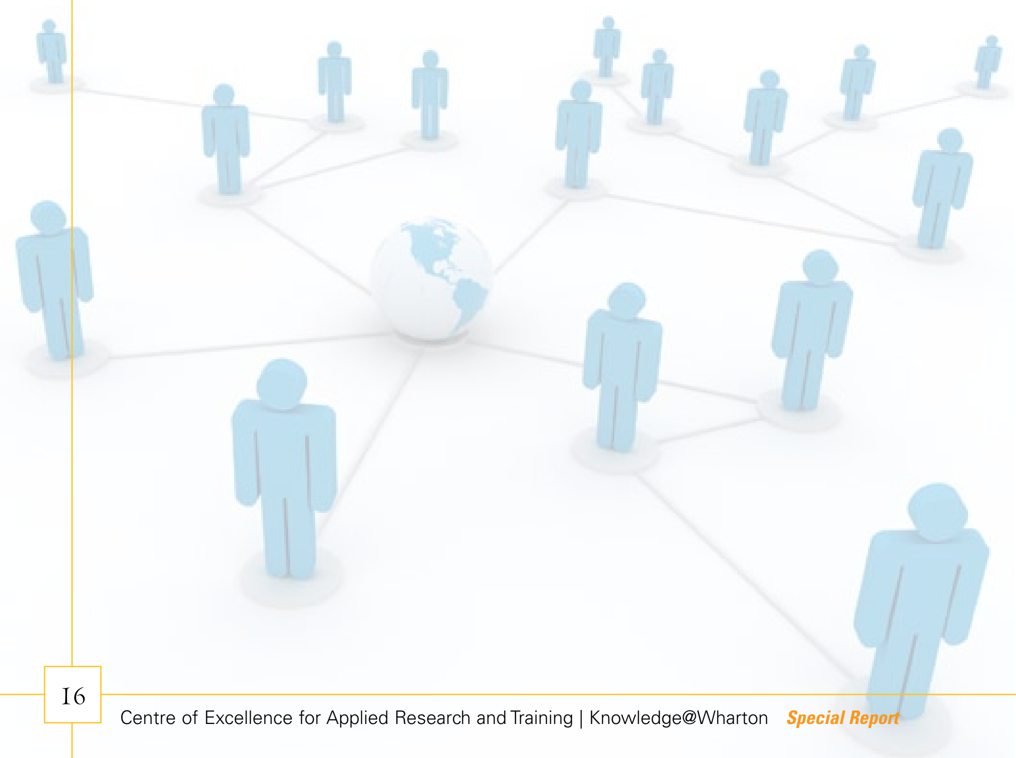
Prahalad: I think three things have surprised me most. Even though in the book I said that BOP can be a source of innovation, [I was surprised by] how much of the innovation is happening in the BOP and the rate at which people are moving to innovate — whether it is Google or Microsoft or Intel or AMD. It is quite amazing how fast it has moved.

The second thing that I think is very interesting is, while I talked about building ecosystems and so on, it is clear today that no company — however big it is — can afford to go it alone for cost reasons but, much more importantly, for access reasons. You have to participate with local NGOs. You have to participate with micro-entrepreneurs, small- and medium-sized enterprises, and in many cases with the public sector. So the boundaries of the firms, which are primarily large global companies — [and the attitude of] "I'm going to do it myself" — are becoming less and less possible. You have to partner. It is continuously becoming part of an ecosystem and, in many cases, building the ecosystem. That was a second big surprise.

And the third, which I think is very interesting ... is: How you can dramatically build global scale without necessarily making the investment? How do you get 2.2 million farmers to bring milk to 10,000 collection centers so that they become the largest processor of raw milk in the world — almost 7 million kilograms of milk per day? That is possible because of highly decentralized origination and fairly centralized processing using logistics, cold refrigerated trucks or information technology to make this happen. It is the same thing with ITC — four or five million subsistence farmers who collect and aggregate all the produce and make it world class. Similarly with Jaipur Rugs, which is a new case introduced in the book: Jaipur Rugs gets all the wool from Australia, New Zealand, Argentina and China and blends it with wool from Rajasthan, produces carpets using weavers who are highly distributed — 40,000 of them in five states of India — and then sells all the rugs produced in the United States. So you can even create a global supply chain where raw materials are sourced from around the world and value-added activities are created in a highly decentralized fashion, with significant quality control, and then new products are sold in the United States. So these have been interesting surprises. Even though they were partly mentioned in the first version of the book, the rate at which these models are evolving — whether it is shipping flowers from Kenya or harvesting soy beans in India — how you can build virtual scale has been quite interesting.

Knowledge@Wharton: One last question. What are the emerging rules of engagement for serving consumers at the Bottom of the Pyramid?

Prahalad: The rules are fairly straightforward.... The consumer environment is critical. We need to continuously balance global standards of safety, quality and such without any compromise for the Bottom of the Pyramid with a capacity to be locally responsive and, more importantly, to work within the ecosystem and provide affordability. And what you learn must be rapid. You first learn, then invest and scale — not just invest and hope to learn. So the cycle is experiment at low cost, learn fast and scale rapidly so that you don't make investments hoping to learn. And, finally, don't push business model management practices and, most importantly, products and services that you are used to and accustomed to in the West onto these markets. In fact, the latest Harvard Business Review has a piece where GE is now recognizing that they have to create disruptive management models disrupting itself and its own management models if they want to succeed in countries like India. So the whole idea of building from within, learning rapidly and [having a] willingness to disrupt your own dominant logic is fundamental to succeed here.



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Special Report

Festival of Thinkers: Looking to the Future

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